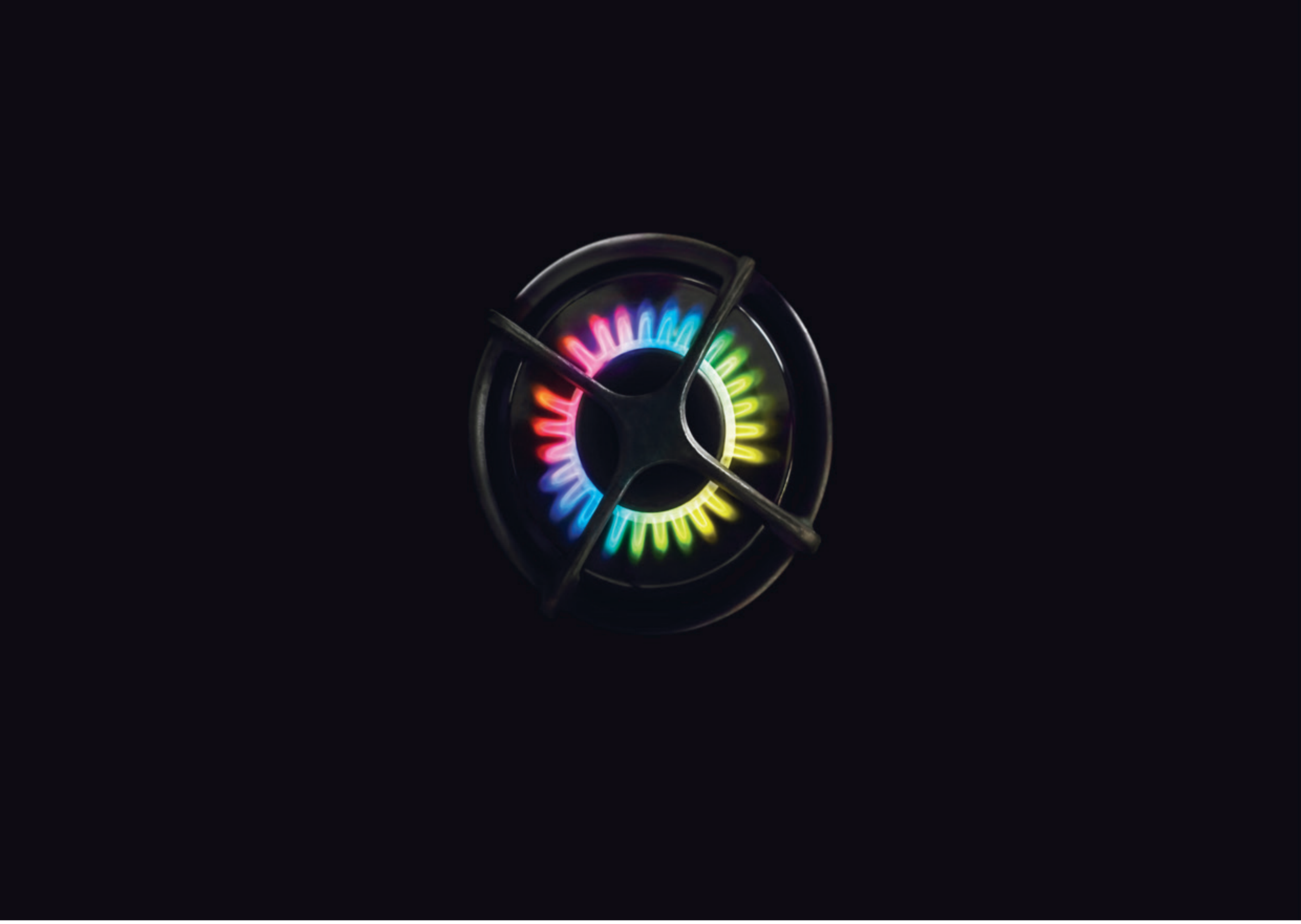

Form 20-F
2021

TotalEnergies

UNITED STATES SECURITIES AND EXCHANGE COMMISSION

WASHINGTON, D.C. 20549

FORM 20-F

(Mark One)

☐ REGISTRATION STATEMENT PURSUANT TO SECTION 12(b) OR 12(g) OF THE SECURITIES EXCHANGE ACT OF 1934

OR

☑ ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the fiscal year ended December 31, 2021

OR

☐ TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the transition period from ______ to ______

OR

☐ SHELL COMPANY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
Date of event requiring this shell company report

Commission file number: 1-10888

TotalEnergies SE

(Exact Name of Registrant as Specified in Its Charter)
N/A
(Translation of Registrant's name into English)

Republic of France

(Jurisdiction of Incorporation or Organization)
2, place Jean Millier
La Défv
fense 6
92400 Courbevoie
France
(Address of Principal Executive Offices)
Jean-Pierre Sbraire
Chief Financial Officer
TotalEnergies SE
2, place Jean Millier
La Défense 6
92400 Courbevoie
France
Tel: +33 (0)1 47 44 45 46
Fax: +33 (0)1 47 44 49 44
(Name, Telephone, Email and/or Facsimile Number and Address of Company Contact Person)

Securities registered or to be registered pursuant to Section 12(b) of the Act.

Title of each class	Trading symbol(s)	Name of each exchange on which registered
Shares		**New York Stock Exchange***
American Depositary Shares	**TTE**	**New York Stock Exchange**

* Not for trading, but only in connection with the registration of American Depositary Shares, pursuant to the requirements of the Securities and Exchange Commission.

Securities registered or to be registered pursuant to Section 12(g) of the Act.

None

Securities for which there is a reporting obligation pursuant to Section 15(d) of the Act.

None

Indicate the number of outstanding shares of each of the issuer's classes of capital or common stock as of the close of the period covered by the annual report.

2,640,429,329 Shares, par value €2.50 each, as of December 31, 2021

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes ☑ No ☐

If this report is an annual or transition report, indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934. Yes ☐ No ☑

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes ☑ No ☐

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§ 232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes ☒ No ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer or an emerging growth company. See definition of "large accelerated filer", "accelerated filer", and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer ☑ Accelerated filer ☐ Non-accelerated filer ☐
Emerging growth company ☐

If an emerging growth company that prepares its financial statements in accordance with U.S. GAAP, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards*** provided pursuant to Section 13(a) of the Exchange Act.

*** The term "new or revised financial accounting standard" refers to any update issued by the Financial Accounting Standards Board to its Accounting Standards Codification after April 5, 2012.

Indicate by check mark whether the registrant has filed a report on and attestation to its management's assessment of the effectiveness of its internal control over financial reporting under Section 404(b) of the Sarbanes-Oxley Act (15 U.S.C.7262(b)) by the registered public accounting firm that prepared or issued its audit report. ☒

Indicate by check mark which basis of accounting the registrant has used to prepare the financial statements included in this filing:

U.S. GAAP ☐ International Financial Reporting Standards as issued by the International Accounting Standards Board ☑ Other ☐

If "Other" has been checked in response to the previous question, indicate by check mark which financial statement item the registrant has elected to follow. Item 17 ☐ Item 18 ☐

If this is an annual report, indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes ☐ No ☑

TABLE OF CONTENTS

BASIS OF PRESENTATION

References in this annual report on Form 20-F (this “Annual Report”) to pages and sections of the “Universal Registration Document 2021” are references only to those pages and sections of TotalEnergies’ Universal Registration Document for the year ended December 31, 2021 attached in Exhibit 15.1 to this Form 20-F and forming a part hereof. Other than as expressly provided herein, the Universal Registration Document 2021 is not incorporated herein by reference.

TotalEnergies' Consolidated Financial Statements on pages F-9 to F-13 are prepared in accordance with International Financial Reporting Standards (IFRS) as issued by the International Accounting Standards Board (IASB) and IFRS as adopted by the European Union (EU) as of December 31, 2021.

In addition, this Annual Report and the Universal Registration Document 2021 contain certain measures that are not defined by generally accepted accounting principles (GAAP) such as IFRS. Our management uses these financial measures, along with the most directly comparable GAAP financial measures, in evaluating our operating performance. We believe that presentation of this information, along with comparable GAAP measures, is useful to investors because it allows investors to understand the primary method used by management to evaluate performance on a meaningful basis. Non-GAAP financial measures should not be considered in isolation from, or as a substitute for, financial information presented in compliance with GAAP. Non-GAAP financial measures as reported by us may not be comparable with similarly titled amounts reported by other companies.

STATEMENTS REGARDING COMPETITIVE POSITION

Unless otherwise indicated, statements made in “Item 4. Information on the Company” referring to TotalEnergies' competitive position are based on TotalEnergies' estimates, and in some cases rely on a range of sources, including investment analysts’ reports, independent market studies and TotalEnergies' internal assessments of market share based on publicly available information about the financial results and performance of market participants.

ADDITIONAL INFORMATION

This Annual Report reports information primarily regarding TotalEnergies' business, operations and financial information relating to the fiscal year ended December 31, 2021. For more recent updates regarding TotalEnergies, you may inspect any reports, statements or other information TotalEnergies files with the United States Securities and Exchange Commission (“SEC”). All of its SEC filings made after December 31, 2001 are available to the public at the SEC website at http://www.sec.gov and from certain commercial document retrieval services. See also “Item 10. - 10.8 Documents on display”.

No material on the TotalEnergies website forms any part of this Annual Report. References in this Annual Report to documents on the TotalEnergies website are included as an aid to the location of such documents and such documents are not incorporated by reference. References to websites and the Sustainability & Climate - Progress Report 2022 contained in this Annual Report (including all exhibits hereto) are provided for reference only; the information contained on the referenced websites or in the Sustainability & Climate - Progress Report 2022 is not incorporated by reference in this Annual Report.

CERTAIN TERMS, ABBREVIATIONS AND CONVERSION TABLE

For the meanings of certain terms used in this document, as well as certain abbreviations and a conversion table, refer to the “Glossary” starting on page 641 of the Universal Registration Document 2021, incorporated herein by reference. The terms “TotalEnergies", "TotalEnergies company" and “Company” as used in this document refer to TotalEnergies SE collectively with all of its direct and indirect consolidated companies located in or outside of France. The term “Corporation” as used in this document exclusively refers to TotalEnergies SE, which is the parent company.

CAUTIONARY STATEMENT CONCERNING FORWARD-LOOKING STATEMENTS

TotalEnergies has made certain forward-looking statements (within the meaning of the Private Securities Litigation Reform Act of 1995) in this document and in the documents referred to in, or incorporated by reference into, this Annual Report. This document may contain forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995, notably with respect to the financial condition, results of operations, business activities and industrial strategy of TotalEnergies. This document may also contain statements regarding the perspectives, objectives, areas of improvement and goals of TotalEnergies, including with respect to climate change and carbon neutrality (net zero emissions). An ambition expresses an outcome desired by TotalEnergies, it being specified that the means to be deployed do not depend solely on TotalEnergies. These forward-looking statements may generally be identified by the use of the future or conditional tense or forward-looking words such as “envisions”, “intends”, “anticipates”, “believes”, “considers”, “plans”, “expects”, “thinks”, “targets”, “aims” or similar terminology. Such forward-looking statements included in this document are based on economic data, estimates and assumptions prepared in a given economic, competitive and regulatory environment and considered to be reasonable by TotalEnergies as of the date of this document.

These forward-looking statements are not historical data and should not be interpreted as assurances that the perspectives, objectives or goals announced will be achieved. They may prove to be inaccurate in the future, and may evolve or be modified with a significant difference between the actual results and those initially estimated, due to the uncertainties notably related to the economic, financial, competitive and regulatory environment, or due to the occurrence of risk factors, such as, notably, the price fluctuations in crude oil and natural gas, the evolution of the demand and price of petroleum products, the changes in production results and reserves estimates, the ability to achieve cost reductions and operating efficiencies without unduly disrupting business operations, changes in laws and regulations including those related to the environment and climate, currency fluctuations, as well as economic and political developments, changes in market conditions, loss of market share and changes in consumer preferences, or pandemics such as the COVID-19 pandemic. Additionally, certain financial information is based on estimates particularly in the assessment of the recoverable value of assets and potential impairments of assets relating thereto.

Except for its ongoing obligations to disclose material information as required by applicable securities laws, TotalEnergies does not have any intention or obligation to update forward-looking statements after the distribution of this document, even if new information, future events or other circumstances have made them incorrect or misleading.

For additional factors, you should read the information set forth under “Item 3. -3.1 Risk Factors”, “Item 4. Information on the Company”, “Item 5. Operating and Financial Review and Prospects” and “Item 11. Quantitative and Qualitative Disclosures about Market Risk”.

ITEM 1. IDENTITY OF DIRECTORS, SENIOR MANAGEMENT AND ADVISERS

Not applicable.

ITEM 2. OFFER STATISTICS AND EXPECTED TIMETABLE

Not applicable.

ITEM 3. KEY INFORMATION

3.1 Risk factors

TotalEnergies conducts its business in a constantly changing environment and is exposed to risks that, if they were to occur, could have a material adverse effect on its business, financial condition, reputation, outlook, or the price of financial instruments issued by TotalEnergies SE. Point 3.1 of chapter 3 of the Universal Registration Document 2021 (starting on page 120), incorporated herein by reference, presents the significant risk factors specific to TotalEnergies, to which it believes it is exposed as of the filing date of this Annual Report. However, TotalEnergies may be exposed to other non-specific risks, or of which it may not be aware, or the potential consequences of which may be underestimated, or the materialization of which is not considered, at that date, likely to have a material adverse impact on TotalEnergies, its business, financial condition, reputation or outlook. In particular, TotalEnergies could be exposed to systemic risks, such as unexpected major disruptions (health, such as the COVID-19 pandemic, security, monetary or cyber), leading to large-scale disturbances with global human and economic repercussions.

For additional information on the risks to which TotalEnergies believes it is exposed as of the filing date of this Annual Report, along with its approaches to managing certain of these risks, please refer to “Item 5. Operating and financial review and prospects” and “Item 11. Quantitative and qualitative disclosures about market risk”, as well as points 3.2, 3.3 and 3.6 of chapter 3 (starting on pages 129, 134 and 143, respectively) of the Universal Registration Document 2021, incorporated herein by reference.

ITEM 4. INFORMATION ON THE COMPANY

The following information providing an integrated overview of TotalEnergies from the Universal Registration Document 2021 is incorporated herein by reference:

- presentation of TotalEnergies and its governance (points 1.1.1 and 1.9 of chapter 1, starting on pages 4 and 40 respectively);
- its collective ambition and strategy (points 1.2 and 1.3 of chapter 1, starting on page 12);
- history, employees, integrated business model, industrial assets and geographic presence (points 1.1.2, 1.1.3, and 1.8.1-1.8.4 of chapter 1, starting on pages 8, 10 and 36 respectively);
- an overview of its climate ambition, sustainability-linked commitments, investment policy, R&D and dialogue with stakeholders (points 1.4, 1.5, 1.6, 1.7 and 1.8.5 of chapter 1, starting on pages 18, 27, 30, 33 and 39 respectively); and
- organizational structure (point 1.9.3 of chapter 1, starting on page 43).

The following information providing an overview of TotalEnergies' businesses and activities from the Universal Registration Document 2021 is incorporated herein by reference:

- information concerning TotalEnergies' principal capital expenditures and divestitures (point 1.6 of chapter 1, starting on page 30). See also “Item 5. Operating and financial review and prospects”;
- business overview for fiscal year 2021 (points 2.1 to 2.5 of chapter 2, starting on page 64); and
- geographical breakdown of TotalEnergies’ sales, property, plants and equipment, intangible assets and capital expenditures over the past three years (Note 4 to the Consolidated Financial Statements, on page F-30).

The following other information from the Universal Registration Document 2021 is incorporated herein by reference:

- countries under economic sanctions (point 3.2 of chapter 3, starting on page 129);
- insurance and risk management (point 3.4 of chapter 3, starting on page 141);
- non-financial performance and additional reporting information (points 5.1 to 5.11 of chapter 5 and chapter 11, starting on page 272 and 603 respectively); and
- investor relations (point 6.6 of chapter 6, starting on page 382).

ITEM 4A. UNRESOLVED STAFF COMMENTS

None.

ITEM 5. OPERATING AND FINANCIAL REVIEW AND PROSPECTS

This section is an analysis of the financial performance and of significant trends that may affect TotalEnergies' future performance and it should be read in conjunction with the Consolidated Financial Statements and the Notes thereto starting on page F-9. The Consolidated Financial Statements and the Notes thereto are prepared in accordance with IFRS as issued by the IASB and IFRS as adopted by the EU.

This section contains forward-looking statements that are subject to risks and uncertainties. For a list of important factors that could cause actual results to differ materially from those expressed in the forward-looking statements, see "Cautionary Statement Concerning Forward-Looking Statements" starting on page ii.

For information on the Russian-Ukrainian conflict and the situation of the Company at March 24, 2022, refer to Item 5. – 5.6 starting on page 17.

5.1 Overview

TotalEnergies' results are affected by a variety of factors, including changes in crude oil and natural gas prices and refining and marketing margins, all generally expressed in dollars, as well as changes in exchange rates, particularly the value of the euro compared to the dollar. Higher crude oil and natural gas prices generally have a positive effect on the income of TotalEnergies because the Exploration & Production segment's oil and gas business and the Integrated Gas, Renewables & Power segment's LNG and downstream gas business are positively impacted by the resulting increase in revenues. Lower crude oil and natural gas prices generally have a corresponding negative effect. The effect of changes in crude oil prices on the activities of TotalEnergies' Refining & Chemicals and Marketing & Services segments (Downstream) depends upon the speed at which the prices of refined petroleum products adjust to reflect such changes. TotalEnergies' results are also significantly affected by the costs of its activities, in particular those related to exploration and production, and by the outcome of its strategic decisions with respect to cost reduction efforts. In addition, TotalEnergies' results are affected by general economic and political conditions and changes in governmental laws and regulations, as well as by the impact of decisions by OPEC+ on production levels. For more information, refer to "Item 3. - 3.1 Risk factors".

In 2021, TotalEnergies generated cash flow (DACF)[1] of $30.7 billion, up $13 billion compared to 2020, and adjusted EBITDA[2] of $42.3 billion. TotalEnergies reported adjusted net income[3] of $18.1 billion, representing a return on equity of 16.9% and a return on capital employed (ROACE) of nearly 14% for 2021, which demonstrates the quality of its portfolio and operations. IFRS net income was $16 billion (€13.6 billion).

The integrated Gas, Renewables & Power (iGRP) segment reported an adjusted net operating income[4] and cash flow (DACF)[5] of $6.2 billion and $6.1 billion, respectively. These historic results build on the globally integrated LNG portfolio, leveraging rising oil and gas prices and outperformance in the gas and LNG trading business. The profitable growth strategy in Renewables & Electricity continues with more than 10 GW of gross installed capacity and more than 6 million electricity customers at year-end 2021. At the start of 2022, TotalEnergies secured an additional 2 GW of offshore wind projects with the award of a concession in Scotland, as part of the Scotwind tender.

The Exploration & Production segment benefited from higher oil and gas prices with adjusted net operating income of $10.4 billion and was a strong contributor to the Company's net cash flow with $12.2 billion. In line with its strategy to invest in low-cost and low-emission projects, TotalEnergies increased its presence in Brazil by entering the Atapu and Sépia giant fields, launched the Lake Albert Resource Development Project in Uganda, while divesting interests in mature assets.

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[1] DACF = debt adjusted cash flow, is defined as operating cash flow before working capital changes and without financial charges. Operating cash flow before working capital changes is defined as cash flow from operating activities before changes in working capital at replacement cost, excluding the mark-to-market effect of iGRP's contracts and including capital gain from renewable projects sales (effective first quarter 2020). Operating cash flow before working capital changes provides information on underlying cash flow without the short-term impacts of changes in inventory and other working capital elements at replacement cost. For information on the inventory effect and replacement cost method, refer to Note 3 to the Consolidated Financial Statements (starting on page F-19).

[2] Adjusted EBITDA (Earnings Before Interest, Tax, Depreciation and Amortization) corresponds to the adjusted earnings before depreciation, depletion and impairment of tangible and intangible assets and mineral interests, income tax expense and cost of net debt, i.e., all operating income and contribution of equity affiliates to net income. The reconciliation of adjusted EBITDA with the consolidated financial statements is set forth under "Reconciliation of net income (TotalEnergies share) to adjusted EBITDA" on page 5.

[3] Adjusted net income refers to adjusted net operating income, adjusted for special items, inventory valuation effect and the effect of changes in fair value. See "- 5.3 Business segment reporting" below for further details.

[4] Adjusted for special items, inventory valuation effect and the effect of changes in fair value. See Note 3 to the Consolidated Financial Statements (starting on page F-19).

[5] DACF = debt adjusted cash flow. Operating cash flow before working capital changes without financial charges of the segment is defined as the cash flow from operating activities before changes in working capital at replacement cost, without financial charges except those related to leases, excluding the impact of contracts recognized at fair value for the segment and including capital gains on the sale of renewable projects.

Downstream[1] posted solid results with $3.5 billion in adjusted net operating income and cash flow (DACF)[2] of $5.5 billion, or more than $3 billion in net cash flow. High margins in petrochemicals and the return to pre-crisis results in the Marketing & Services segment, despite sales volumes still impacted by the COVID-19 pandemic, offset European refining margins that remained low, due to the rise in energy costs.

The Company maintained capital discipline with net investments[3] of $13.3 billion, of which 25% was in Renewables & Electricity. TotalEnergies reported net cash flow[4] of $15.8 billion for the year, allowing it to continue to reduce its net debt with year-end gearing[5] reduced to 15.3%, compared to 21.7% at year-end 2020, and buy back $1.5 billion of shares, in line with the previously announced objective.

In line with the policy announced in February 2021, the Board of Directors will propose at the Shareholders' Meeting to be held on May 25, 2022, the distribution of a final 2021 dividend of €0.66 per share, equal to the three 2021 interim dividends already declared.

In addition, the Board of Directors defined a return-to-shareholder policy for 2022 combining, on the one hand, an increase in interim dividends of 5% given the structural growth in cash flow generated by the LNG and electricity business, and, on the other hand, buybacks to share the surplus cash flow from high hydrocarbon prices. These share buybacks are expected to be $2 billion for the first half of 2022.

In accordance with the resolution approved by shareholders in May 2021 on TotalEnergies' ambitions for sustainable development and energy transition toward carbon neutrality, the Board of Directors will report on the progress made in implementing these ambitions at the Shareholders' Meeting to be held on May 25, 2022. With this in mind, the Board of Directors adopted a 'Sustainability & Climate - Progress Report 2022', which will be submitted to a shareholder advisory vote at the Annual Shareholders' Meeting on May 25, 2022. It was published and presented on March 24, 2022, during a Strategy, Sustainability & Climate investor meeting.

Outlook

The price of oil rose above $90/b for the first time since 2014 at the beginning of 2022. This increase in price is driven by the global demand recovery and OPEC+ discipline in a context of constrained supply, given the low level of investment in hydrocarbons since 2015. It is exacerbated in the short term by low oil inventories. Prices could therefore remain at high levels, depending on the mobilization of OPEC+ production and the growth of unconventional oil production in the United States.

After reaching all-time highs in the fourth quarter 2021, gas prices have remained very high in Europe and Asia since the beginning of 2022, driven by geopolitical uncertainties in Europe despite a mild winter season. In this context, futures markets anticipate gas prices that may remain above $20/Mbtu in 2022.

TotalEnergies anticipates 2022 hydrocarbon production growth of around 2%, driven by the start-ups of Mero 1 in Brazil and Ikike in Nigeria, the entry into the Atapu and Sépia PSCs in Brazil effective May 2022 but impacted by the sales of mature assets completed in 2021 as well as the exit from Myanmar effective July 2022.

Continuing the momentum that has been underway for several years, TotalEnergies is implementing its strategy of integrated growth in LNG, which is expected to generate structural cash flow growth in 2022. In addition, given the evolution of oil and gas prices in recent months and the lag effect on price formulas, TotalEnergies anticipates that its average LNG selling price should remain at a high level of at least $12/Mbtu in the first half of 2022.

In Renewables & Electricity, TotalEnergies plans to have more than 16 GW of renewable gross capacity in operation by year-end 2022. Electricity generation is expected to increase by more than 25% in 2022. To implement its profitable growth strategy in the electricity value chain, TotalEnergies expects to allocate, in 2022, $3.5 billion of net investments to Renewables & Electricity, or 25% of its net investments.

Downstream will continue to strengthen its industrial competitiveness and invest in petrochemicals and in new markets, such as biofuels and electric mobility.

Confident in its ability to transform itself into a sustainable multi-energy company and increase the return to shareholders, the Company confirms its cash flow allocation priorities: investing in profitable projects to implement its transformation strategy, linking dividend growth to structural cash flow growth, maintaining a strong balance sheet and a long-term debt rating with a minimum "A" level by anchoring gearing below 20%, and allocating a share of the surplus cash flow from high hydrocarbon prices to share buybacks.

In accordance with this policy, TotalEnergies expects net investments of $14-15 billion in 2022, of which 50% will be allocated to growth and 50% to maintaining the base of its activity.

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[1] Downstream refers to the Refining & Chemicals business segment and the Marketing & Services business segment.

[2] DACF = debt adjusted cash flow. Operating cash flow before working capital changes without financial charge of the segment is defined as the cash flow from operating activities before changes in working capital at replacement cost, except those related to leases.

[3] Net investments = organic investments + net acquisitions. For additional information on investments, refer to point 1.6 of chapter 1 of the Universal Registration Document 2021 (starting on page 30), incorporated herein by reference.

[4] Refer to the reconciliation table for different cash flow figures set forth under "Cash Flow" on page 5.

[5] Gearing = net debt / (net debt +shareholders equity TotalEnergies share + non-controlling interests); excludes leases receivables and leases debts. For additional information, refer to Note 15.1(E) to the Consolidated Financial Statements (starting on page F-71).

5.2 TotalEnergies results 2019-2021

As of and for the year ended December 31 *(in millions of dollars, except per share data)*	2021	2020	2019
Sales	**205,863**	140,685	200,316
Adjusted EBITDA[(a)(b)]	**42,302**	21,112	35,163
Adjusted net operating income from business segments[(b)]	**20,209**	6,404	14,554
Integrated Gas, Renewables & Power	**6,243**	1,778	7,509
Exploration & Production	**10,439**	2,363	2,389
Refining & Chemicals	**1,909**	1,039	3,003
Marketing & Services	**1,618**	1,224	1,653
Net income (loss) from equity affiliates	**3,438**	452	3,406
Fully-diluted earnings per share ($)	**5.92**	(2.90)	4.17
Fully-diluted weighted-average shares (millions)[(c)]	**2,647**	2,621	2,618
Net income (TotalEnergies share)	**16,032**	(7,242)	11,267
Organic investments[(d)]	**12,675**	10,339	13,397
Net acquisitions[(e)]	**632**	2,650	4,052
Net investments[(f)]	**13,307**	12,989	17,449
Cash flow from operating activities[(g)]	**30,410**	14,803	24,685
Of which:			
(increase)/decrease in working capital	**(616)**	1,869	(1,718)
financial charges	**(1,520)**	(1,938)	(2,069)

(a) Adjusted results are defined as income using replacement cost, adjusted for special items, excluding the impact of changes in fair value. See "- 5.3 Business segment reporting" below for further details.

(b) Adjusted EBITDA (Earnings Before Interest, Tax, Depreciation and Amortization) corresponds to the adjusted earnings before depreciation, depletion and impairment of tangible and intangible assets and mineral interests, income tax expense and cost of net debt, i.e., all operating income and contribution of equity affiliates to net income. The reconciliation of adjusted EBITDA with the consolidated financial statements is set forth under "Reconciliation of net income (TotalEnergies share) to adjusted EBITDA" on page 5.

(c) In 2020, the effect generated by the grant of TotalEnergies performance shares and by the capital increase reserved for employees (19,007,836 shares) is anti-dilutive. In accordance with IAS 33, the weighted-average number of diluted shares is therefore equal to the weighted-average number of shares.

(d) Organic investments = net investments excluding acquisitions, asset sales and other operations with non-controlling interests. For additional information on investments, refer to point 1.6 of chapter 1 of the Universal Registration Document 2021 (starting on page 30), incorporated herein by reference.

(e) Net acquisitions = acquisitions - assets sales - other operations with non-controlling interests.

(f) Net investments = organic investments + net acquisitions.

(g) The reconciliation table for different cash flow figures is set forth under "Cash Flow" on page 5.

Market environment parameters	2021	2020	2019
Brent *($/b)*	**70.9**	41.8	64.2
Henry Hub *($/Mbtu)*[(a)]	**3.7**	2.1	2.5
NBP *($/Mbtu)*[(b)]	**16.4**	3.3	4.9
JKM *($/Mbtu)*[(c)]	**18.5**	4.4	5.5
Average price of liquids *($/b)* [(d)]	**65.0**	37.0	59.8
Average price of gas *($/Mbtu)* [(d)]	**6.60**	2.96	3.88
Average price of LNG *($/Mbtu)* [(e)]	**8.80**	4.83	6.31
Variable cost margin – Refining Europe, VCM[(f)] *($/t)*	**10.5**	11.5	34.9

(a) Henry Hub (HH), a pipeline located in Erath, Louisiana, USA, serves as the official delivery point for New York Mercantile Exchange (NYMEX) futures contracts. It is widely used as a price reference for natural gas markets in North America. The hub is operated by Sabine Pipe Line LLC and is connected to four intrastate and nine interstate pipelines, including the Transcontinental, Acadian and Sabine pipelines.

(b) NBP (National Balancing Point) is a virtual natural gas trading point in the United Kingdom for transferring rights in respect of physical gas and which is widely used as a price benchmark for the natural gas markets in Europe. NBP is operated by National Grid Gas plc, the operator of the UK transmission network.

(c) JKM (Japan-Korea Marker) measures the prices of spot LNG trades in Asia. It is based on prices reported in spot market trades and/or bids and offers collected after the close of the Asian trading day at 16:30 Singapore time.

(d) Consolidated subsidiaries.

(e) Consolidated subsidiaries and equity affiliates.

(f) This indicator represents TotalEnergies' average margin on variable cost for refining in Europe (equal to the difference between TotalEnergies European refined product sales and crude oil purchases with associated variable costs divided by volumes refined in tons).

Hydrocarbon production*	2021	2020	2019
Hydrocarbon production *(kboe/d)*	**2,819**	2,871	3,014
Oil (including bitumen) *(kb/d)*	**1,274**	1,298	1,431
Gas (including condensates and associated NGL) *(kboe/d)*	**1,545**	1,573	1,583

Hydrocarbon production*	2021	2020	2019
Hydrocarbon production *(kboe/d)*	**2,819**	2,871	3,014
Liquids *(kb/d)***	**1,500**	1,543	1,672
Gas *(Mcf/d)****	**7,203**	7,246	7,309

* TotalEnergies production = production of Exploration & Production segment (EP) + production of Integrated Gas, Renewables & Power segment (iGRP).

** Including condensates and NGL associated with the production of gas.

*** 2019 data restated.

For a discussion of TotalEnergies' proved reserves, refer to point 2.3.1 of chapter 2 of the Universal Registration Document 2021 (starting on page 88), incorporated herein by reference. See also point 9.1 of chapter 9 of the Universal Registration Document 2021 (starting on page 520), incorporated herein by reference, for additional information on proved reserves, including tables showing changes in proved reserves by region.

Adjustment Items to net income* (TotalEnergies share)

in millions of dollars	2021	2020	2019
Special items affecting net income (TotalEnergies share)	(3,329)	(10,044)	(892)
Gain (loss) on asset sales	(1,726)	104	–
Restructuring charges	(308)	(364)	(58)
Impairments	(910)	(8,465)	(465)
Other	(385)	(1,319)	(369)
After-tax inventory effect: FIFO vs. replacement cost	1,495	(1,280)	346
Effect of changes in fair value	(194)	23	(15)
Total adjustments affecting net income (TotalEnergies share)	**(2,028)**	**(11,301)**	**(561)**

* For details on adjustments to operating income, refer to Note 3(C) to the Consolidated Financial Statements (starting on page F-26).

Cash Flow

in millions of dollars	2021	2020	2019
Operating cash flow before working capital changes w/o financial charges (DACF)	**30,660**	17,635	28,180
Financial charges	**(1,520)**	(1,938)	(2,069)
Operating cash flow before working capital changes (a)*	**29,140**	15,697	26,111
(Increase) decrease in working capital**	**188**	753	(1,397)
Inventory effect	**1,796**	(1,440)	446
Capital gain from renewable project sales	**(89)**	(96)	–
Organic loan repayments from equity affiliates	**(626)**	(111)	(475)
Cash flow from operations	**30,410**	14,803	24,685
Organic investments (b)	**12,675**	10,339	13,397
Free cash flow after organic investments, w/o net asset sales (a - b)	**16,465**	5,358	12,714
Net investments (c)	**13,307**	12,989	17,449
Net cash flow (a - c)	**15,833**	2,708	8,662

* Operating cash flow before working capital changes, is defined as cash flow from operating activities before changes in working capital at replacement cost, excluding the mark-to-market effect of iGRP's contracts and including capital gain from renewable projects sales (effective first quarter 2020). Historical data have been restated to cancel the impact of fair valuation of the iGRP segment's contracts.

** Changes in working capital are presented excluding the mark-to-market effect of iGRP's contracts.

Reconciliation of net income (TotalEnergies share) to adjusted EBITDA

in millions of dollars	2021	2020	2019
Net income - TotalEnergies share	**16,032**	**(7,242)**	**11,267**
Less: adjustment items to net income (TotalEnergies share)	2,028	11,301	561
Adjusted net income - TotalEnergies share	**18,060**	**4,059**	**11,828**
Adjusted items			
Add: non-controlling interests	331	8	262
Add: income taxes	9,211	1,309	5,663
Add: depreciation, depletion and impairment of tangible assets and mineral interests	12,735	13,312	14,811
Add: amortization and impairment of intangible assets	401	352	262
Add: financial interest on debt	1,904	2,140	2,318
Less: financial income and expense from cash & cash equivalents	(340)	(68)	19
Adjusted EBITDA	**42,302**	**21,112**	**35,163**

2021 vs. 2020

In terms of market environment parameters:

- the Brent price increased by 69% to $70.9/b on average in 2021 from $41.8/b on average in 2020;
- TotalEnergies' average liquids price realization[1] increased by 76% to $65.0/b in 2021 from $37.0/b in 2020;
- TotalEnergies' average gas price realization[2] was $6.60/Mbtu in 2021, or 2.2 times greater than $2.96/Mbtu in 2020;
- TotalEnergies' average LNG price realization[3] increased by 82% to $8.80/Mbtu in 2021 from $4.83/Mbtu in 2020;
- TotalEnergies' variable cost margin – Refining Europe (VCM)[4] decreased by 9% to $10.5/t on average in 2021 compared to $11.5/t in 2020.

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[1] Consolidated subsidiaries.

[2] Consolidated subsidiaries.

[3] Consolidated subsidiaries and equity affiliates.

[4] This indicator represents TotalEnergies' average margin on variable cost for refining in Europe (equal to the difference between TotalEnergies European refined product sales and crude oil purchases with associated variable costs divided by volumes refined in tons).

Hydrocarbon production was 2,819 kboe/d for the full-year 2021, down 2% year-on-year, comprised of:

- +3% due to start-ups and ramp-ups, including North Russkoye in Russia, Iara in Brazil and Johan Sverdrup in Norway, as well as the resumption of production in Libya;
- +3% due to the increase in gas demand and OPEC+ quotas,
- -1% due to portfolio effect, notably the disposals of assets in the UK and the CA1 block in Brunei;
- -1% due to the price effect;
- -3% due to planned maintenance and unplanned downtime, particularly in the UK and Norway (Snøhvit);
- -3% due to the natural field decline.

The euro-dollar exchange rate averaged $1.1827/€ in 2021, compared to $1.1422/€ in 2020.

Sales were $205,863 million in 2021 compared to $140,685 million in 2020, an increase of 46%. In 2021, external sales were 2 times greater than 2020 for the Integrated Gas, Renewables & Power segment, 1.5 times greater for the Exploration & Production segment, 1.5 times greater for Refining & Chemicals segment and 1.3 times greater for the Marketing & Services segment.

Net income (TotalEnergies share) increased to $16,032 million in 2021 compared to $(7,242) million in 2020, due to higher oil and gas prices. In 2021, total adjustments to net income (TotalEnergies share), which include the after-tax inventory effect, special items and the impact of changes in fair value, had an impact of ($2,028) million, comprised of $(910) million for impairments (including $(305) million for the withdrawal of TotalEnergies from Myanmar and the $(89) million impairment related to the end of the Qatargas 1 contract) and $(170) million for the loss on the sale of TotalEnergies' interest in Yucal Placer in Venezuela, as well as notably the $(1,379) million loss on the sale of TotalEnergies' interest in Petrocedeño[1] to PDVSA in Venezuela and the $(177) million loss on the Utica sale in the United States, restructuring charges related to the voluntary departure plan in France and Belgium, and a positive inventory effect of $1,495 million for the year. For a detailed overview of adjustment items for 2021, refer to Note 3 to the Consolidated Financial Statements (starting on page F-19). In 2020, total adjustments to net income (TotalEnergies share), which include the after-tax inventory effect, special items and the impact of changes in fair value, had an impact of $(11,301) million, including $(8.5) billion of impairments, related mainly to oil sands assets in Canada.

Total income taxes in 2021 amounted to $(9,587) million, 30 times greater than $(318) million in 2020. For further detail on income taxes, refer to Note 11 to the Consolidated Financial Statements (starting on page F-57).

TotalEnergies SE bought back, in 2021, 37,306,005 TotalEnergies SE shares on the market, i.e., 1.4% of the share capital as of December 31, 2021, of which 30,665,526 million for cancellation and, in 2020, 13,236,044 TotalEnergies SE shares on the market, i.e., 0.50% of the share capital as of December 31, 2020, of which 12,233,265 for cancellation. See also "- 5.4.3 Shareholders' equity", below.

Fully-diluted earnings per share was $5.92 in 2021 compared to $(2.90) in 2020.

Finalized asset sales amounted to:

- $2,652 million for the full-year 2021, including the sale of TotalEnergies' interests in 7 mature non-operated offshore fields and the Cap Lopez oil terminal in Gabon and the sale of a 30% interest in TRAPIL in France as well as the payment by GIP of more than $750 million as part of the tolling agreement for the infrastructure of the Gladstone LNG project in Australia, the sale in France of a 50% interest in a portfolio of renewable projects with a total capacity of 285 MW (100%), the sale of the 10% stake in onshore block OML 17 in Nigeria, the price supplement related to the sale of Block CA1 in Brunei, the sale of the Lindsey refinery in the United Kingdom, the sale of interests in the TBG pipeline in Brazil, the sale of shares in Clean Energy Fuels Corp. (NASDAQ: CLNE)[2] , and the sale of its interests in Tellurian Inc. (NASDAQ: TELL) in the United States; and
- $1.5 billion for the full-year 2020, comprised notably of the sale of Enphase shares by SunPower (NASDAQ: SPWR)[3], the sale of TotalEnergies' corporate offices in Brussels, the sale of non-strategic assets in the UK North Sea, the completion of the sale of Block CA1 in Brunei, the sale of TotalEnergies' interest in the Fos Cavaou regasification terminal in France, and the sale of 50% of a portfolio of solar and wind assets from Total Quadran in France.

Finalized acquisitions[4] amounted to:

- $3,284 million for the full-year 2021, including the acquisition of Blue Raven Solar by SunPower in the United States as well as notably the acquisition of a 20% interest for $2 billion in Adani Green Energy Limited, the renewable project developer in India, the acquisition of Fonroche Biogaz in France, the interest in the Yunlin wind project in Taiwan and the 10% increase in its interest in the Lapa block in Brazil.
- $4.2 billion for the full-year 2020, comprised notably of the acquisition of Tullow's entire interest in the Lake Albert project in Uganda, the acquisition of CCGT assets and of a portfolio of customers from Energías de Portugal in Spain, the acquisition in India of 50% of a portfolio of installed solar activities from Adani Green Energy Limited, the finalization of the acquisition of 37.4% stake in Adani Gas Ltd, the acquisition of interests in Blocks 20 and 21 in Angola and the payment for a second bonus tranche linked to taking the 10% stake in the Arctic LNG 2 project in Russia.

TotalEnergies' cash flow from operating activities for the full-year 2021 was $30,410 million, 2.1 times greater than $14,803 million for the full-year 2020. The change in working capital as determined using the replacement cost method[5] excluding the mark-to-market effect of iGRP's contracts, including capital gain from renewable project sales (effective first quarter 2020) and including organic loan repayment from equity affiliates was a decrease of $1,269 million for the full-year 2021, compared to an increase of $894 million for the full-year 2020. For the full-year 2021, the change in working capital was an increase of $616 million in accordance with IFRS. The difference of $1,885 million between IFRS and replacement cost method corresponds to the following adjustments: (i) the pre-tax inventory valuation effect of $1,796 million, (ii) plus the mark-to-market effect of iGRP's contracts of $804 million, (iii) less the capital gains from renewables project sale of $89 million and (iv) less the organic loan repayments from equity affiliates of $626 million.

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[1] Sale of TotalEnergies' interest in Petrocedeño S.A. to Corporation Venezolana de Petróleos (CVP), an affiliate of Petróleos de Venezuela (PDVSA).

[2] As at December 31, 2021, TotalEnergies held an interest of 19.09% in Clean Energy Fuels Corp., an American company listed on NASDAQ and based in California.

[3] As at December 31, 2021, TotalEnergies held an interest of 50.83% in SunPower, an American company listed on NASDAQ and based in California.

[4] Acquisitions net of operations with non-controlling interests.

[5] For information on the replacement cost method, refer to Note 3 to the Consolidated Financial Statements (starting on page F-19).

Operating cash flow before working capital changes[1] totaled $29,140 million for the full-year 2021, an increase of 86% compared to $15,697 million for the full-year 2020. Operating cash flow before working capital changes without financial charges (DACF)[2] totaled $30,660 million for the full-year 2021, an increase of 74% compared to $17,635 million for the full-year 2020.

TotalEnergies' net cash flow[3] totaled $15,833 million in 2021 compared to $2,708 million in 2020, reflecting the $13.4 billion increase in operating cash flow before working capital changes and a $318 million increase in net investments to $13,307 million in 2021.

See also "- 5.4 Liquidity and Capital Resources", below.

2020 vs. 2019

In 2020, market conditions were less favorable than in 2019 due to the COVID-19 pandemic and the oil crisis. The Brent price decreased to $41.8/b on average in 2020 from $64.2/b on average in 2019, while remaining volatile throughout 2020. TotalEnergies' average liquids price realization[4] decreased by 38% to $37.0/b in 2020 from $59.8/b in 2019. TotalEnergies' average gas price realization[5] decreased by 24% to $2.96/Mbtu in 2020 from $3.88/Mbtu in 2019. TotalEnergies' average LNG price realization[6] decreased by 24% to $4.83/Mbtu in 2020 from $6.31/Mbtu in 2019. TotalEnergies' variable cost margin – Refining Europe (VCM) decreased by 67% to $11.5/t on average in 2020 compared to $34.9/t in 2019, mainly due to decreasing crude oil prices.

For the full-year 2020, hydrocarbon production was 2,871 kboe/d, a decrease of 5% compared to 3,014 kboe/d in 2019, comprised of:

- -5% due to compliance with OPEC+ quotas, notably in Nigeria, the United Arab Emirates and Kazakhstan, as well as voluntary reductions in Canada and disruptions in Libya;
- +5% due to the ramp-up of recently started projects, notably Culzean in the United Kingdom, Johan Sverdrup in Norway, Iara in Brazil, Tempa Rossa in Italy and North Russkoye in Russia;
- -3% due to the natural decline of fields; and
- -2% due to maintenance, and unplanned outages, notably in Norway.

The euro-dollar exchange rate averaged $1.1422/€ in 2020, compared to $1.1195/€ in 2019.

Sales were $140,685 million in 2020 compared to $200,316 million in 2019, a decrease of 30% reflecting the decreased hydrocarbon prices and the decrease in global energy demand due to the COVID-19 pandemic. In 2020, external sales decreased by 32% for the Exploration & Production segment, 14% for the Integrated Gas, Renewables & Power segment, 35% for Refining & Chemicals segment and 27% for the Marketing & Services segment compared to 2019.

Net income (TotalEnergies share) decreased to $(7,242) million in 2020 compared to $11,267 million in 2019, due to exceptional asset impairments, notably on Canadian oil sands assets. In 2020, total adjustments to net income (TotalEnergies share), which include the after-tax inventory effect, special items and the impact of changes in fair value, had a negative impact of $11,301 million, including $8.5 billion of impairments, related mainly to oil sands assets in Canada. For a detailed overview of adjustment items for 2020, refer to Note 3 to the Consolidated Financial Statements (starting on page F-19). In 2019, adjustments to net income (TotalEnergies share), which include the after-tax inventory effect, special items and the impact of changes in fair value, had a negative impact of $561 million mainly due to impairments of assets mainly located in the United States (Utica, Chinook).

Total income taxes in 2020 amounted to $(318) million, a decrease of 95% compared to $(5,872) million in 2019, due to the relative weight and lower tax rates in the Upstream segment and a lower hydrocarbon price environment.

TotalEnergies SE bought back, in 2020, 13,236,044 of its shares on the market, i.e., 0.50% of its share capital as of December 31, 2020, of which 12,233,265 for cancellation and, in 2019, 52,389,336 of its shares on the market, i.e., 2.01% of its outstanding share capital as of December 31, 2019, of which 32,723,365 for cancellation. See also "- 5.4.3 Shareholders' equity", below.

Fully-diluted earnings per share was $(2.90) in 2020 compared to $4.17 in 2019.

Finalized asset sales amounted to $1.5 billion in 2020, comprised notably of the sale of Enphase shares by SunPower[7], the sale of TotalEnergies' corporate offices in Brussels, the sale of non-strategic assets in the UK North Sea, the completion of the sale of Block CA1 in Brunei, the sale of TotalEnergies' interest in the Fos Cavaou regasification terminal in France, and the sale of 50% of a portfolio of solar and wind assets from Total Quadran in France. Finalized asset sales amounted to $1,939 million for the full-year 2019, comprised notably of the payment received upon the take-over of the Toshiba LNG portfolio in the United States, the sale of the interest in the Wepec refinery in China and the sale of TotalEnergies' interest in the Hazira terminal in India and polystyrene activities in China.

Finalized acquisitions amounted to $4.2 billion for the full-year 2020, comprised notably of the acquisition of Tullow's entire interest in the Lake Albert project in Uganda, the acquisition of CCGT assets and of a portfolio of customers from Energías de Portugal in Spain, the acquisition in India of 50% of a portfolio of installed solar activities from Adani Green Energy Limited, the finalization of the acquisition of 37.4% stake in Adani Gas Ltd, the acquisition of interests in Blocks 20 and 21 in Angola and the payment for a second bonus tranche linked to taking the 10% stake in the Arctic LNG 2 project in Russia. Finalized acquisitions amounted to $5,991 million for the full-year 2019, comprised mainly of the acquisition of Anadarko's interest in Mozambique LNG, the acquisition of a 10% stake in the Arctic LNG 2 project in Russia and the acquisition of Chevron's interest in the Danish Underground Consortium in Denmark.

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[1] Operating cash flow before working capital changes is defined as cash flow from operating activities before changes in working capital at replacement cost, excluding the mark-to-market effect of iGRP's contracts and including capital gain from renewable projects sales (effective first quarter 2020). Operating cash flow before working capital changes provides information on underlying cash flow without the short-term impacts of changes in inventory and other working capital elements at replacement cost. For information on the replacement cost method, refer to refer to Note 3 to the Consolidated Financial Statements (starting on page F-19). The reconciliation table for different cash flow figures is set forth under "Cash Flow" on page 5.

[2] DACF = debt adjusted cash flow, is defined as operating cash flow before working capital changes and without financial charges.

[3] See the reconciliation table for different cash flow figures set forth under "Cash Flow" on page 5.

[4] Consolidated subsidiaries.

[5] Consolidated subsidiaries.

[6] Consolidated subsidiaries and equity affiliates.

[7] As at December 31, 2020, TotalEnergies held an interest of 51.61% in SunPower, an American company listed on NASDAQ and based in California.

TotalEnergies' cash flow from operating activities for the full-year 2020 was $14,803 million, a decrease of 40% compared to $24,685 million for the full-year 2019. The change in working capital as determined using the replacement cost method excluding the mark-to-market effect of iGRP's contracts, including capital gain from renewable project sales (effective first quarter 2020) and including organic loan repayment from equity affiliates was an increase of $894 million for the full-year 2020, compared to an increase of $1,426 million for the full-year 2019. For the full-year 2020, the change in working capital was a decrease of $1,869 million in accordance with IFRS. The difference of $2,763 million between IFRS and replacement cost method corresponds to the following adjustments: (i) the pre-tax inventory valuation effect of $1,440 million, (ii) plus the mark-to-market effect of iGRP's contracts of $1,116 million, (iii) plus the capital gains from renewables project sale of $96 million and (iv) plus the organic loan repayments from equity affiliates of $111 million.

Operating cash flow before working capital changes totaled $15,697 million for the full-year 2020, a decrease of 40% compared to $26,111 million for the full-year 2019[1]. Operating cash flow before working capital changes without financial charges (DACF) totaled $17,635 million for the full-year 2020, a decrease of 37% compared to $28,180 million for the full-year 2019.

TotalEnergies' net cash flow was $2,708 million in 2020 compared to $8,662 million in 2019, due to the decrease of $10,414 million in operating cash flow before working capital changes, partially offset by a reduction in net investments of $4,460 million.

See also "- 5.4 Liquidity and Capital Resources", below.

5.3 Business segment reporting

Financial information by business segment is reported in accordance with the internal reporting system and shows internal segment information that is used to manage and measure the performance of TotalEnergies and which is reviewed by the main operational decision-making body of TotalEnergies, namely the Executive Committee.

Due to their unusual nature or particular significance, certain transactions qualifying as "special items" are excluded from the business segment figures. In general, special items relate to transactions that are significant, infrequent or unusual. In certain instances, certain transactions such as restructuring costs or asset disposals, which are not considered to be representative of the normal course of business, may qualify as special items although they may have occurred in prior years or are likely to occur again in following years.

In accordance with IAS 2, TotalEnergies values inventories of petroleum products in its financial statements according to the First-In, First-Out (FIFO) method and other inventories using the weighted-average cost method. Under the FIFO method, the cost of inventory is based on the historic cost of acquisition or manufacture rather than the current replacement cost. In volatile energy markets, this can have a significant distorting effect on the reported income. Accordingly, the adjusted results of the Refining & Chemicals and Marketing & Services segments are presented according to the replacement cost method. This method is used to assess the segments' performance and facilitate the comparability of the segments' performance with those of its main competitors. In the replacement cost method, which approximates the Last-In, First-Out (LIFO) method, the variation of inventory values in the statement of income is, depending on the nature of the inventory, determined using either the month-end price differential between one period and another or the average prices of the period rather than the historical value. The inventory valuation effect is the difference between the results under the FIFO and replacement cost methods.

The effect of changes in fair value presented as an adjustment item reflects, for trading inventories and storage contracts, differences between internal measures of performance used by TotalEnergies' Executive Committee and the accounting for these transactions under IFRS. IFRS requires that trading inventories be recorded at their fair value using period-end spot prices. In order to best reflect the management of economic exposure through derivative transactions, internal indicators used to measure performance include valuations of trading inventories based on forward prices. TotalEnergies, in its trading activities, enters into storage contracts, the future effects of which are recorded at fair value in TotalEnergies' internal economic performance. IFRS precludes recognition of this fair value effect. Furthermore, TotalEnergies enters into derivative instruments to risk manage certain operational contracts or assets. Under IFRS, these derivatives are recorded at fair value while the underlying operational transactions are recorded as they occur. Internal indicators defer the fair value on derivatives to match with the transaction occurrence.

The adjusted business segment results (adjusted operating income, adjusted net operating income, adjusted net income) are defined as replacement cost results, adjusted for special items, excluding the effect of changes in fair value. For further information on the adjustments affecting operating income on a segment-by-segment basis, and for a reconciliation of segment figures to figures reported in TotalEnergies' audited consolidated financial statements, see Note 3 to the Consolidated Financial Statements (starting on page F-19).

TotalEnergies measures performance at the segment level on the basis of adjusted net operating income. Net operating income comprises operating income of the relevant segment after deducting the amortization and the depreciation of intangible assets other than leasehold rights, translation adjustments and gains or losses on the sale of assets, as well as all other income and expenses related to capital employed (dividends from non-consolidated companies, income from equity affiliates and capitalized interest expenses) and after income taxes applicable to the above. The income and expenses not included in net operating income that are included in net income are interest expenses related to long-term liabilities net of interest earned on cash and cash equivalents, after applicable income taxes (net cost of net debt and non-controlling interests). Adjusted net operating income excludes the effect of the adjustments (special items and the inventory valuation effect) described above. For further discussion of the calculation of net operating income and the calculation of return on average capital employed (ROACE)[2], see Note 3 to the Consolidated Financial Statements (starting on page F-19). Performance indicators excluding the adjustment items, such as adjusted incomes and ROACE are meant to facilitate the analysis of the financial performance and the comparison of income between periods.

The profitable growth in the gas and low carbon electricity integrated value chains is one of the key axes of TotalEnergies' strategy. In order to give more visibility to these businesses, a new reporting structure for the business segments' financial information has been put in place, effective January 1, 2019.

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[1] 2019 data restated to cancel impact of fair valuation of iGRP segment contracts.

[2] ROACE = ratio of adjusted net operating income to average capital employed between the beginning and the end of the period.

The organization of TotalEnergies' activities is structured around the four following segments:

- an Integrated Gas, Renewables & Power segment comprising integrated gas (including LNG) and low carbon electricity businesses. It includes the upstream and midstream LNG activity;
- an Exploration & Production segment. Starting September 2021, it notably includes the carbon sink activity (carbon storage and nature-based solutions) that was previously reported in the Integrated Gas, Renewables & Power segment. Business segment information relating to fiscal years 2019 and 2020 have not been restated due to the non-material impact of this change;
- a Refining & Chemicals segment constituting a major industrial hub comprising the activities of refining, petrochemicals and specialty chemicals. This segment also includes the activities of oil Supply, Trading and marine Shipping; and
- a Marketing & Services segment including the global activities of supply and marketing in the field of petroleum products.

5.3.1 Integrated Gas, Renewables & Power (iGRP) segment

Hydrocarbon production and Liquefied Natural Gas (LNG) sales

Hydrocarbon production for LNG	**2021**	**2020**	**2019**
iGRP *(kboe/d)*	**529**	530	560
Liquids *(kb/d)**	**63**	69	71
Gas *(Mcf/d)***	**2,541**	2,519	2,656

* Including condensates and NGLs, associated with the production of gas.
** 2019 data restated.

LNG sales	**2021**	**2020**	**2019**
Overall LNG sales *(Mt)*	**42.0**	38.3	34.3
including sales from equity production*	**17.4**	17.6	16.3
including sales by TotalEnergies from equity production and third-party purchases	**35.1**	31.1	27.9

* The Company's equity production may be sold by TotalEnergies or by joint ventures.

Renewables & Electricity	**2021**	**2020**	**2019**
Portfolio of renewable power generation gross capacity *(GW)* (1),(2)	**43.0**	28.6	
o/w installed capacity	**10.3**	7.0	3.0
o/w capacity in construction	**6.5**	4.1	
o/w capacity in development	**26.2**	17.5	
Gross renewables capacity with PPA (GW) (1),(2)	**28.0**	17.5	
Portfolio of renewable power generation net capacity *(GW)* (1),(2)	**31.7**	19.2	
o/w installed capacity	**5.1**	3.1	
o/w capacity in construction	**4.6**	2.3	
o/w capacity in development	**22.0**	13.8	
Net power production *(TWh)* (3)	**21.2**	14.1	11.4
incl. power production from renewables	**6.8**	4.0	2.0
Clients power – BtB and BtC *(Million)* (2)	**6.1**	5.6	4.1
Clients gas – BtB and BtC *(Million)* (2)	**2.7**	2.7	1.7
Sales power – BtB and BtC *(TWh)*	**56.6**	47.3	46.0
Sales gas – BtB and BtC *(TWh)*	**101.2**	95.8	95.0

[1] Includes 20% of Adani Green Energy Limited (AGEL) gross capacity effective first quarter 2021.
[2] End of period data.
[3] Solar, wind, biogas, hydroelectric and combined-cycle gas turbine (CCGT) plants.

Results (in millions of dollars except ROACE)	**2021**	**2020**	**2019**
External sales	**30,704**	15,629	18,167
Operating income(a)	**3,350**	(527)	1,184
Net income (loss) from equity affiliates and other items	**2,745**	794	2,330
Tax on net operating income	**(602)**	71	(741)
Net operating income(a)	**5,493**	338	2,773
Adjustments affecting net operating income	**750**	1,440	(384)
Adjusted net operating income(b)	**6,243**	1,778	2,389
including adjusted income from equity affiliates	**2,696**	375	1,009
Organic investments(c)	**3,341**	2,720	2,259
Net acquisitions(d)	**1,165**	2,183	3,921
Net investments(e)	**4,506**	4,903	6,180
ROACE	**12.3%**	4.1%	6.3%

(a) For the definitions of "operating income" and "net operating income", refer to Note 3 to the Consolidated Financial Statements (starting on page F-19).
(b) Adjusted for special items, inventory valuation effect and the effect of changes in fair value. See Note 3 to the Consolidated Financial Statements (starting on page F-19).
(c) Organic investments = net investments excluding acquisitions, asset sales and other operations with non-controlling interests. For additional information on investments, refer to point 1.6 of chapter 1 of the Universal Registration Document 2021 (starting on page 30), incorporated herein by reference.
(d) Net acquisitions = acquisitions - assets sales - other operations with non-controlling interests.
(e) Net investments = organic investments + net acquisitions. For additional information on investments, refer to point 1.6 of chapter 1 of the Universal Registration Document 2021 (starting on page 30), incorporated herein by reference.

2021 vs. 2020

Gross installed renewable power generation capacity grew to 10.3 GW at year-end 2021, up 3.3 GW year-on-year, due in particular to the acquisition by AGEL of the operating assets of SB Energy India's 5 GW renewable portfolio, the continued growth of start-ups in India and the commissioning of the Dunkirk battery-powered storage site in France.

TotalEnergies continues to implement its strategy of integrating the electricity and gas chain in Europe. Net electricity production stood at 21.2 TWh in 2021, up 50% compared to 2020, due to strong growth in electricity production from renewable sources as well as combined cycle gas turbine (CCGT) power plants, strengthened by the acquisition of four CCGT plants in France and Spain in the fourth quarter 2020. The portfolio of electricity customer exceeded 6 million at year-end 2021.

External sales for the iGRP segment for the full-year 2021 were $30,704 million, 2 times greater than $15,629 million in 2020.

Adjusted net operating income for the iGRP segment was $6,243 million for the full-year 2021, a 3.5-fold increase from 2020, due to higher LNG prices and the strong performance of the gas, LNG and electricity trading activities.

Adjusted net operating income for the iGRP segment excludes special items and the impact of changes in fair value. For the full-year 2021, the exclusion of special items had a positive impact of $750 million on the segment's adjusted net operating income, compared to a positive impact of $1,440 million for the full-year 2020.

For the full-year 2021, the segment's operating cash flow before working capital changes without financial charges (DACF)[1] was $6,124 million, up 79% compared to $3,148 million for the full-year 2020, for the same reasons as adjusted net operating income.

For the full-year 2021, the segment's cash flow from operating activities excluding financial charges, except those related to leases was $827 million, a decrease of 61% from $2,129 million for 2020, mainly due to variations in margin calls related to hedging mechanisms in a context of high volatility in the gas and electricity markets.

In this context, the iGRP segment's ROACE for the full-year 2021 was 12.3% compared to 4.1% for the full-year 2020.

For information on the segment's investments, refer to point 1.6 of chapter 1 of the Universal Registration Document 2021 (starting on page 30), incorporated herein by reference. See also "- 5.4 Liquidity and Capital Resources", below.

2020 vs. 2019

Hydrocarbon production for LNG in 2020 decreased by 5% compared to a year ago, notably due to the shutdown of Snøhvit LNG following a fire at the end of September 2020. Total LNG sales increased by 12% in volume in 2020 compared to 2019 due to the start-up of three trains at Cameron LNG in the United States, the ramp-up of Yamal LNG in Russia and Ichthys LNG in Australia and the increase in trading activities.

TotalEnergies' gross installed renewable power generation capacity more than doubled during 2020 to reach 7 GW at the end of the fourth quarter 2020, notably thanks to the acquisition in India of 50% of a 3 GWp portfolio from the Adani Group.

TotalEnergies continued to implement its strategy to integrate along the electricity and gas chain in Europe and has increased the number of its electricity and gas customers by 1.5 million and 1 million since 2019, respectively, notably due to the finalization of the acquisition in the fourth quarter 2020 of a portfolio of customers from Energías de Portugal in Spain.

External sales for the iGRP segment in 2020 were $15,629 million compared $18,167 million in 2019, a decrease of 14%.

The iGRP segment's adjusted net operating income was $1,778 million in 2020, a decrease of 26% compared to $2,389 million in 2019, mainly due to a decrease in the LNG price.

Adjusted net operating income for the iGRP segment excludes special items. In 2020, the exclusion of special items had a positive impact of $1,440 million on the iGRP segment's adjusted net operating income. Special items included impairments of LNG assets located in Australia. For further information on the recognition of impairment of assets for the iGRP segment, refer to Note 3.D to the Consolidated Financial Statements (starting on page F-27). In 2019, the exclusion of special items had a negative impact of $384 million on the iGRP segment's adjusted net operating income.

For the full-year 2020, the iGRP segment's operating cash flow before working capital changes without financial charges (DACF) was $3,418 million, stable compared to $3,409 million for the full-year 2019[2].

For the full-year 2020, the iGRP segment's cash flow from operating activities excluding financial charges, except those related to leases was $2,129 million, a decrease of 38% compared to $3,461 million for the full-year 2019.

In this context, the iGRP segment's ROACE for the full-year 2020 was 4.1% compared to 6.3% for the full-year 2019.

5.3.2 Exploration & Production segment

Hydrocarbon production	**2021**	**2020**	**2019**
EP *(kboe/d)*	**2,290**	2,341	2,454
Liquids *(kb/d)**	**1,437**	1,474	1,601
Gas *(Mcf/d)*	**4,662**	4,727	4,653

* Including condensates and NGLs, associated with the production of gas.

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[1] DACF = debt adjusted cash flow. Operating cash flow before working capital changes without financial charges of the segment is defined as the cash flow from operating activities before changes in working capital at replacement cost, without financial charges except those related to leases, excluding the impact of contracts recognized at fair value for the segment and including capital gains on the sale of renewable projects.

[2] 2019 data restated.

Results ***(in millions of dollars except effective tax rate and ROACE)***	**2021**	**2020**	**2019**
External sales	**7,246**	4,973	7,261
Operating income[(a)]	**16,310**	(5,514)	10,542
Net income (loss) from equity affiliates and other items	**(760)**	697	610
Effective tax rate[(b)]	**45.2%**	29.4%	41.5%
Tax on net operating income	**(7,506)**	(208)	(4,572)
Net operating income[(a)]	**8,044**	(5,025)	6,580
Adjustments affecting net operating income	**2,395**	7,388	929
Adjusted net operating income[(c)]	**10,439**	2,363	7,509
including adjusted income from equity affiliates	**1,230**	928	996
Organic investments[(d)]	**6,690**	5,519	8,635
Net acquisitions[(e)]	**(167)**	544	14
Net investments[(f)]	**6,523**	6,063	8,649
ROACE	**13.9%**	2.8%	8.4%

(a) For the definitions of "operating income" and "net operating income", refer to Note 3 to the Consolidated Financial Statements (starting on page F-19).

(b) Effective tax rate = tax on adjusted net operating income/(adjusted net operating income – adjusted income from equity affiliates - dividends received from investments - impairment of goodwill + tax on adjusted net operating income).

(c) Adjusted for special items, inventory valuation effect and the effect of changes in fair value. See Note 3 to the Consolidated Financial Statements (starting on page F-19).

(d) Organic investments = net investments excluding acquisitions, asset sales and other operations with non-controlling interests. For additional information on investments, refer to point 1.6 of chapter 1 of the Universal Registration Document 2021 (starting on page 30), incorporated herein by reference.

(e) Net acquisitions = acquisitions - assets sales - other operations with non-controlling interests.

(f) Net investments = organic investments + net acquisitions. For additional information on investments, refer to point 1.6 of chapter 1 of the Universal Registration Document 2021 (starting on page 30), incorporated herein by reference.

2021 vs. 2020

External sales for the EP segment in 2021 were $7,246 million compared to $4,973 million in 2020, an increase of 46%.

The Exploration & Production (EP) segment's adjusted net operating income was $10,439 million in 2021, more than four times higher than in 2020, due to the sharp increase in oil and gas prices. Adjusted net operating income for the EP segment excludes special items. For the full-year 2021, the exclusion of special items had a positive impact of $2,395 million on the segment's adjusted net operating income compared to a positive impact of $7,388 million for the full-year 2020. The effective tax rate increased from 29.4% in 2020 to 45.2% in 2021.

For the full-year 2021, the segment's operating cash flow before working capital changes without financial charges (DACF)[1] was $18,717 million, an increase of 93% compared to $9,684 million for the full-year 2020, in line with higher oil and gas prices.

For the full-year 2021, the segment's cash flow from operating activities excluding financial charges, except those related to leases was $22,009 million, 2.2 times greater than $9,922 million for the full-year 2020.

In this context, the EP segment's ROACE for the full-year 2021 was 13.9% compared to 2.8% for the full-year 2020.

For additional information on the EP segment's capital expenditures, refer to point 1.6 (starting on page 30) of chapter 1 and point 2.3.2 (on page 89) of chapter 2 of the Universal Registration Document 2021, incorporated herein by reference. See also "- 5.4 Liquidity and Capital Resources", below.

2020 vs. 2019

External sales for the EP segment in 2020 were $4,973 million compared to $7,261 million in 2019, a decrease of 32%.

The EP segment's adjusted net operating income was $2,363 million in 2020, a decrease of 69% compared to $7,509 million in 2019, due to the sharp drop in oil and gas prices and lower production. The effective tax rate decreased from 41.5% in 2019 to 29.4% in 2020, in line with this sharp drop. Adjusted net operating income for the EP segment excludes special items. In 2020, the exclusion of special items had a positive impact of $7,388 million on the EP segment's adjusted net operating income. Special items included impairments of TotalEnergies' oil sands assets in Canada. For further information on the recognition of impairment of assets for the EP segment, refer to Note 3.D to the Consolidated Financial Statements (starting on page F-29). In 2019, the exclusion of special items had a positive impact of $929 million on the EP segment's adjusted net operating income.

For the full-year 2020, the EP segment's operating cash flow before working capital changes without financial charges (DACF) was $9,684 million, a decrease of 46% compared to $18,030 million for the full-year 2019.

For the full-year 2020, the segment's cash flow from operating activities excluding financial charges, except those related to leases was $9,922 million, a decrease of 41% compared to $16,917 million for the full-year 2019.

In this context, the EP segment's ROACE for the full-year 2020 was 2.8% compared to 8.4% for the full-year 2019.

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[1] DACF = debt adjusted cash flow. Operating cash flow before working capital changes without financial charge of the segment is defined as the cash flow from operating activities before changes in working capital at replacement cost, without financial charges except those related to leases. Operating cash flow before changes in working capital at replacement cost provides information on underlying cash flow without the short-term impacts of changes in inventory and other working capital elements at replacement cost. For information on the inventory effect and the replacement cost method, refer to Note 3 to the Consolidated Financial Statements (starting on page F-19).

5.3.3 Downstream (Refining & Chemicals and Marketing & Services segments)

Results (in millions of dollars)	2021	2020	2019
External sales	**167,888**	120,066	174,878
Operating income[(a)]	**5,923**	627	5,394
Net income (loss) from equity affiliates and other items	**626**	(356)	423
Tax on net operating income	**(1,806)**	(456)	(1,068)
Net operating income[(a)]	**4,743**	(185)	4,749
Adjustments affecting net operating income	**(1,216)**	2,448	(93)
Adjusted net operating income[(b)]	**3,527**	2,263	4,656
Organic investments[(c)]	**2,576**	2,023	2,395
Net acquisitions[(d)]	**(368)**	32	118
Net investments[(e)]	**2,208**	2,055	2,513

(a) For the definitions of "operating income" and "net operating income", refer to Note 3 to the Consolidated Financial Statements (starting on page F-19).
(b) Adjusted for special items, inventory valuation effect and the effect of changes in fair value. See Note 3 to the Consolidated Financial Statements (starting on page F-19).
(c) Organic investments = net investments excluding acquisitions, asset sales and other operations with non-controlling interests. For additional information on investments, refer to point 1.6 of chapter 1 of the Universal Registration Document 2021 (starting on page 30), incorporated herein by reference.
(d) Net acquisitions = acquisitions - assets sales - other operations with non-controlling interests.
(e) Net investments = organic investments + net acquisitions. For additional information on investments, refer to point 1.6 of chapter 1 of the Universal Registration Document 2021 (starting on page 30), incorporated herein by reference.

The Downstream's operating cash flow before working capital changes without financial charges (DACF)[1] was $5,502 million for the full-year 2021, an increase of 18% compared to $4,652 million for the full-year 2020.

The Downstream's cash flow from operating activities excluding financial charges, except those related to leases was $8,806 million for the full-year 2021, an increase of 94% compared to $4,539 million for the full-year 2020.

A. Refining & Chemicals segment

Refinery throughput and utilization rates[(a)]	2021	2020	2019
Total refinery throughput *(kb/d)*	**1,180**	1,292	1,671
France	**190**	244	456
Rest of Europe	**568**	618	754
Rest of World	**423**	430	462
Utilization rates based on crude only[(b)]	**64%**	61%	80%

(a) Includes refineries in Africa reported in the Marketing & Services segment.
(b) Based on distillation capacity at the beginning of the year, excluding Grandpuits (shut down first quarter 2021) from 2021 and Lindsey refinery (divested) from second quarter 2021.

Petrochemicals production and utilization rate	2021	2020	2019
Monomers* (kt)	**5,775**	5,519	5,219
Polymers (kt)	**4,938**	4,934	4,862
Vapocracker utilization rate**	**90%**	83%	83%

* Olefins.
** Based on olefins production from steamcrackers and their treatment capacity at the start of the year.

Results (in millions of dollars except ROACE)	2021	2020	2019
External sales	**87,600**	56,615	87,598
Operating income[(a)]	**3,564**	(814)	3,342
Net income (loss) from equity affiliates and other items	**518**	(393)	322
Tax on net operating income	**(1,068)**	59	(470)
Net operating income[(a)]	**3,014**	(1,148)	3,194
Adjustments affecting net operating income	**(1,105)**	2,187	(191)
Adjusted net operating income[(b)]	**1,909**	1,039	3,003
Organic investments[(c)]	**1,502**	1,209	1,426
Net acquisitions[(d)]	**(217)**	(54)	(44)
Net investments[(e)]	**1,285**	1,155	1,382
ROACE	**19.6%**	8.8%	26.3%

(a) For the definitions of "operating income" and "net operating income", refer to Note 3 to the Consolidated Financial Statements (starting on page F-19).
(b) Adjusted for special items, inventory valuation effect and the effect of changes in fair value. See Note 3 to the Consolidated Financial Statements (starting on page F-19).
(c) Organic investments = net investments excluding acquisitions, asset sales and other operations with non-controlling interests. For additional information on investments, refer to point 1.6 of chapter 1 of the Universal Registration Document 2021 (starting on page 30), incorporated herein by reference.
(d) Net acquisitions = acquisitions - assets sales - other operations with non-controlling interests.
(e) Net investments = organic investments + net acquisitions. For additional information on investments, refer to point 1.6 of chapter 1 of the Universal Registration Document 2021 (starting on page 30), incorporated herein by reference.

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[1] DACF = debt adjusted cash flow. Operating cash flow before working capital changes without financial charge of the segment is defined as the cash flow from operating activities before changes in working capital at replacement cost, without financial charges except those related to leases. Operating cash flow before changes in working capital at replacement cost provides information on underlying cash flow without the short-term impacts of changes in inventory and other working capital elements at replacement cost. For information on the inventory effect and replacement cost method, refer to Note 3 to the Consolidated Financial Statements (starting on page F-19).

2021 vs. 2020

Refinery throughput decreased by 9% in 2021 compared to 2020, due to the prolonged shutdown of the Donges refinery for economic reasons, the shutdown of the Grandpuits refinery for conversion to a zero-oil platform and the sale of the Lindsey refinery in the United Kingdom as well as the planned major shutdown of the Leuna refinery in Germany in the second quarter 2021. For further information on the shutdowns, refer to point 2.4.1.1 of chapter 2 of the Universal Registration Document 2021 (starting on page 100), incorporated herein by reference.

Monomer production increased 5% in 2021 compared to 2020, supported by demand, and notably due to the restart of the Port Arthur steam cracker in the United States, in maintenance in 2020. Polymer production was stable for full-year 2021 compared to full-year 2020.

External sales for the Refining & Chemicals segment in 2021 were $87,600 million, 1.5 times greater than $56,615 million in 2020.

Adjusted net operating income for the Refining & Chemicals segment increased 84% to $1,909 million in 2021, compared to $1,039 million in 2020, linked to the strong performance of petrochemicals and the increase in European and American refining margins, despite the increase in energy costs. Adjusted net operating income for this segment excludes any after-tax inventory valuation effect and special items. For the full-year 2021, the exclusion of the inventory valuation effect had an impact of $(1,296) million on the segment's adjusted net operating income, compared to a positive impact of $1,165 million for the full-year 2020. For the full-year 2021, the exclusion of special items had a positive impact of $191 million on the segment's adjusted net operating income, compared to a positive impact of $1,022 million for the full-year 2020.

For the full-year 2021, the Refining & Chemicals segment's operating cash flow before working capital changes without financial charges (DACF)[1] was $2,946 million, an increase of 19% year-on-year compared to $2,472 million for the full-year 2020, in line with the strong performance of petrochemicals and refining margins that increased, although still low, at the end of 2021.

For the full-year 2021, the Refining & Chemicals segment's cash flow from operating activities excluding financial charges, except those related to leases was $6,473 million, 2.7 times greater than $2,438 million for the full-year 2020.

In this context, the Refining & Chemicals segment's ROACE for the full-year 2021 was 19.6% compared to 8.8% for the full-year 2020.

For information on the Refining & Chemicals segment's investments, refer to point 1.6 of chapter 1 of the Universal Registration Document 2021 (starting on page 30), incorporated herein by reference. See also "- 5.4 Liquidity and Capital Resources", below.

2020 vs. 2019

Refinery throughput volumes decreased by 23% in 2020 year-on-year mainly due to high inventories of refined products and the drop in demand which notably led to the economic shutdown of the Donges refinery as well as the prolonged shutdown of the distillation unit at the Normandy platform following a fire that affected the distillation unit at the end of 2019.

Monomer production increased 6% in 2020 year-on-year, supported by demand, and notably as a result of the 2019 planned maintenance on the steamcracker at Daesan in South Korea. Polymer production was stable for full-year 2020 compared to full-year 2019.

External sales for the Refining & Chemicals segment in 2020 were $56,615 million compared to $87,598 million in 2019, a decrease of 35%.

The Refining & Chemicals segment's adjusted net operating income was $1,039 million for the full-year 2020, a decrease of 65% compared to $3,003 million for the full-year 2019, due to refining margin deterioration, partially offset by resilient petrochemical margins and outperformance of the trading activities. Adjusted net operating income for this segment excludes any after-tax inventory valuation effect and special items. For the full-year 2020, the exclusion of the inventory valuation effect had a positive impact of $1,165 million on the segment's adjusted net operating income, compared to a negative impact of $371 million for the full-year 2019. For the full-year 2020, the exclusion of special items had a positive impact of $1,022 million on the segment's adjusted net operating income, compared to a positive impact of $180 million for the full-year 2019. Special items in 2020 included impairments of refining cash-generating units located in France and the United Kingdom. For further information on the recognition of impairment of assets for the Refining & Chemicals segment, refer to Note 3.D to the Consolidated Financial Statements (starting on page F-27).

For the full-year 2020, the Refining & Chemicals segment's operating cash flow before working capital changes without financial charges (DACF) was $2,472 million, a decrease of 39% compared to $4,072 million for the full-year 2019.

For the full-year 2020, the segment's cash flow from operating activities excluding financial charges, except those related to leases was $2,438 million, a decrease of 36% compared to $3,837 million for the full-year 2019.

In this context, the Refining & Chemicals segment's ROACE for the full-year 2020 was 8.8% compared to 26.3% for the full-year 2019.

B. Marketing & Services segment

Petroleum product sales[(a)] *(kb/d)*	**2021**	**2020**	**2019**
Total Marketing & Services sales	**1,503**	1,477	1,845
Europe	**826**	823	1,021
Rest of world	**677**	654	824

(a) Excludes trading and bulk Refining sales.

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[1] DACF = debt adjusted cash flow. Operating cash flow before working capital changes without financial charge of the segment is defined as the cash flow from operating activities before changes in working capital at replacement cost, without financial charges except those related to leases. Operating cash flow before changes in working capital at replacement cost provides information on underlying cash flow without the short-term impacts of changes in inventory and other working capital elements at replacement cost. For information on the inventory effect and replacement cost method, refer to Note 3 to the Consolidated Financial Statements (starting on page F-19).

Results (in millions of dollars except ROACE)	2021	2020	2019
External sales	**80,288**	63,451	87,280
Operating income[(a)]	**2,359**	1,441	2,052
Net income (loss) from equity affiliates and other items	**108**	37	101
Tax on net operating income	**(738)**	(515)	(598)
Net operating income[(a)]	**1,729**	963	1,555
Adjustments affecting net operating income	**(111)**	261	98
Adjusted net operating income[(b)]	**1,618**	1,224	1,653
Organic investments[(c)]	**1,074**	814	969
Net acquisitions[(d)]	**(151)**	86	162
Net investments[(e)]	**923**	900	1,131
ROACE	**18.4%**	14.3%	22.3%

(a) For the definitions of “operating income” and “net operating income”, refer to Note 3 to the Consolidated Financial Statements (starting on page F-19).

(b) Adjusted for special items, inventory valuation effect and the effect of changes in fair value. See Note 3 to the Consolidated Financial Statements (starting on page F-19).

(c) Organic investments = net investments excluding acquisitions, asset sales and other operations with non-controlling interests. For additional information on investments, refer to point 1.6 of chapter 1 of the Universal Registration Document 2021 (starting on page 30), incorporated herein by reference.

(d) Net acquisitions = acquisitions - assets sales - other operations with non-controlling interests.

(e) Net investments = organic investments + net acquisitions. For additional information on investments, refer to point 1.6 of chapter 1 of the Universal Registration Document 2021 (starting on page 30), incorporated herein by reference.

2021 vs. 2020

Petroleum product sales showed year-on-year growth of 2% for the full-year 2021, due to the improvement in the health situation and the global economic rebound. This increase reflects mainly the recovery in retail activity and, at the end of 2021, of the aviation activity.

External sales for the Marketing & Services segment in 2021 were $80,288 million, 1.3 times greater than $63,451 million in 2020.

Adjusted net operating income for the Marketing & Services segment was $1,618 million for the full-year 2021, an increase of 32% compared to $1,224 million for the full-year 2020. Adjusted net operating income for this segment excludes any after-tax inventory valuation effect and special items. For the full-year 2021, the exclusion of the inventory valuation effect had a negative impact of $236 million on the segment’s adjusted net operating income, compared to a positive impact of $137 million for the full-year 2020. For the full-year 2021, the exclusion of special items had a positive impact of $125 million on the segment’s adjusted net operating income, compared to a positive impact of $124 million for the full-year 2020.

For the full-year 2021, the Marketing & Services segment’s operating cash flow before working capital changes without financial charges (DACF)[1] was $2,556 million, an increase of 17% compared to $2,180 million for the full-year 2020. These results are back to levels comparable to those of the pre-crisis period, despite a 19% drop in sales in 2021 compared to 2019 (most of which is linked to the strategy to arbitrage low margin sales).

For the full-year 2021, the Marketing & Services segment’s cash flow from operating activities excluding financial charges, except those related to leases was $2,333 million, an increase of 11% compared to $2,101 million for the full-year 2020.

In this context, the Marketing & Services segment’s ROACE for the full-year 2021 was 18.4% compared to 14.3% for the full-year 2020.

For information on the Marketing & Services segment’s investments, refer to point 1.6 of chapter 1 of the Universal Registration Document 2021 (starting on page 30), incorporated herein by reference. See also “- 5.4 Liquidity and Capital Resources”, below.

2020 vs. 2019

Petroleum product sales volumes decreased by 20% in 2020 compared to 2019, in response to the significant slowdown in global activity related to the COVID-19 pandemic. Aviation and marine activities remain severely affected in this context; however, the decline in retail sales was mitigated by network growth in Angola, Saudi Arabia, Brazil and Mexico.

External sales for the Marketing & Services segment in 2020 were $63,451 million compared to $87,280 million in 2019, a decrease of 27%.

The Marketing & Services segment’s adjusted net operating income decreased by 26% in 2020 to $1,224 million compared to $1,653 million in 2019. Adjusted net operating income for the Marketing & Services segment excludes any after-tax inventory valuation effect and special items. For the full-year 2020, the exclusion of the inventory valuation effect had a positive impact of $137 million on the segment’s adjusted net operating income, compared to a positive impact of $14 million for the full-year 2019. For the full-year 2020, the exclusion of special items had a positive impact of $124 million on the segment’s adjusted net operating income, compared to a positive impact of $84 million for the full-year 2019.

For the full-year 2020, the Marketing & Services segment’s operating cash flow before working capital changes without financial charges (DACF) $2,180 million, a decrease of 14% compared to $2,546 million for the full-year 2019.

For the full-year 2020, the segment’s cash flow from operating activities excluding financial charges, except those related to leases was $2,101 million, a decrease of 19% compared to $2,604 million for the full-year 2019.

In this context, the Marketing & Services segment’s ROACE for the full-year 2020 was 14.3% compared to 22.3% for the full-year 2019.

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[1] DACF = debt adjusted cash flow. Operating cash flow before working capital changes without financial charge of the segment is defined as the cash flow from operating activities before changes in working capital at replacement cost, without financial charges except those related to leases. Operating cash flow before changes in working capital at replacement cost provides information on underlying cash flow without the short-term impacts of changes in inventory and other working capital elements at replacement cost. For information on the inventory effect and replacement cost method, refer to Note 3 to the Consolidated Financial Statements (starting on page F-19).

5.4 Liquidity and capital resources

(M$)	2021	2020	2019
Cash flow from operating activities	**30,410**	**14,803**	**24,685**
Including (increase) decrease in working capital	(616)	1,869	(1,718)
Cash flow used in investing activities	**(13,656)**	**(13,079)**	**(17,177)**
Total expenditures	(16,589)	(15,534)	(19,237)
Total divestments	2,933	2,455	2,060
Cash flow from / (used) in financing activities	**(25,497)**	**1,398**	**(7,709)**
Net increase (decrease) in cash and cash equivalents	**(8,743)**	**3,122**	**(201)**
Effect of exchange rates	(1,183)	794	(354)
Cash and cash equivalents at the beginning of the period	31,268	27,352	27,907
Cash and cash equivalents at the end of the period	**21,342**	**31,268**	**27,352**

TotalEnergies' cash requirements for working capital, capital expenditures, acquisitions and dividend payments over the past three years were financed primarily by a combination of funds generated from operations, net borrowings and divestments of assets. In the current environment, TotalEnergies expects its external debt to be principally financed from the international debt capital markets. TotalEnergies continually monitors the balance between cash flow from operating activities and net expenditures. In TotalEnergies SE's opinion, its working capital is sufficient for its present requirements.

5.4.1 Cash flow

Cash flow from operating activities in 2021 was $30,410 million compared to $14,803 million in 2020 and $24,685 million in 2019. The increase of $15,607 million from 2020 to 2021 was mainly due to the increase in net income.

Cash flow used in investing activities in 2021 was $13,656 million compared to $13,079 million in 2020 and $17,177 million in 2019. The increase of $577 million from 2020 to 2021 was mainly due to higher expenditures in the Exploration & Production segment. The decrease of $4,098 million from 2019 to 2020 was mainly due to lower expenditures in the Exploration & Production segment and the Integrated Gas, Power & Renewables segment. Total expenditures in 2021 were $16,589 million compared to $15,534 million in 2020 and $19,237 million in 2019. During 2021, 44% of the expenditures were made by the Exploration & Production segment (as compared to 44% in 2020 and 47% in 2019), 38% by the Integrated Gas, Power & Renewables segment (as compared to 40% in 2020 and 37% in 2019), 10% by the Refining & Chemicals segment (compared to 9% in 2020 and 9% in 2019) and 7% by the Marketing & Services segment (compared to 7% in 2020 and 7% in 2019). The main source of funding for the expenditures was cash from operating activities and net repayment in 2021 and cash from operating activities and issuances of non-current debt in 2020 and 2019.

For additional information on expenditures, please refer to the discussions in "- 5.1 Overview", "- 5.2 TotalEnergies results 2019-2021" and "- 5.3 Business segment reporting", above, and point 1.6 of chapter 1 of the Universal Registration Document 2021 (starting on page 30), incorporated herein by reference and Note 15.1.D to the Consolidated Financial Statements on page F-71.

Divestments, based on selling price and net of cash sold, in 2021 were $2,933 million compared to $2,455 million in 2020 and $2,060 million in 2019. In 2021, TotalEnergies' principal divestments were assets sales of $2,652 million compared to $1,539 million in 2020, consisting mainly of the sales described in "- 5.2 TotalEnergies results 2019-2021" above.

Cash flow from/(used in) financing activities in 2021 was $(25,497) million compared to $1,398 million in 2020 and $(7,709) million in 2019. The significant use of cash in financing activities in 2021 compared to a net inflow in 2020 was primarily due to the net repayment of non-current debt of $(359) million in 2021 compared to a net issuance of $15,800 million in 2020, to a significant increase in current financial assets and liabilities ($8,075 million in 2021 compared to $604 million in 2020) due to an increase in initial margins held as part of TotalEnergies' activities on organized markets and to the increase in buyback of shares ($1,823 million in 2021 compared to $611 million in 2020). The decrease in cash flow used in financing activities in 2020 compared to 2019 was primarily due to the decrease in buyback of shares ($611 million in 2020 compared to $2,810 million in 2019), the increase in the net issuance of non-current debt ($15,800 million in 2020 compared to $8,131 million in 2019) and the increase in current financial assets and liabilities ($604 million in 2020 compared to $536 million in 2019).

5.4.2 Indebtedness

TotalEnergies' non-current financial debt at year-end 2021 was $49,512 million, compared to $60,203 million at year-end 2020 and $47,773 million at year-end 2019. For further information on the level of borrowing and the type of financial instruments, including maturity profile of debt and currency and interest rate structure, see point 1.10.2 of chapter 1 in the Universal Registration Document 2021 (starting on page 55), incorporated herein by reference and Note 15 ("Financial structure and financial costs") to the Consolidated Financial Statements starting on page F-67. For further information on the treasury policies, including the use of instruments for hedging purposes and the currencies in which cash and cash equivalents are held, see "Item 11. Quantitative and Qualitative Disclosures About Market Risk".

Cash and cash equivalents at year-end 2021 were $21,342 million compared to $31,268 million at year-end 2020 and $27,352 million at year-end 2019.

5.4.3 Shareholders' equity

Shareholders' equity at year-end 2021 was $114,999 million, compared to $106,085 million at year-end 2020 and $119,305 million at year-end 2019.

- Changes in shareholders' equity in 2021 were primarily due to the impacts of comprehensive income, dividend payments, the buy-back of TotalEnergies SE shares and the issuance of perpetual subordinated notes issued by TotalEnergies SE in January 2021, in two tranches of €1.5 billion (callable in 2027 and 2032), recorded as equity for approximately €3.3 billion (or approximately $3.6 billion using the €/$ exchange rate on January 29, 2021 of €1=$1.2135 as released by the Board of Governors of the Federal Reserve System February 1, 2021).
- Changes in shareholders' equity in 2020 were primarily due to the impacts of comprehensive income, dividend payments, the buy-back of TotalEnergies SE shares and the issuance of common shares of TotalEnergies SE and perpetual subordinated notes

issued by TotalEnergies SE in September 2020 (callable in 2030) recorded as equity for €1 billion (or approximately $1.2 billion using the €/$ exchange rate on September 4, 2020 of €1 = $1.1820 as released by the Board of Governors of the Federal Reserve System on September 7, 2020).

- Changes in shareholders' equity in 2019 were primarily due to the impacts of comprehensive income, dividend payments, the buy-back of TotalEnergies SE shares and the issuance of common shares of TotalEnergies SE and perpetual subordinated notes in April 2019 (callable in 2024) recorded as equity for €1.5 billion (or approximately $1.7 billion using the €/$ exchange rate on April 19, 2019 of €1 = $1.1246 as released by the Board of Governors of the Federal Reserve System on April 22, 2019).

Variation of the number of shares composing the share capital

As of December 31, 2018(a)		**2,640,602,007**
	2019 capital increase reserved for employees	*10,047,337*
	Capital increase as payment of the scrip dividend (second and third 2018 interim dividend)	*16,076,936*
	Exercise of TotalEnergies share subscription options	*264,230*
	Capital reduction by cancellation of treasury shares(b)	*(65,109,435)*
As of December 31, 2019(c)		**2,601,881,075**
	Deferred contribution pursuant to the 2015 capital increase reserved for employees	*18,879*
	2020 capital increase reserved for employees	*13,160,383*
	Capital increase as payment of the scrip dividend (final 2019 dividend)	*38,063,688*
As of December 31, 2020(d)		**2,653,124,025**
	Capital reduction by cancellation of treasury shares(b)	*(23,284,409)*
	2021 capital increase reserved for employees	*10,589,713*
As of December 31, 2021(e)		**2,640,429,329**

(a) Including 32,473,281 treasury shares deducted from consolidated shareholders' equity.
(b) This transaction had no impact on the consolidated financial statements of TotalEnergies SE, the number of fully-diluted weighted-average shares or on the earnings per share.
(c) Including 15,474,234 treasury shares deducted from consolidated shareholders' equity.
(d) Including 24,392,703 treasury shares deducted from consolidated shareholders' equity.
(e) Including 33,841,104 treasury shares deducted from consolidated shareholders' equity.

TotalEnergies share buyback

Fiscal year	**Total number of shares purchased**	**Shares repurchased for cancellation *(Units/$)***	**Shares allocated to performance share plans**
2021	37,306,005	30,665,526 / 1.5 billion	6,640,479
2020	13,236,044	12,233,265 / 0.55 billion	1,002,779
2019	52,389,336	32,723,365 / 1.75 billion(a)	3,589,035

(a) TotalEnergies SE repurchased a further 16,076,936 shares to cancel the dilution related to the TotalEnergies shares issued for payment of the second and third interim dividends for the fiscal year ended December 31, 2018.

5.4.4 Net-debt-to-capital ratio

As of December 31, 2021, TotalEnergies' net-debt-to-capital ratio excluding leases[1] and including initial margins held as part of its activities on organized markets was 15.3% compared to 21.7% and 16.7% at year-ends 2020 and 2019 respectively. The decrease from 2020 to 2021 and increase from 2019 to 2020 was mostly due to the change in net debt. For additional information, please refer to the Notes to the Consolidated Financial Statements (starting on page F-9).

For information on committed credit facilities and liquidity risk, please refer to Note 15.3 to the Consolidated Financial Statements (starting on page F-77).

5.4.5 Material cash requirements

In 2021, the largest part of TotalEnergies' capital expenditures of $16,589 million was made up of additions to intangible assets and property, plant and equipment (approximately 76%), with the remainder attributable to equity-method affiliates and to acquisitions of subsidiaries.

- In the Integrated Gas, Renewables & Power segment, approximately 58% of capital expenditures were related mainly to facilities investments with the balance being related mainly to acquisitions.
- In the Exploration & Production segment, as described in more detail under point 9.1.6 of chapter 9 of the Universal Registration Document 2021 (on page 533), incorporated herein by reference, capital expenditures in 2021 were principally development costs (approximately 88%, mainly for construction of new production facilities), exploration expenditures (successful or unsuccessful, approximately 5%) and acquisitions of proved and unproved properties (approximately 7%).
- In the Refining & Chemicals segment, approximately 88% of capital expenditures in 2021 were related to refining and petrochemical activities (essentially 70% for existing units including maintenance and major turnarounds and 30% for new constructions), the balance being related mainly to Hutchinson.

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[1] For additional information, refer to Note 15.1(E) to the Consolidated Financial Statements (starting on page F-71).

- In the Marketing & Services segment, approximately 93% of capital expenditures in 2021 were development expenditures, mainly in Europe and Africa, with the balance being mainly attributable to acquisitions.

For additional information on capital expenditures, refer to the discussion above in "- 5.1 Overview", "- 5.2 TotalEnergies results 2019-2021" and "- 5.3 Business segment reporting", above, as well as point 1.6 of chapter 1 (on page 30) of the Universal Registration Document 2021, incorporated herein by reference.

As of December 31, 2021, TotalEnergies' material contractual obligations include debt obligations net of hedging instruments, purchases obligations, asset retirement obligations and lease obligations. For additional information on TotalEnergies' contractual obligations, refer to Note 13 to the Consolidated Financial Statements (starting on page F-61). TotalEnergies has other obligations in connection with pension plans that are described in Note 10 ("Payroll, staff and employee benefits obligations") to the Consolidated Financial Statements (starting on page F-54). These obligations are not contractually fixed as to timing and amount. Other non-current liabilities, detailed in Note 12 ("Provisions and other non-current liabilities") to the Consolidated Financial Statements (starting on page F-59), are liabilities related to risks that are probable and amounts that can be reasonably estimated. However, no contractual agreements exist related to the settlement of such liabilities, and the timing of the settlement is not known.

TotalEnergies estimates the combination of its sources of capital will continue to be adequate to fund its short- and long- term contractual obligations.

Information on TotalEnergies' guarantees and other commitments and contingencies are presented in Note 13 ("Off balance sheet commitments and contractual obligations") to the Consolidated Financial Statements (starting on page F-61). TotalEnergies does not currently consider that these guarantees, or any other off-balance sheet arrangements of TotalEnergies or any other members of TotalEnergies, have or are reasonably likely to have, currently or in the future, a material effect on the TotalEnergies' financial condition, changes in financial condition, revenues or expenses, results of operation, liquidity, capital expenditures or capital resources.

5.5 Research and development

For a discussion of TotalEnergies' R&D policies and activities, refer to points 1.6.2 and 1.7 of chapter 1 (starting on pages 32 and 33, respectively) of the Universal Registration Document 2021, incorporated herein by reference.

5.6 Russian-Ukrainian conflict - Situation of the Company at March 24, 2022

Given the activities carried out by TotalEnergies in connection with Russia, the Company believed it was useful to present in this section all the pertinent information, some of which is set forth in this Annual Report, by adding context.

1. Principal activities of TotalEnergies in connection with Russia and principles of conduct

TotalEnergies announced, on March 1, 2022, that it condemns Russia's military aggression against Ukraine, supports the scope and strength of the sanctions put in place by Europe that will be implemented by the Company regardless of the consequences on its asset management, and that it will no longer provide capital for new projects in Russia.

Considering the worsening conflict, TotalEnergies announced on March 22, 2022 that it is also taking new steps and reaffirms its firmest condemnation of Russia's military aggression against Ukraine, which has tragic consequences for the Ukrainian population and threatens peace in Europe.

To act responsibly, as a European company and in accordance with its values, **TotalEnergies has defined clear principles of conduct for managing its Russian related business**:

- **Ensure strict compliance with current and future European sanctions, no matter what the consequences on the management of its assets in Russia, and gradually suspend its activities in Russia, while assuring its workforce's safety.**

TotalEnergies does not operate any oil or gas field, or Liquefied Natural Gas (LNG) plant in Russia.

TotalEnergies is a minority shareholder in a number of non-state-owned Russian companies: Novatek (19.4%), Yamal LNG (20%), Arctic LNG 2 (10%) and TernefteGaz (49%). These companies are managed by their own staff with a limited number of secondees from TotalEnergies. TotalEnergies is also a 20% partner in the Kharyaga joint venture operated by Zarubezhneft. The Company did indeed contribute to the construction phase of these companies' projects but has no activity or operational responsibility on those sites.

TotalEnergies had only 11 secondees in these companies as of February 24, 2022, and only 3 seconded expatriates are in Russia as of today. **TotalEnergies has thus initiated the gradual suspension of its activities in Russia, while assuring its teams' safety.** Similarly, TotalEnergies has decided to put on hold its business developments for batteries and lubricants in Russia.

The table below presents TotalEnergies' producing assets entities in Russia as of December 31, 2021, the interest held in the asset (TotalEnergies share in %).

Exploration & Production segment	**iGRP segment**
Non operated : Kharyaga (20.00%), Termokarstovoye (direct interest of 49.00% of in ZAO Terneftegas), shareholding in the company PAO Novatek (19.4%)	**Non operated**: Arctic LNG 2 (10%), Yamal LNG (20.02%)

TotalEnergies held 21% of its proved reserves and had 18% of its oil and gas production in 2021 in Russia.

The tables below present the average daily production of liquids and natural gas of TotalEnergies, by geographical zone as well as the Upstream Capital Employed as of 12/31/2021.

SEC Production 2021

		Liquids kb/d[(a)]	Natural gas Mcf/d(b)	Total kboe/d
Russia		**75**	**2,269**	**496**
including production share of consolidated subsidiaries		4	2	4
	Kharyaga	*4*	*2*	*4*
including production share of equity affiliates		71	2,267	492
	PAO Novatek	*53*	*1,374*	*311*
	Yamal LNG	*6*	*749*	*143*
	Terneftegas	*12*	*144*	*38*

(a) Liquids include crude oil, bitumen, condensates, and natural gas liquids (NGL).
(b) Including fuel gas (490 Mcf/d in 2021).

Upstream Capital Employed at 12/31/2021 (M$)

PAO Novatek	6,243
Yamal LNG	4,333
Arctic LNG 2	2,450
Terneftegas	573
Kharyaga	53
Total Upstream Capital Employed	**13,652**

LNG production comes from the Yamal LNG project. This onshore project to develop the onshore South Tambey gas and condensates field located on the Yamal peninsula was launched in 2013 by OAO Yamal LNG and put in production in 2017. TotalEnergies has an interest of 20.02% held by the subsidiary, TotalEnergies EP Yamal. The project consists of a three-train gas liquefaction plant with a nameplate capacity of 16.5 Mt/y of LNG. In 2021, the plant's production exceeded the nameplate capacity by 17% to 19.3 Mt/y. A fourth liquefaction train with a capacity of 0.9 Mt/y, using a PAO Novatek technology, also started in March 2021. TotalEnergies is committed under long term contracts to purchase Liquefied Natural Gas from the Yamal LNG plant, representing a volume of 5.2 Mt of LNG per year (of which 4.2 Mt under the long term contracts with Yamal LNG and 1 Mt under the long term contract with PAO Novatek related to the production of Yamal LNG).

In addition, TotalEnergies has in the Arctic LNG 2 project a direct interest of 10% since 2019 held by the subsidiary TotalEnergies EP Salmanov. TotalEnergies and its partners approved the final investment decision for the Arctic LNG 2 project in 2019. With a production capacity of 19.8 Mt/y, the Arctic LNG 2 project is expected to develop the resources of the Utrenneye onshore field (gas and condensates) located on the Gydan Peninsula opposite the Yamal Peninsula. The project in progress involves the installation of three gravity-based structures in Ob Bay that will host the three liquefaction trains of 6.6 Mt/y capacity each. Given the uncertainties of the technological and financial penalties on the ability to complete the project Arctic LNG 2 under construction, TotalEnergies has decided to no longer record proved reserves as of 12/31/2021.

Finally, TotalEnergies has in the Arctic Transshipment project a direct interest of 10% since July 2021 held by TotalEnergies EP Transshipment. From 2023, this project is expected to enable LNG shipments to be transferred from Arctic LNG ships to conventional LNG ships, in Murmansk for shipments for the European market, and in Kamchatka for shipments for the Asian market.

- **Provide no further capital for the development of projects in Russia.**

Concerning the Arctic LNG 2 project in particular, given the uncertainty created by technological and financial sanctions on the ability to carry out the Arctic LNG 2 project currently under construction and their probable tightening with the worsening conflict, TotalEnergies SE has decided to no longer record proved reserves for Arctic LNG 2 in its accounts and will not provide any more capital for this project.

- **Do not reverse the purpose of sanctions against Russia: do not unwarrantedly transfer value to Russian interests by withdrawing from assets.**

The current environment of European sanctions and Russian laws controlling foreign investments in Russia would prevent TotalEnergies to find a non-Russian buyer for its minority interests in Russia. Abandoning these interests without consideration would enrich Russian investors, in contradiction with the sanctions' purpose. In addition, abandoning these minority interests held by TotalEnergies would have no impact on the companies' operations and revenues, since these companies have their own employees and are managed autonomously.

- **Help ensure the security of the European continent's energy supply within the framework defined by European authorities.**

TotalEnergies is a European energy company that must contribute to the supply security of the European continent, which does not have the same domestic resources as other western countries such as the United Kingdom or the United States.

In accordance with the European Union's decisions to maintain at this stage Russian gas supplies, TotalEnergies continues to supply Europe with liquefied natural gas from the Yamal LNG plant within the framework of long-term contracts that it must honor as long as Europe's governments consider that Russian gas is necessary. Contrary to oil, it is apparent that Europe's gas logistics capacities make it difficult to refrain from importing Russian gas in the next two to three years without impacting the continent's energy supply.

However, **given the worsening situation in Ukraine and the existence of alternative sources for supplying Europe, TotalEnergies has unilaterally decided to no longer enter into or renew contracts to purchase Russian oil and petroleum products, in order to halt all its purchases of Russian oil and petroleum products as soon as possible and by the end of 2022 at the latest.**

TotalEnergies already announced that it halted all spot market trading since February 25, 2022, on Russian oil and petroleum products. This is also the case for spot trading transactions concerning Russian natural gas or liquefied natural gas.

TotalEnergies has term contracts to purchase Russian oil and petroleum products that end, at the very latest, on December 31, 2022. These term contracts primarily cover supplies for the Leuna refinery in eastern Germany, which is served by the Druzhba pipeline from Russia. They also concern Europe's gasoil supply, which is short of this product (around 12% of Russian gasoil imports in Europe in 2021).

In close cooperation with the German government, TotalEnergies will terminate its Russian oil supply contracts for the Leuna refinery as soon as possible and by the end of 2022 at the latest, and will put in place alternative solutions by importing oil via Poland. Already, a first contract will not be renewed at the end of March 2022.

Concerning the gasoil shortfall in Europe, absent any instructions to the contrary from European governments, TotalEnergies will also terminate its Russian gasoil purchase contracts as soon as possible and by the end of 2022 at the latest. TotalEnergies will import petroleum products from other continents, notably its share of gasoil produced by the Satorp refinery in Saudi Arabia.

2. Risks and economic sanctions regimes

Since the month of February 2022, Russia's invasion of Ukraine led European and American authorities to adopt several sets of sanctions measures targeting Russian and Belarusian persons and entities, as well as the financial sector. The production and sale of gas and LNG of the companies Novatek and Yamal LNG, of which TotalEnergies is a minority shareholder, are not materially impacted by the sanctions adopted as of the date hereof. Depending on the developments of the Russian-Ukrainian conflict and the measures that the European and American authorities could be required to take, the activities of TotalEnergies in Russia could be affected in the future.

Since July 2014, various Sanctions Regimes have been adopted against Russia, including prohibitions on transacting or dealing with certain Russian individuals and entities, as well as restrictions on investments, financings, exports and the re-exportation of certain goods towards Russia. In the context of the sanctions adopted by the EU since 2014, TotalEnergies has been formally authorized by the French authorities, who are competent for granting the authorizations necessary to continue operations covered by the EU sanctions regimes, to continue its activities in Russia on the Kharyaga, Termokarstovoye and Chernichnoye fields and the Yamal LNG and the Arctic LNG 2 projects.

As of February 2022, numerous sanctions measures targeting Russia and Belarus have been adopted by the European Union. These sanctions designate a number of Russian individuals and entities whose assets within the European Union are frozen and to whom it is prohibited to make funds or economic resources available. Other targeted sanctions are aimed specifically at the financial sector (including a ban on access to SWIFT for certain Russian institutions), and issued export restrictions in certain sectors or for certain types of goods and services to Russia. To date, the economic sanctions adopted by the EU do not materially affect TotalEnergies' shareholdings in Russia.

The sanctions adopted since February 2022 have included the designation of one of the minority shareholders of PAO Novatek as sanctioned persons (asset freezing) by the European Union authorities. In accordance with European rules on sanctions, this designation however has no impact on PAO Novatek, which is not sanctioned by the EU authorities, or on the Yamal LNG and Arctic LNG 2 projects.

As of the date hereof, the sanctions adopted by the EU authorities do not restrict the ability of PAO Novatek and Yamal LNG to sell gas, including LNG, nor do they restrict the ability of European (or other) buyers to purchase gas.

In addition, the restrictions and sanctions imposed by the EU authorities against the Russian financial sector make it more difficult for financial flows between Russia and entities and banks established in the European Union to take place. Under the countermeasures enacted by the Russian authorities as of February 2022, financial flows to foreign shareholders are subject to the approval of the Russian Central Bank. This restriction, and other countermeasures that may be issued by the Russian authorities in the future, could make it more difficult for PAO Novatek and Yamal LNG to pay dividends to the Company and for Yamal LNG and Arctic LNG 2 to repay the shareholder loans granted by TotalEnergies. An analysis of the consequences of the Russian countermeasures is underway. Some Russian banks involved in the financing of the Yamal LNG and Arctic LNG 2 projects have been targeted by European and American sanctions, which have had the effect, depending on the case, of either freezing their assets or blocking the opening or maintenance of corresponding accounts or the processing of transactions involving them. The Russian lender financings to the Yamal LNG project are guaranteed by the export credit agency Exiar, whose assets have been frozen by the European and American authorities. At the current stage of the ongoing analysis, this has however no impact on the project financing. Two banks involved in the financing of the Arctic LNG 2 project have been added to the European and American asset freeze lists: Vnesheconombank and Otkritie, whose outstanding amounts are €400 million and €385 million respectively and Arctic LNG 2 replaced them with Gazprombank in accordance with the terms of the financing agreements. Furthermore, pursuant to sanctions adopted March 15, 2022 by the European Union, it is particularly forbidden for any European person to be a party to an agreement in order to grant any new loans or credits, or to make new payments under financing contracts (e.g. project financing by financial institutions or shareholder loans), even if previously entered into. This prohibits TotalEnergies from making new drawdowns on its shareholder loan, and prohibits European companies involved in project finance from making payments on future debt drawdowns. These sanctions are likely to have an impact on project financings, particularly on the amounts that Arctic LNG 2 will be able to call and on the organization of the lending banks It is specified that TotalEnergies granted guarantees in its capacity as shareholder for the benefit of lenders to cover its share of the debt under the financings of the Yamal LNG and Arctic LNG 2 projects. On Yamal LNG, the amount of the guarantee that could be called, if applicable, is approximately €400 million; on Arctic LNG 2, the Company's exposure amounts to approximately €700 million.

With regard to the export restrictions imposed by the US and European authorities, an analysis is underway by Arctic LNG 2's contractors and sub-contractors under the Engineering Procurement Construction Contracts to assess the potential impacts on the activities required to execute the Arctic LNG 2 project, in particular equipment purchasing and transportation activities towards Russia. Given the uncertainties of the technological and financial sanctions on the ability to complete the Arctic LNG 2 project under construction and their probable tightening with the worsening Russian-Ukrainian conflict, TotalEnergies decided to no longer book proved reserves for the Arctic LNG 2 project and will no longer provide capital to the project.

The United States has since 2014 adopted various economic sanctions, some of which target the company PAO Novatek[1], and the entities in which Novatek (individually or with other similarly targeted persons or entities) owns an interest of at least 50% of the capital, including OAO Yamal LNG (“Yamal LNG”)[2], Terneftegas[3] and OOO Arctic LNG 2[4]. These sanctions currently prohibit US persons from transacting in, providing financing for or other dealings in debt issued by such entities of longer than 60 days maturity. The sanctions adopted by the US authorities since February 2022 have consequences substantially similar to those set forth above with respect to the sanctions imposed by the European authorities. The sanctions adopted by the US authorities on March 8, 2022 restrict the ability to import crude oil, petroleum products and Liquefied Natural Gas of Russian origin into the United States, and prohibit US persons from making new investments in Russian energy projects, or from financing new investments in Russian energy projects by non-US companies. These sanctions do not have a material impact on TotalEnergies' activities. TotalEnergies continues its activities in Russia in compliance with applicable Sanctions Regimes currently in effect.

ITEM 6. DIRECTORS, SENIOR MANAGEMENT AND EMPLOYEES

The following information concerning directors and senior management from the Universal Registration Document 2021 is incorporated herein by reference:

- composition of the Board of Directors (introduction and point 4.1.1 of chapter 4, starting on page 178); and
- information concerning the General Management (point 4.1.5 of chapter 4, starting on page 218).

The following information concerning compensation from the Universal Registration Document 2021 is incorporated herein by reference:

- approach to overall compensation (point 5.6.1.2 of chapter 5, starting on page 320); and
- compensation for the administration and management bodies (point 4.3 of chapter 4, starting on page 228).

The following information concerning Board practices and corporate governance from the Universal Registration Document 2021 is incorporated herein by reference:

- practices of the Board of Directors (point 4.1.2 of chapter 4, starting on page 204);
- report of the Lead Independent Director on her mandate (point 4.1.3 of chapter 4, starting on page 217);
- evaluation of the functioning of the Board of Directors (point 4.1.4 of chapter 4, on page 218); and
- statement regarding corporate governance (point 4.2 of chapter 4, on page 228).

The following information concerning employees and share ownership from the Universal Registration Document 2021 is incorporated herein by reference:

- number and categories of employees (point 5.6.1.1 of chapter 5, starting on page 316);
- shares held by the administration and management bodies (point 4.1.6 of chapter 4, starting on page 225); and
- employee shareholding (point 6.4.2 of chapter 6, on page 380).

TotalEnergies believes that the relationship between its management and labor unions is, in general, satisfactory.

ITEM 7. MAJOR SHAREHOLDERS AND RELATED PARTY TRANSACTIONS

The following information concerning shareholders from the Universal Registration Document 2021 is incorporated herein by reference:

- major shareholders (point 6.4.1 of chapter 6, starting on page 378); and
- shareholding structure (point 6.4.3 of chapter 6, on page 380).

TotalEnergies’ main transactions with related parties (principally all the investments carried under the equity method) and the balances receivable from and payable to them are shown in point 8.3 of Note 8 (“Equity affiliates, other investments and related parties”) to the Consolidated Financial Statements (on page F-47). In the ordinary course of its business, TotalEnergies enters into transactions with various organizations with which certain of its directors or executive officers may be associated, but no such transactions of a material or unusual nature have been entered into during the period commencing on January 1, 2021 and ending on the date of this document. For further information on regulated agreement and undertakings and related-party transactions, refer to point 4.4.1 of chapter 4 of the Universal Registration Document 2021 (on page 262), incorporated herein by reference.

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1 A Russian company listed on the Moscow and London stock exchanges and in which TotalEnergies held an interest of 19.4% as of December 31, 2021.

2 A company jointly owned by PAO Novatek, TotalEnergies EP Yamal (20.02%), YAYM Limited and China National Oil and Gas Exploration Development Corporation – CNODC, a subsidiary of CNPC as of December 31, 2021.

3 A company jointly owned by PAO Novatek and TotalEnergies EP Termokarstovoye SAS (49%) as of December 31, 2021.

4 A company jointly owned by PAO Novatek, TotalEnergies EP Salmanov (10%), CNODC Dawn Light Limited, CEPR Limited and Japan Arctic LNG as of December 31, 2021.

ITEM 8. FINANCIAL INFORMATION

The following information from the Universal Registration Document 2021 is incorporated herein by reference:

- legal and arbitration proceedings (point 3.5 of chapter 3, on page 142);
- dividend policy and other related information (point 6.2 of chapter 6, starting on page 371);
- supplemental oil and gas information (points 9.1 and 9.2 of chapter 9, starting on page 520);
- report on payments made to governments (point 9.3 of chapter 9, starting on page 541); and
- reporting of payments to governments for purchases of oil, gas and minerals (EITI reporting) (point 9.4 of chapter 9, starting on page 570).

The Consolidated Financial Statements and Notes thereto are included in pages F-9 et seq. attached hereto.

Except for certain events mentioned in "Item 5. Operating and financial review and prospects " and point 3.5 of chapter 3 (on page 142) of the Universal Registration Document 2021, incorporated herein by reference and Note 17 to the Consolidated Financial Statements (on page F-85), no significant changes to TotalEnergies' financial or commercial situation have occurred since the date of the Consolidated Financial Statements.

Refer to "Item 18. Financial statements" for the reports of the statutory auditors.

ITEM 9. THE OFFER AND LISTING

9.1 Markets

The main trading markets for the TotalEnergies shares are the following: Euronext Paris (France) and the New York Stock Exchange ("NYSE", United States). The shares are also listed on Euronext Brussels (Belgium) and the London Stock Exchange (United Kingdom).

9.2 Offer and listing details

Provided below is certain information on trading on Euronext Paris and the New York Stock Exchange (NYSE). For additional information on listing details and share performance, refer to point 6.1 in chapter 6 of the Universal Registration Document 2021 (starting on page 368), incorporated herein by reference.

9.2.1 Trading on Euronext Paris

Official trading of listed securities on Euronext Paris, including the TotalEnergies shares, is transacted through EU investment service providers that are members of Euronext Paris and takes place continuously on each business day in Paris from 9:00 a.m. to 5:30 p.m. (Paris time), with a fixing of the closing price at 5:35 p.m. (Paris time). Euronext Paris may suspend or resume trading in a security listed on Euronext Paris if the quoted price of the security exceeds certain price limits defined by the regulations of Euronext Paris. The Euronext Paris ticker symbol for TotalEnergies SE is TTE.

The markets of Euronext Paris settle and transfer ownership two trading days after a transaction (T+2). Highly liquid shares, including those of TotalEnergies SE, are eligible for deferred settlement (Service de Règlement Différé - SRD). Payment and delivery for shares under the SRD occurs on the last trading day of each month. Use of the SRD service requires payment of a commission.

In France, the TotalEnergies shares are included in the principal index published by Euronext Paris (the "CAC 40 Index"). The CAC 40 Index is derived daily by comparing the total market capitalization of forty stocks traded on Euronext Paris to the total market capitalization of the stocks that made up the CAC 40 Index on December 31, 1987. Adjustments are made to allow for expansion of the sample due to new issues. The CAC 40 Index indicates trends in the French stock market as a whole and is one of the most widely followed stock price indices in France. In the UK, the shares are included in both FTSE Eurotop 100 and FTSEurofirst 100 indices. As a result of the creation of Euronext, the TotalEnergies shares are included in Euronext 100, the index representing Euronext's blue chip companies based on market capitalization. The TotalEnergies shares are also included in the Stoxx Europe 50 and Euro Stoxx 50, blue chip indices comprised of the fifty most highly capitalized and most actively traded equities throughout Europe and within the European Monetary Union, respectively.

9.2.2 Trading on the New York Stock Exchange

ADSs evidenced by ADRs have been listed on the NYSE since October 25, 1991. JPMORGAN CHASE BANK, N.A. serves as depositary with respect to the ADSs evidenced by ADRs traded on the NYSE. One ADS corresponds to one TotalEnergies share.

The NYSE ticker symbol for TotalEnergies SE is TTE.

ITEM 10. ADDITIONAL INFORMATION

10.1 Share capital

The following information from the Universal Registration Document 2021 is incorporated herein by reference:

- information concerning the share capital (point 7.1 of chapter 7, starting on page 385);
- the use of delegations of authority and power granted to the Board of Directors with respect to share capital increases (point 4.4.2 of chapter 4, starting on page 264);
- information on share buybacks (point 6.3 of chapter 6, starting on page 375); and
- factors likely to have an impact in the event of a public offering (point 4.4.4 of chapter 4, starting on page 266).

10.2 Memorandum and articles of association

The following information from the Universal Registration Document 2021 is incorporated herein by reference:

- information concerning the articles of incorporation and bylaws, and other information (point 7.2 of chapter 7, starting on page 387); and
- participation of shareholders at shareholders' meetings (point 4.4.3 of chapter 4, on page 265).

10.3 Material contracts

There have been no material contracts (not entered into in the ordinary course of business) entered into by members of TotalEnergies since March 25, 2020.

10.4 Exchange controls

Under current French exchange control regulations, no limits exist on the amount of payments that TotalEnergies may remit to residents of the United States. Laws and regulations concerning foreign exchange controls do require, however, that an accredited intermediary must handle all payments or transfer of funds made by a French resident to a non-resident.

10.5 Taxation

10.5.1 General

This section generally summarizes the material U.S. federal income tax and French tax consequences of owning and disposing of shares or ADSs of TotalEnergies SE to U.S. Holders that hold their shares or ADSs as capital assets for tax purposes. A U.S. Holder is a beneficial owner of shares or ADSs that is (i) a citizen or resident of the United States for U.S. federal income tax purposes, (ii) a domestic corporation or other domestic entity treated as a corporation for U.S. federal income tax purposes, (iii) an estate whose income is subject to U.S. federal income tax regardless of its source, or (iv) a trust if (1) a U.S. court can exercise primary supervision over the trust's administration and one or more U.S. persons are authorized to control all substantial decisions of the trust or (2) it has a valid election in effect under applicable U.S. Treasury regulations to be treated as a United States person.

This section does not address the Medicare tax on net investment income, the application of special accounting rules under Section 451(b) of the Internal Revenue Code of 1986, as amended ("IRC"), U.S. federal estate or gift taxes or any taxes from jurisdictions other than the United States and France. This section does not apply to members of special classes of holders subject to special rules, including without limitation:

- broker-dealers;
- traders in securities that elect to use a mark-to-market method of accounting for their securities holdings;
- tax-exempt organizations;
- certain financial institutions;
- insurance companies;
- U.S. pension funds;
- U.S. Regulated Investment Companies (RICs), Real Estate Investment Trusts (REITs), and Real Estate Mortgage Investment Conduits (REMICs);
- persons who are liable for the alternative minimum tax;
- persons that actually or constructively own 10% or more of the shares of TotalEnergies SE (by vote or value);
- persons who acquired the shares or ADSs pursuant to the exercise of any employee share option or otherwise as consideration;
- persons that purchase or sell shares or ADSs as part of a wash sale for U.S. federal income tax purposes;
- persons holding offsetting positions in respect of the shares or ADSs (including as part of a straddle, hedging, conversion or integrated transaction);
- U.S. expatriates; and
- persons whose functional currency is not the U.S. dollar.

If a partnership or other entity or arrangement treated as a partnership for U.S. federal income tax purposes holds shares or ADSs, the tax treatment of a partner will generally depend upon the status of the partner and upon the activities of the partnership. Partners of a partnership holding these shares or ADSs should consult their tax advisors as to the tax consequences of owning or disposing of shares or ADSs, as applicable.

Under French law, specific rules apply to trusts, in particular specific tax and filing requirements; additionally, specific rules apply to wealth, estate and gift taxes as they apply to trusts. Given the complex nature of these rules and the fact that their application varies depending on the status of the trust, the grantor, the beneficiary and the assets held in the trust, the following summary does not address the tax treatment of shares or ADSs held in a trust. If shares or ADSs are held in trust, the grantor, trustee and beneficiary are urged to consult their own tax advisor regarding the specific tax consequences of acquiring, owning and disposing of shares or ADSs.

In addition, the discussion below is limited to U.S. Holders that (i) are residents of the United States for purposes of the Treaty (as defined below), (ii) do not maintain a permanent establishment or fixed base in France to which the shares or ADSs are attributable and through which the respective U.S. Holders carry on, or have carried on, a business (or, if the holder is an individual, performs or has performed independent personal services), and (iii) are otherwise eligible for the benefits of the Treaty in respect of income and gain from the shares or ADSs (in particular, under the "Limitation on Benefits" provision of the Treaty). In addition, this section is based in part upon the representations of the Depositary and the assumption that each obligation in the Deposit Agreement and any related agreement will be performed in accordance with its terms.

The discussions below of the material U.S. federal income tax consequences to U.S. Holders of owning and disposing of shares or ADSs of TotalEnergies SE are based on the IRC, Treasury regulations promulgated thereunder and judicial and administrative interpretations thereof, as well as on the Convention Between the Government of the United States of America and the Government of the French Republic for the Avoidance of Double Taxation and the Prevention of Fiscal Evasion with respect to Taxes on Income and Capital dated August 31, 1994, as amended (the "Treaty"), all as in effect on the date hereof and all of which are subject to change, which change could apply retroactively and could affect the tax consequences described below. The description of the material French tax consequences is based on the laws of the Republic of France and French tax regulations, all as currently in effect, as well as the Treaty, as currently in effect. These laws, regulations and the Treaty are subject to change, possibly on a retroactive basis.

In general, and taking into account the earlier assumptions, for U.S. federal income tax purposes, a U.S. Holder of ADRs evidencing ADSs will be treated as the owner of the shares represented by those ADRs. Exchanges of shares for ADRs, and ADRs for shares, generally will not be subject to U.S. federal income tax. The U.S. Treasury has expressed concerns that intermediaries in the chain of ownership between the holder of an ADS and the issuer of the security underlying the ADS may be taking actions that are inconsistent with the beneficial ownership of the underlying security. Accordingly, the creditability of any French taxes and the availability of the reduced tax rate for any dividends received by certain non-corporate U.S. Holders (as discussed below), could be affected by actions taken by intermediaries in the chain of ownership between the holders of the ADSs and TotalEnergies if as a result of such actions the U.S. Holders of the ADSs are not properly treated as beneficial owners of underlying shares.

This discussion is intended only as a descriptive summary and does not purport to be a complete analysis or listing of all potential tax effects of the ownership or disposition of the shares and ADSs and is not intended to substitute competent professional advice. Individual situations of holders of shares and ADSs may vary from the description made below. The following summary does not address the French tax treatment applicable to dividends paid in so-called "Non Cooperative Countries and Territories" ("NCCT") within the meaning of Article 238 0 A of the French Code général des impôts ("French Tax Code") as such provision or list may be amended from time to time or replaced by any other provision or list having a similar purpose. It does not apply to dividends paid to persons established or domiciled in such a NCCT, or paid to a bank account opened in a financial institution located in such a NCCT, nor does it apply to capital gains realized by persons established or domiciled in such a NCCT. Furthermore, the following summary does not address the tax treatment applicable to temporary transfers and other similar transactions which could, under certain conditions, fall within the scope of the anti-abuse measure set forth in Article 119 bis A of the French Tax Code.

Holders are urged to consult their own tax advisors regarding the U.S. federal, state and local, and the French and other tax consequences of owning and disposing shares or ADSs of TotalEnergies in their respective circumstances. In particular, a holder is encouraged to confirm with its advisor whether the holder is a U.S. Holder eligible for the benefits of the Treaty.

10.5.2 Taxation of dividends

French taxation

The term "dividends" used in the following discussion means dividends within the meaning of the Treaty.

Dividends paid to non-residents of France who are U.S. Holders are in principle subject to a French withholding tax regardless of whether they are paid in cash, in shares or a mix of both. The French withholding tax is levied (i) at a rate of 12.8% for dividends paid to U.S. Holders who are individuals and (ii) at a rate of 26.5% in 2021 (to be reduced and aligned on the standard corporate income tax rate set forth in the first sentence of the second paragraph of Article 219 I of the French Tax Code which is 25% as from 2022) for dividends paid to U.S. Holders that are legal entities (the "Legal Entities U.S. Holders") subject to more favorable provisions of the Treaty as described below and certain more favorable French domestic law provisions.

The withholding tax is in principle levied on the gross amount of dividends. However, Article 235 quinquies of the French tax code resulting from the Finance Law n° 2021-1900, published in the Official Journal on December 31, 2021 introduces the possibility, under certain conditions, for non-residents legal entities to compute the withholding tax on a net basis and to recover the excess of the tax initially withheld on a gross amount.

Under the Treaty, a U.S. Holder is generally entitled to a reduced rate of French withholding tax of 15% with respect to dividends, provided that certain requirements are satisfied. This reduced rate is, in practice, only of interest to Legal Entities U.S. Holders subject to the withholding tax at a rate of 26.5% in 2021.

Administrative guidelines (Bulletin Officiel des Finances Publiques, BOI-INT-DG 20 20 20 20 12/09/2012) (the "Administrative Guidelines") set forth the conditions under which the reduced French withholding tax at the rate of 15% may be available. The immediate application of the reduced 15% rate is available to those U.S. Holders that may benefit from the so-called "simplified procedure" (within the meaning of the Administrative Guidelines).

Under the “simplified procedure”, U.S. Holders may claim the immediate application of withholding tax at the rate of 15% on the dividends to be received by them, provided that:

(i) they furnish to the U.S. financial institution managing their securities account a certificate of residence conforming with form No. 5000 FR. The immediate application of the 15% withholding tax will be available only if the certificate of residence is sent to the U.S. financial institution managing their securities account no later than the dividend payment date. Furthermore, each financial institution managing the U.S. Holders’ securities account must also send to the French paying agent the figure of the total amount of dividends to be received which are eligible to the reduced withholding tax rate before the dividend payment date; and

(ii) the U.S. financial institution managing the U.S. Holder’s securities account provides the French paying agent with a list of the eligible U.S. Holders and other pieces of information set forth in the Administrative Guidelines. Furthermore, the financial institution managing the U.S. Holders’ securities account should certify that the U.S. Holder is, to the best of its knowledge, a United States resident within the meaning of the Treaty. These documents must be sent to the French paying agent after the dividend payment date and within a time frame that will allow the French paying agent to file them no later than the end of the third month computed as from the end of the month of the dividend payment date.

Where the U.S. Holder’s identity and tax residence are known by the French paying agent, the latter may release such U.S. Holder from furnishing to (i) the financial institution managing its securities account, or (ii) as the case may be, the U.S. Internal Revenue Service (“IRS”), the abovementioned certificate of residence, and apply the 15% withholding tax rate to dividends it pays to such U.S. Holder.

For a U.S. Holder that is not entitled to the “simplified procedure” and whose identity and tax residence are not known by the paying agent at the time of the payment, the French withholding tax at the domestic rate will be levied at the time the dividends are paid. Such U.S. Holder, however, may be entitled to a refund of the withholding tax in excess of the 15% rate under the “standard procedure”, as opposed to the “simplified procedure”, provided that the U.S. Holder furnishes to the French paying agent an application for refund on forms No. 5000 FR and 5001 FR (or any other relevant form to be issued by the French tax authorities) certified by the U.S. financial institution managing the U.S. Holder’s securities account (or, if not, by the competent U.S. tax authorities) before December 31 of the second year following the date of payment of the withholding tax at the domestic rate to the French tax authorities, according to the requirements provided by the Administrative Guidelines.

Copies of forms No. 5000 FR and 5001 FR (or any other relevant form to be issued by the French tax authorities) as well as the form of the certificate of residence and the U.S. financial institution certification, together with instructions, are available from the IRS and the French tax authorities.

These forms, together with instructions, are to be provided by the Depositary to all U.S. Holders of ADRs registered with the Depositary. The Depositary is to use reasonable efforts to follow the procedures established by the French tax authorities for U.S. Holders to benefit from the immediate application of the 15% French withholding tax rate or, as the case may be, to recover the portion in excess over 15% of the French withholding tax initially withheld.

To effect such benefit or recovery, the Depositary shall advise such U.S. Holder to return the relevant forms to it, properly completed and executed. Upon receipt of the relevant forms properly completed and executed by such U.S. Holder, the Depositary shall cause them to be filed with the appropriate French tax authorities, and upon receipt of any resulting remittance, the Depositary shall distribute to the U.S. Holder entitled thereto, as soon as practicable, the proceeds thereof in U.S. dollars.

The identity and address of the French paying agent are available from TotalEnergies.

In addition, subject to certain specific filing obligations, there is no withholding tax on dividend payments made by French companies to:

(i) non-French collective investment funds formed under foreign law and established in a Member State of the European Union or in another State or territory, such as the United States, that has entered with France into an administrative assistance agreement for the purpose of combating fraud and tax evasion, and which fulfill the two following conditions: (a) the fund raises capital among a number of investors for the purpose of investing in accordance with a defined investment policy, in the interest of its investors, and (b) the fund has characteristics similar to those of collective investment funds organized under French law fulfilling the conditions set forth in Article 119 bis 2, 2 of the French Tax Code and the Administrative Guidelines Bulletin Officiel des Finances Publiques, BOI-RPPM-RCM 30 30 20 70 06/10/2021 (i.e., among others, open-end mutual fund (OPCVM), open-end real estate fund (OPCI) and closed-end investment companies (SICAF)); and

(ii) companies whose effective place of management is, or which have a permanent establishment receiving the dividends, in a Member State of the European Union or in another State or territory that has entered with France into an administrative assistance agreement for the purpose of combating fraud and tax evasion, such as the United States, that are in a loss-making position and subject, at the time of the distribution, to insolvency proceedings similar to the one set out in Article L. 640 1 of the French Commercial Code (or where there is no such procedure available, in a situation of cessation of payments with recovery being manifestly impossible) and that meet the other conditions set out in Article 119 quinquies of the French Tax Code as specified by the Administrative Guidelines Bulletin Officiel des Finances Publiques, BOI-RPPM-RCM 30 30 20 80 06/04/2016.

Collective investment funds and companies mentioned in (ii) above are urged to consult their own tax advisors to confirm whether they are eligible to such provisions and under which conditions.

Finally, companies having their seat in a Member State of the European Union or in another Member State of the European Economic Area Agreement or any third country that has concluded with France a tax treaty including an administrative assistance provision to tackle tax evasion and avoidance and which is not a NCCT, such as the United States, and being in a tax loss position might, provided that the conditions set forth in Article 235 quarter of the French Tax Code are met, benefit from a temporary reimbursement of the withholding tax applicable on dividend payments, the corresponding amount having to be refunded to the French treasury, in particular, at the time they become in a profitable tax position.

U.S. taxation

For U.S. federal income tax purposes and subject to the passive foreign investment company rules discussed below, the gross amount of any dividend that a U.S. Holder must include in gross income equals the amount paid by TotalEnergies (i.e., the net distribution received plus any tax withheld therefrom) from its current or accumulated earnings and profits (as determined for U.S. federal income tax purposes). Dividends will not be eligible for the dividends-received deduction allowed to a U.S. corporation under IRC section 243. Distributions, if any, in excess of such current and accumulated earnings and profits (as determined for U.S. federal income tax purposes) will constitute a non-taxable return of capital to a U.S. Holder and will be applied against and reduce such U.S. Holder's tax basis in such shares or ADSs, but not below zero. To the extent that such distributions are in excess of such basis, the distributions will constitute capital gain. Because TotalEnergies does not currently maintain calculations of earnings and profits for U.S. federal income tax purposes, a U.S. Holder of shares or ADSs of TotalEnergies should expect to treat the entire amount of distributions paid with respect to the shares or ADSs as dividends.

Dividends paid to a non-corporate U.S. Holder that constitute "qualified dividend income" will be taxable to the holder at the preferential rates applicable to long-term capital gains provided (1) TotalEnergies is neither a passive foreign investment company nor treated as such with respect to the U.S. Holder for the taxable year in which the dividend was paid and the preceding taxable year and (2) certain holding period requirements are met. TotalEnergies believes that dividends paid by TotalEnergies with respect to its shares or ADSs will be qualified dividend income. The dividend is taxable to the U.S. Holder when the holder, in the case of shares, or the Depositary, in the case of ADSs, receives the dividend, actually or constructively.

The amount of any dividend distribution includible in the income of a U.S. Holder equals the U.S. dollar value of the euro payment made, determined at the spot euro/dollar exchange rate on the date the dividend distribution is includible in the U.S. Holder's income, regardless of whether the payment is in fact converted into U.S. dollars. Any gain or loss resulting from currency exchange fluctuations during the period from the date the dividend payment is includible in the U.S. Holder's income to the date the payment is converted into U.S. dollars will generally be treated as ordinary income or loss and, for foreign tax credit limitation purposes, from sources within the United States and will not be eligible for the special tax rate applicable to qualified dividend income. The U.S. federal income tax rules governing the availability and computation of foreign tax credits are complex. U.S. Holders should consult their own tax advisors concerning the implications of these rules in light of their particular circumstances.

Subject to certain conditions and limitations, U.S. Holders may elect to claim a credit against their U.S. federal income tax liability for the net amount of French taxes withheld in accordance with the Treaty and paid over to the French tax authorities. The limitation on foreign taxes eligible for credit is calculated separately with respect to specific classes of income. In addition, special rules apply in determining the foreign tax credit limitation with respect to dividends that are subject to the preferential tax rates. To the extent a refund of the tax withheld is available to a U.S. Holder under French law or under the Treaty, the amount of tax withheld that is refundable will not be eligible for credit against such holder's U.S. federal income tax liability. For this purpose, dividends distributed by TotalEnergies will generally constitute "passive income" for purposes of computing the foreign tax credit allowable to the U.S. Holder.

If a U.S. Holder has the option to receive a distribution in shares (or ADSs) instead of cash, the distribution of shares (or ADSs) will be taxable as if the holder had received an amount equal to the fair market value of the distributed shares (or ADSs), and such holder's tax basis in the distributed shares (or ADSs) will be equal to such amount.

10.5.3 Taxation of disposition of shares

A U.S. Holder will not be subject to French tax on any capital gain from the sale or exchange of the shares or ADSs or redemption of the underlying shares that the ADSs represent.

Pursuant to Article 235 ter ZD of the French tax code, a financial transaction tax applies, under certain conditions, to the acquisition of shares of publicly traded companies registered in France having a market capitalization over €1 billion on December 1 of the year preceding the acquisition. A list of the companies within the scope of the financial transaction tax for 2021 is published in the Administrative guidelines Bulletin Officiel des Finances Publiques, BOI-ANNX 000467 29/12/2021. TotalEnergies is included in this list, although it cannot be excluded that this list might be amended in the future. The tax also applies to the acquisition of ADRs evidencing ADSs. The financial transaction tax is due at a rate of 0.3% on the price paid to acquire the shares. The person or entity liable for the tax is generally the provider of investment services defined in Article L. 321 1 of the French Monetary and Financial Code (prestataire de services d'investissement). Investment service providers providing equivalent services outside France are subject to the tax under the same terms and conditions. Taxable transactions are broadly construed but several exceptions may apply. In general, non-income taxes, such as this financial transaction tax, paid by a U.S. Holder are not eligible for a foreign tax credit for U.S. federal income tax purposes. U.S. Holders should consult their own tax advisors as to the tax consequences and creditability of such financial transaction tax.

For U.S. federal income tax purposes and subject to the passive foreign investment company rules discussed below, a U.S. Holder will generally recognize capital gain or loss upon the sale or other disposition of shares or ADSs equal to the difference between the U.S. dollar value of the amount realized on the sale or other disposition and the holder's tax basis, determined in U.S. dollars, in the shares or ADSs. The gain or loss will generally be U.S. source gain or loss and will be long-term capital gain or loss if the U.S. Holder's holding period of the shares or ADSs is more than one year at the time of the disposition. Long-term capital gain of a non-corporate U.S. Holder is generally taxed at preferential rates if specified minimum holding periods are met. The deductibility of capital losses is subject to limitation.

10.5.4 Passive foreign investment company status

TotalEnergies believes that the shares and ADSs are not treated as stock of a passive foreign investment company (PFIC) for U.S. federal income tax purposes, and TotalEnergies does not expect that it will be treated as a PFIC in the current or future taxable years. This conclusion is a factual determination that is made annually and thus is subject to uncertainty and change. In general, a non-U.S. corporation will be a PFIC for any taxable year if either (i) at least 75% of its gross income for such year is passive income or (ii) at least 50% of the value of its assets (based on an average of the quarterly values of the assets) during such year is attributable to assets that produce passive income or are held for the production of passive income. If TotalEnergies were treated as a PFIC with respect to a U.S. Holder for any taxable year, the U.S. Holder generally would suffer adverse tax consequences, that may include having gains realized on the disposition of the shares or ADSs treated as ordinary income rather than capital gain and being subject to punitive interest charges on the receipt of certain distributions and on the proceeds of the sale or other disposition of the shares or ADSs. U.S. Holders would also be subject to information reporting requirements on an annual basis. U.S. Holders should consult their tax advisors about the potential application of the PFIC rules to shares or ADSs.

10.5.5 French estate and gift taxes

In general, a transfer of shares or ADSs by gift or by reason of the death of a U.S. Holder that would otherwise be subject to French gift or inheritance tax, respectively, will not be subject to such French tax by reason of Article 8 of the Convention between the United States of America and the French Republic for the Avoidance of Double Taxation and the Prevention of Fiscal Evasion with Respect to Taxes on Estates, Inheritances and Gifts, dated November 24, 1978, as amended, unless the donor or the transferor is domiciled in France at the time of the gift, or at the time of the transferor's death, or if the shares or ADSs were used in, or held for use in, the conduct of a business through a permanent establishment or a fixed base in France.

10.5.6 U.S. state and local taxes

In addition to U.S. federal income tax, U.S. Holders of shares or ADSs may be subject to U.S. state and local taxes with respect to their shares or ADSs. U.S. Holders should consult their own tax advisors.

10.6 Dividends and paying agents

The information set forth in points 6.2.2 and 6.2.3 of chapter 6 of the Universal Registration Document 2021 (starting on page 372) is incorporated herein by reference.

10.7 Statements by experts

The independent third-party report of DeGolyer and MacNaughton, a petroleum engineering consulting firm with address at 5001 Spring Valley Road, Suite 800 East, Dallas, Texas 75244, is attached as Exhibit 15.3 to this Form 20 F. This report provides TotalEnergies' estimates of net proved oil, condensate and gas reserves, as of December 31, 2021, of certain fields attributable to or controlled by PAO NOVATEK. As evidenced by Exhibit 15.4 to this Form 20-F, DeGolyer and MacNaughton has consented to the inclusion of their report in this Form 20-F.

10.8 Documents on display

TotalEnergies files annual, periodic and other reports and information with the Securities and Exchange Commission. All of its SEC filings made after December 31, 2001 are available to the public at the SEC website at www.sec.gov and from certain commercial document retrieval services.

ITEM 11. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

Please refer to Notes 15.3 ("Financial risks management") (starting on page F-77) and 16.2 ("Oil, Gas and Power markets related risks management") (on page F-85) to the Consolidated Financial Statements, for a qualitative and quantitative discussion of TotalEnergies' exposure to market risks. Please also refer to Notes 15.2 ("Fair value of financial instruments (excluding commodity contracts)") (starting on page F-72) and 16 ("Financial instruments related to commodity contracts") (starting on page F-82) to the Consolidated Financial Statements, for details of the different derivatives owned by TotalEnergies in these markets.

As part of its financing and cash management activities, TotalEnergies uses derivative instruments to manage its exposure to changes in interest rates and foreign exchange rates. These instruments are mainly interest rate and currency swaps. TotalEnergies may also occasionally use futures contracts and options. These operations and their accounting treatment are detailed in Notes 15.2 and 16 to the Consolidated Financial Statements.

The financial performance of TotalEnergies is sensitive to a number of factors; the most significant being oil and gas prices, generally expressed in dollars, and exchange rates, in particular that of the dollar versus the euro. Generally, a rise in the price of crude oil has a positive effect on earnings as a result of an increase in revenues from oil and gas production. Conversely, a decline in crude oil prices reduces revenues. The impact of changes in crude oil prices on the activities of the Refining & Chemicals and Marketing & Services segments depends upon the speed at which the prices of finished products adjust to reflect these changes. All of TotalEnergies' activities are, to various degrees, sensitive to fluctuations in the dollar/euro exchange rate.

ITEM 12. DESCRIPTION OF SECURITIES OTHER THAN EQUITY SECURITIES

12.1 American depositary receipts fees and charges

JPMORGAN CHASE BANK, N.A., as depositary for the TotalEnergies ADR program, collects its fees for delivery and surrender of ADRs directly from investors depositing shares or surrendering ADRs for the purpose of withdrawal or from intermediaries acting for them. The depositary collects fees for making distributions to investors by deducting those fees from the amounts distributed or by selling a portion of distributable property to pay the fees. The depositary may generally refuse to provide fee-attracting services until its fees for those services are paid. A copy of the depositary agreement is attached as Exhibit (a) to the registration statement on Form F 6 (Reg. No. 333 199737) filed with the SEC on October 31, 2014 and amended on July 30, 2021.

Investors must pay:	For:
$5.00 (or less) per 100 ADSs (or portion of 100 ADSs)	- Issuance of ADRs, including issuances resulting from a distribution of shares or rights or other property, stocks splits or mergers - Cancellation of ADRs for the purpose of withdrawal, including if the deposit agreement terminates
A fee equivalent to the fee that would be payable if securities distributed to the investor had been shares and the shares had been deposited for issuance of ADSs	- Distribution, by the depositary, of deposited securities to ADS registered holders
Registration or transfer fees	- Transfer and registration of shares on TotalEnergies' share register to or from the name of the depositary or its agent when the investor deposits or withdraws shares
Expenses of the depositary	- Cable, telex and facsimile transmissions (when expressly provided in the deposit agreement) - Converting foreign currency to U.S. dollars
Taxes and other governmental charges the depositary or the custodian have to pay on any ADS or share underlying an ADS, for example, stock transfer taxes, stamp duty or withholding taxes	- As necessary
Any charges incurred by the depositary or its agents for servicing the deposited securities	- As necessary

Fees paid to TotalEnergies SE by the depositary

In consideration for acting as depositary for the TotalEnergies ADR program, JPMORGAN CHASE BANK, N.A. has agreed to share, on an annual basis, with TotalEnergies SE portions of certain fees collected, less ADS program expenses paid by the depositary. For example, these expenses include transfer agency fees, custody fees, costs and expenses, central securities depository fees, costs and expenses not already charged to the holders of ADSs under the deposit agreement and other reasonable and documented out-of-pocket fees, costs and expenses incurred by the depositary in acting as such for the TotalEnergies ADR program.

In the year ended December 31, 2021, the ADR depositary paid aggregate fees to TotalEnergies SE in an amount of USD $10.2 million.

For additional information on TotalEnergies shares and the American depositary shares, please refer to Exhibit 2.2 “Description of securities registered under Section 12 of the Exchange Act”.

ITEM 13. DEFAULTS, DIVIDEND ARREARAGES AND DELINQUENCIES

None.

ITEM 14. MATERIAL MODIFICATIONS TO THE RIGHTS OF SECURITY HOLDERS AND USE OF PROCEEDS

None.

ITEM 15. CONTROLS AND PROCEDURES

15.1 Disclosure controls and procedures

An evaluation was carried out under the supervision and with the participation of TotalEnergies' management, including the Chief Executive Officer and the Chief Financial Officer, of the effectiveness, as of the end of the period covered by this report, of the design and operation of TotalEnergies' disclosure controls and procedures, which are defined as those controls and procedures designed to ensure that information required to be disclosed in reports filed under the Securities Exchange Act of 1934, as amended, is recorded, summarized and reported within specified time periods. There are inherent limitations to the effectiveness of any system of disclosure controls and procedures, including the possibility of human error and the circumvention or overriding of the controls and procedures. Accordingly, even effective disclosure controls and procedures can provide only reasonable assurance of achieving their control objectives.

Based on this evaluation, the Chief Executive Officer and the Chief Financial Officer concluded that the design and operation of these disclosure controls and procedures were effective to provide reasonable assurance that information required to be disclosed in the reports that TotalEnergies SE files under the Exchange Act is recorded, processed, summarized and reported, within the time periods specified in the applicable rules and forms, and that it is accumulated and communicated to management, including themselves, as appropriate to allow timely decisions regarding required disclosure.

15.2 Management’s annual report on internal control over financial reporting

TotalEnergies' management is responsible for establishing and maintaining adequate internal control over financial reporting. Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements and even when determined to be effective, can only provide reasonable assurance with respect to financial statement preparation and presentation. Also, the effectiveness of an internal control system may change over time.

TotalEnergies' management, including the Chief Executive Officer and the Chief Financial Officer, conducted an evaluation of the effectiveness of internal control over financial reporting using the criteria set forth in *Internal Control - Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission (“COSO”). Based on the results of this evaluation, TotalEnergies' management concluded that its internal control over financial reporting was effective as of December 31, 2021.

The effectiveness of internal control over financial reporting as of December 31, 2021, was audited by ERNST & YOUNG Audit and KPMG Audit, a division of KPMG S.A., independent registered public accounting firms, as stated in their report included starting on page F-2 attached hereto.

15.3 Changes in internal control over financial reporting

There were no changes in TotalEnergies' internal control over financial reporting that occurred during the period covered by this report that have materially affected, or that were reasonably likely to materially affect, TotalEnergies' internal control over financial reporting.

15.4 Internal control and risk management procedures

For additional information, refer to points 3.3 and 3.6 of chapter 3 of the Universal Registration Document 2021 (starting on pages 134 and 143, respectively), incorporated herein by reference.

ITEM 16A. AUDIT COMMITTEE FINANCIAL EXPERT

Mr. Jérôme Contamine and Mrs. Lise Croteau are the Audit Committee financial experts. They are both independent members of the Board of Directors in accordance with the NYSE listing standards applicable to TotalEnergies.

ITEM 16B. CODE OF ETHICS

At its meeting on October 27, 2016, the Board of Directors adopted a revised code of ethics that applies to its Chief Executive Officer, Chief Financial Officer, Chief Accounting Officer and the financial and accounting officers for its principal activities. A copy of this code of ethics is included as an exhibit to this Annual Report.

ITEM 16C. PRINCIPAL ACCOUNTANT FEES AND SERVICES

16C.1 Fees for accountants’ services

The information set forth in point 4.4.5.2 of chapter 4 of the Universal Registration Document 2021 (on page 267) is incorporated herein by reference.

16C.2 Audit Committee pre-approval policy

The Audit Committee has adopted an Audit and Non-Audit Services Pre-Approval Policy that sets forth the procedures and the conditions pursuant to which services proposed to be performed by the statutory auditors may be pre-approved and that are not prohibited by regulatory or other professional requirements. This policy provides for both pre-approval of certain types of services through the use of an annual budget approved by the Audit Committee for these types of services and special pre-approval of services by the Audit Committee on a case-by-case basis. The Audit Committee reviews on an annual basis the services provided by the statutory auditors. During 2021, no audit-related fees, tax fees or other non-audit fees were approved by the Audit Committee pursuant to the de minimis exception to the pre-approval requirement provided by paragraph (c)(7)(i)(C) of Rule 2-01 of Regulation S-X.

16C.3 Auditor’s term of office

French law provides that the statutory and alternate auditors are appointed for renewable 6 fiscal-year terms. The terms of office of the current statutory auditors and the alternate auditors will expire at the end of the Annual Shareholders’ Meeting to be held on May 25, 2022 to approve the financial statements for fiscal year 2021. The information set forth in point 4.4.5.1 of chapter 4 of the Universal Registration Document 2021 (on page 266) is incorporated herein by reference.

ITEM 16D. EXEMPTIONS FROM THE LISTING STANDARDS FOR AUDIT COMMITTEES

TotalEnergies’ Audit Committee consists of five directors, including four directors who meet the independence requirements under Rule 10A-3 of the Securities Exchange Act of 1934, as amended, and one who is exempt under such requirements pursuant to the Rule 10A-3(b)(1)(iv)(C) exemption for non-executive officer employees. The Audit Committee member exempt from the independence requirements under this rule is Mr. Romain Garcia-Ivaldi, appointed as the director representing employees pursuant to Article L.225-27-1 of the French Commercial Code (see “Item 6 — Directors, Senior Management and Employees”). TotalEnergies’ reliance on such exemption does not materially adversely affect the ability of the Audit Committee to act independently.

ITEM 16E. PURCHASES OF EQUITY SECURITIES BY THE ISSUER AND AFFILIATED PURCHASERS

Period *(in 2021)*	*Total Number of Shares (or Units) Purchased*	*Average Price Paid per Share (or Units) ($)(i)*	*Total Number of Shares (or Units) Purchased, as part of Publicly Announced Plans or Programs(ii)*	*Maximum Number of Shares (or Units) that may yet be purchased under the Plans or Programs(iii)*
January	3,636,351	45.30	3,636,351	240,926,099
February	–	–	–	258,845,716
March	–	–	–	262,809,071
April	–	–	–	262,809,536
May	–	–	–	262,809,536
June	–	–	–	263,868,507
July	–	–	–	263,868,927
August	–	–	–	263,869,267
September	–	–	–	263,869,522
October	–	–	–	263,870,982
November	14,488,000	49.01	14,488,000	249,383,482
December	19,181,654	49.16	19,181,654	230,201,828

(i) Based on the average European Central Bank exchange rate for the first quarter of 2021 at $1.1248/€ for January 2021 and the daily rates of each transaction for November and December 2021 (average rate of November: 1.1380 and December: 1.1303).

(ii) The Annual Shareholders' Meeting held on May 28, 2021 authorized the Board of Directors to trade in TotalEnergies shares on the market for a period of 18 months within the framework of the share buyback program. The maximum number of shares that may be purchased by virtue of this authorization may not exceed 10% of the total shares composing the share capital at the time of each transaction, this amount being periodically adjusted to take into account operations modifying the share capital after each shareholders' meeting. Under no circumstances may the total number of shares held by TotalEnergies SE, directly or indirectly, exceed 10% of the share capital.

(iii) Based on 10% of TotalEnergies SE's share capital, and after deducting the treasury shares held by TotalEnergies SE.

ITEM 16F. CHANGE IN REGISTRANT'S CERTIFYING ACCOUNTANT

Not applicable.

ITEM 16G. CORPORATE GOVERNANCE

This section presents a summary of significant differences between French corporate governance practices and the NYSE's corporate governance standards, as required by section 303A.11 of the NYSE Listed Company Manual.

16G.1 Overview

The following paragraphs provide a brief, general summary of significant ways in which our corporate governance practices differ from those required by the listing standards of the New York Stock Exchange ("NYSE") for U.S. companies that have common stock listed on the NYSE. While our management believes that our corporate governance practices are similar in many respects to those of U.S. domestic NYSE listed companies and provide investors with protections that are comparable in many respects to those established by the NYSE Listed Company Manual, certain significant differences are described below.

The principal sources of corporate governance standards in France are the French Commercial Code (Code de commerce), the French Financial and Monetary Code (Code monétaire et financier) and the regulations and recommendations provided by the French Financial Markets Authority (Autorité des marchés financiers, AMF), as well as a number of general recommendations and guidelines on corporate governance, most notably the Corporate Governance Code of Listed Corporations (the "AFEP-MEDEF Code") published by the two main French business confederations, the Association Française des Entreprises Privées (AFEP) and the *Mouvement des Entreprises de France* (MEDEF), the latest version of which was published in January 2020.

The AFEP-MEDEF Code includes, among other things, recommendations relating to the role and operation of the board of directors (creation, composition and evaluation of the board of directors and the audit, compensation and nominations committees) and the independence criteria for board members. Articles L. 820 1 et seq. of the French Commercial Code authorizes statutory auditors to provide certain non-audit services if in compliance with provisions of the French Commercial Code, the European legislation and the Code of ethics of the auditors. It also defines certain criteria for the independence of statutory auditors. In France, the independence of statutory auditors is also monitored by an independent body, the High Council for statutory auditors (*Haut Conseil du Commissariat aux Comptes*).

For an overview of certain of our corporate governance policies, refer to points 4.1 and 4.2 of chapter 4 of the Universal Registration Document 2021 (starting on page 178), incorporated herein by reference.

16G.2 Composition of Board of Directors; Independence

The NYSE listing standards provide that the board of directors of a U.S.-listed company must include a majority of independent directors and that the audit committee, the nominating/corporate governance committee and the compensation committee must be composed entirely of independent directors. A director qualifies as independent only if the board affirmatively determines that the director has no material relationship with the company, either directly or as a partner, shareholder or officer of an organization that has a relationship with the company. Furthermore, as discussed below, the listing standards require additional procedures in regards to the independence of directors who sit on the audit committee and the compensation committee. In addition, the listing standards enumerate a number of relationships that preclude independence.

French law does not contain any independence requirement for the members of the board of directors of a French company, except for the audit committee, as described below. The AFEP-MEDEF Code recommends, however, that (i) the independent directors should account for half of the members of the board of directors of widely-held corporations without controlling shareholders, and (ii) independent directors should account for at least one-third of board members in controlled companies. Members of the board representing employees and employee shareholders are not taken into account in calculating these percentages. The AFEP-MEDEF Code states that a director is independent when "he or she has no relationship of any kind whatsoever with the corporation, its group or the management that may interfere with his or her freedom of judgment. Accordingly, an independent director is understood to be any non-executive director of the corporation or the group who has no particular bonds of interest (significant shareholder, employee, other) with them". The AFEP-MEDEF Code also enumerates specific criteria for determining independence, which are on the whole consistent with the goals of the NYSE listing standards, although the specific tests under the two standards may vary on some points.

As noted in the AFEP-MEDEF Code, "qualification as an independent director should be discussed by the appointments committee […] and decided on by the board on the occasion of the appointment of a director, and annually for all directors".

For an overview of TotalEnergies SE's Board of Directors' assessment of the independence of its members, including a description of the Board of Directors' independence criteria, refer to point 4.1.1.4 of chapter 4 of the Universal Registration Document 2021 (starting on page 197), incorporated herein by reference.

16G.3 Representation of women on corporate boards

The French Commercial Code provides for legally binding quotas to balance gender representation on boards of directors of French listed companies, requiring that each gender represents at least 40%. Directors representing the employees and directors representing the employee shareholders are not taken into account in calculating this percentage. When the board of directors consists of a maximum of eight members, the difference between the number of directors of each gender should not be higher than two. Any appointment of a director made in violation of these rules will be declared null and void and payment of the directors' compensation will be suspended until the board composition is compliant with the required quota (the suspension of the directors' compensation will also be disclosed in the management report). However, if a director whose appointment is null and void takes part in decisions of the board of directors, such decisions are not declared automatically null and void by virtue thereof. As of March 16, 2022, TotalEnergies SE's Board of Directors consisted of eight male members and six female members. Excluding the directors representing employees and the director representing employee shareholders in accordance with French law, the proportion of women on the Board of Directors was 45.5%.

16G.4 Board committees

16G.4.1 Overview

The NYSE listing standards require that a U.S.-listed company have an audit committee, a nominating/corporate governance committee and a compensation committee. Each of these committees must consist solely of independent directors and must have a written charter that addresses certain matters specified in the listing standards. Furthermore, the listing standards require that, in addition to the independence criteria referenced above under "Composition of Board of Directors; Independence", certain enumerated factors be taken into consideration when making a determination on the independence of directors on the compensation committee or when engaging advisors to the compensation committee.

With the exception of an audit committee, as described below, French law currently requires neither the establishment of board committees nor the adoption of written charters.

The AFEP-MEDEF Code recommends, however, that the board of directors sets up, in addition to the audit committee required by French law, a nominations committee and a compensation committee. The AFEP-MEDEF Code also recommends that at least two-thirds of the audit committee members and a majority of the members of each of the compensation committee and the nominations committee be independent directors. It is recommended that the chairman of the compensation committee be independent and that one of its members be an employee director. None of those three committees should include any Executive Officer[1].

TotalEnergies SE has established an Audit Committee, a Governance and Ethics Committee, a Compensation Committee and a Strategy & CSR Committee. As of March 16, 2022, the composition of these Committees was as follows:

- the Audit Committee had five members, 75% of whom have been deemed independent by the Board of Directors (according to point 9.3 of the AFEP-MEDEF Code, directors representing employees are not taken into account when determining the independence rate);
- the Governance and Ethics Committee had four members, 75% of whom have been deemed independent by the Board of Directors;
- the Compensation Committee had three members, 100% of whom have been deemed independent by the Board of Directors (according to point 9.3 of the AFEP-MEDEF Code, directors representing the employee shareholders and directors representing employees are not taken into account when determining the independence rate); and
- the Strategy & CSR Committee had six members, 60% of the members of this Committee have been deemed independent by the Board of Directors (according to point 9.3 of the AFEP-MEDEF Code, directors representing the employee shareholders and directors representing employees are not taken into account when determining the independence rate).

For a description of the independence assessment of each member of the Board of Directors, see point 4.1.1.4 of chapter 4 of the Universal Registration Document 2021 (starting on page 197), incorporated herein by reference. For a description of the scope of each Committee's activity, see point 4.1.2.3 of chapter 4 of the Universal Registration Document 2021 (starting on page 212), incorporated herein by reference.

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[1] As defined by the AFEP-MEDEF Code, Executive Officers "include the Chairman and Chief Executive Officer, the Deputy chief executive officer(s) of public limited companies with a Board of Directors, the Chairman and members of the Management Board in public limited companies having a Management Board and Supervisory Board and the statutory managers of partnerships limited by shares".

The NYSE listing standards also require that the audit, nominating/corporate governance and compensation committees of a U.S.-listed company be vested with decision-making powers on certain matters. Under French law, however, those committees are advisory in nature and have no decision-making authority. Board committees are responsible for examining matters within the scope of their charter and making recommendations thereon to the board of directors. Under French law, the board of directors has the final decision-making authority.

16G.4.2 Audit Committee

The NYSE listing standards contain detailed requirements for the audit committees of U.S.-listed companies. Some, but not all, of these requirements also apply to non U.S.-listed companies, such as TotalEnergies SE. French law and the AFEP-MEDEF Code share the NYSE listing standards' goal of establishing a system for overseeing the company's accounting process that is independent from management and that ensures auditor independence. As a result, they address similar topics, with some overlap.

Article L. 823 19 of the French Commercial Code requires the board of directors of companies listed in France to establish an audit committee, at least one member of which must be an independent director and must be competent in finance, accounting or statutory audit procedures. The AFEP-MEDEF Code provides that at least two-thirds of the directors on the audit committee be independent and that the audit committee should not include any Executive Officer. Under NYSE rules, in the absence of an applicable exemption, audit committees are required to satisfy the independence requirements under Rule 10A 3 of the Exchange Act. TotalEnergies SE's Audit Committee consists of five directors, four of whom meet independence requirements under Rule 10A 3 and one (a director representing employees) who is relying on Rule 10A-3(b)(1)(iv)(C) exemption for non-executive officer employees (see "Item 6 – Directors, Senior Management and Employees").

The duties of TotalEnergies SE's Audit Committee, in line with French law and the AFEP-MEDEF Code, are described in point 4.1.2.3 of chapter 4 of the Universal Registration Document 2021 (starting on page 212), incorporated herein by reference. The Audit Committee regularly reports to the Board of Directors on the fulfillment of its tasks, the results of the financial statements certification process and the contribution of such process to guaranteeing the financial information's integrity.

One structural difference between the legal status of the audit committee of a U.S.-listed company and that of a French-listed company concerns the degree of the committee's involvement in managing the relationship between the company and the auditors. French law requires French companies that publish consolidated financial statements, such as TotalEnergies SE, to have two co-statutory auditors, while the NYSE listing standards require that the audit committee of a U.S.-listed have direct responsibility for the appointment, compensation, retention and oversight of the work of the auditor. French law provides that the election of the co-statutory auditors is the sole responsibility of the shareholders duly convened at a shareholders' meeting. In making their decision, the shareholders may rely on proposals submitted to them by the board of directors based on recommendations from the audit committee. The shareholders elect the statutory auditors for an audit period of six financial years. The statutory auditors may only be revoked by a court order and only on grounds of professional negligence or incapacity to perform their mission.

16G.5 Meetings of non-management directors

The NYSE listing standards require that the non-management directors of a U.S.-listed company meet at regularly scheduled executive sessions without management. French law does not contain such a requirement. The AFEP-MEDEF Code recommends, however, that a meeting not attended by the Executive Officers be organized at least once a year.

Since December 16, 2015, the rules of procedure of the board of directors provide that, with the agreement of the Governance and Ethics Committee, the Lead Independent Director may hold meetings of the directors who do not hold executive or salaried positions on the Board of Directors. He or she reports to the Board of Directors on the conclusions of such meetings.

In December 2021, the Lead Independent Director held a meeting of the independent directors. She subsequently presented a summary of this meeting to the Board of Directors.

Thus, the Board of Directors' practice is in line with the recommendation made in the AFEP-MEDEF Code.

16G.6 Shareholder approval of compensation

Pursuant to the provisions of the French Commercial Code, as amended, the compensation of the chairman of the board of directors, the members of the board of directors, the chief executive officer and, as the case may be, the deputy chief executive officer(s) in French listed companies shall each year be submitted to the approval of their shareholders. Articles L. 22-10-8 and L. 22-10-34 of the French Commercial Code (formerly Articles L. 225-37-2 and L. 225-100 as amended by the ordinance n°2019-1234 supplemented by the decree n° 2019-1235 each dated November 27, 2019) provide, respectively, for an ex ante vote and two ex post votes:

- ex ante vote: the shareholders shall each year approve the compensation policy of the above-mentioned directors and officers for the current fiscal year. Such policy shall describe all components of fixed and variable compensation and shall explain the decision process followed for its determination, review and implementation. In the event a resolution is rejected by the shareholders, the preceding already-approved compensation policy for the concerned director(s) and officer(s) will be applicable; in the absence of a preceding already-approved compensation policy, the compensation is determined in line with compensation granted the preceding year if any, or in line with existing practices in the company; and
- two ex post votes, the shareholders shall each year approve:
  - the fixed, variable and extraordinary components of the aggregate compensation and benefit of any kinds due or attributable to the chief executive officer and the chairman of the board for the preceding fiscal year. In the event a resolution is rejected by the shareholders, the variable and extraordinary components of the compensation will not be paid to the chief executive officer and the chairman of the board;
  - the total annual compensation of all the above-mentioned directors and officers. In the event a resolution is rejected by the shareholders, such compensation will not be paid to the directors and officers.

16G.7 Disclosure

The NYSE listing standards require US-listed companies to adopt, and post on their websites, a set of corporate governance guidelines. The guidelines must address, among other things: director qualification standards, director responsibilities, director access to management and independent advisers, director compensation, director orientation and continuing education, management succession and an annual performance evaluation of the board. In addition, the chief executive officer of a U.S.-listed company must certify to the NYSE annually that he or she is not aware of any violations by the company of the NYSE's corporate governance listing standards.

French law requires neither the adoption of such guidelines nor the provision of such certification. The AFEP-MEDEF Code recommends, however, that the board of directors of a French-listed company review its operation annually and perform a formal evaluation at least once every three years, under the leadership of the appointments or nominations committee or an independent director, assisted by an external consultant. TotalEnergies SE's Board of Directors' most recent formal self-evaluation took place in late 2021. The AFEP-MEDEF Code also recommends that shareholders be informed of these evaluations each year in the annual report. In addition, Article L. 225 37 of the French Commercial Code requires the board of directors to present to the shareholders a corporate governance report appended to the management report, notably describing the composition of the board and the balanced representation of men and women on the board, the preparation and organization of the board's work, the offices and positions of each TotalEnergies SE executive officer and the compensation attributable and received by each such officer as well as the compensation attributable and received by the members of the board of directors. The AFEP-MEDEF Code also includes ethical rules concerning which directors are expected to comply.

16G.8 Code of business conduct and ethics

The NYSE listing standards require each U.S.-listed company to adopt, and post on its website, a code of business conduct and ethics for its directors, officers and employees. Under Article 17 of Law n° 2016/1691 of December 9, 2016, top management (such as the chairman of the board or chief executive officer) of large French companies is required to adopt a code of conduct proscribing the different types of behavior being likely to characterize acts of corruption, bribery or influence peddling. This code must be included in the rules of procedure of the company and be submitted to employee representatives. Under the SEC's rules and regulations, all companies required to submit periodic reports to the SEC, including TotalEnergies SE, must disclose in their annual reports whether they have adopted a code of ethics for their principal executive officers and senior financial officers. In addition, they must file a copy of the code with the SEC, post the text of the code on their website or undertake to provide a copy upon request to any person without charge. There is significant, though not complete, overlap between the code of ethics required by the NYSE listing standards and the code of ethics for senior financial officers required by the SEC's rules. For a description of the code of ethics adopted by TotalEnergies, refer to point 3.3.2 of chapter 3 of the Universal Registration Document 2021 (starting on page 134), incorporated herein by reference, and "Item 16B. Code of ethics".

ITEM 16H. MINE SAFETY DISCLOSURE

Not applicable.

ITEM 17. FINANCIAL STATEMENTS

Not applicable.

ITEM 18. FINANCIAL STATEMENTS

The Consolidated Financial Statements and Notes thereto are included in pages F-9 et seq. attached hereto.

The reports of the statutory auditors, ERNST & YOUNG Audit and KPMG Audit, a division of KPMG S.A., are included in pages F-1 to F-8 attached hereto.

ITEM 19. EXHIBITS

The following documents are filed as part of this Annual Report:

1	Articles of Associations (*Statuts*) of TotalEnergies SE (as amended through February 9, 2022).
2.1	The total amount of long-term debt securities authorized under any instrument does not exceed 10% of the total assets of TotalEnergies SE and its subsidiaries on a consolidated basis. We hereby agree to furnish to the SEC, upon its request, a copy of any instrument defining the rights of holders of long-term debt of TotalEnergies SE or of its subsidiaries for which consolidated or unconsolidated financial statements are required to be filed.
2.2	Description of securities registered under section 12 of the Exchange Act.
8	List of Subsidiaries (see Note 18 to the Consolidated Financial Statements, starting on page F-86).
11	Code of Ethics (incorporated by reference to exhibit 11 of TotalEnergies' annual report on Form 20-F for the year ended December 31, 2016, filed on March 17, 2017).
12.1	Certification of Chief Executive Officer.
12.2	Certification of Chief Financial Officer.
13.1	Certification of Chief Executive Officer.
13.2	Certification of Chief Financial Officer.
15.1	Excerpt of the pages and sections of the Universal Registration Document 2021 incorporated herein by reference.
15.2	Consent of ERNST & YOUNG Audit and of KPMG Audit, a division of KPMG S.A.
15.3	Third party report of DeGolyer and MacNaughton.
15.4	Consent of DeGolyer and MacNaughton.
101.INS	Inline XBRL Instance Document.
101.SCH	Inline XBRL Taxonomy Extension Schema Document.
101.CAL	Inline XBRL Taxonomy Extension Calculation Linkbase Document.
101.DEF	Inline XBRL Taxonomy Extension Definition Linkbase Document.
101.LAB	Inline XBRL Taxonomy Extension Label Linkbase Document.
101.PRE	Inline XBRL Taxonomy Extension Presentation Linkbase Document.
104	Cover Page Interactive Data File (formatted as Inline XBRL and included in Exhibit 101).

SIGNATURE

The registrant hereby certifies that it meets all of the requirements for filing on Form 20-F and that it has duly caused and authorized the undersigned to sign this annual report on its behalf.

TotalEnergies SE

By: /s/ PATRICK POUYANNÉ
Name: Patrick Pouyanné
Title: Chairman and Chief Executive Officer

Date: March 25, 2022

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TotalEnergies SE
(Formerly TOTAL SE)

Registered office: 2, place Jean Millier - La Défense 6 - 92400 Courbevoie - France

Report of Independent Registered Public Accounting Firms on the Internal Control Over Financial Reporting

To the Shareholders and Board of Directors,

Opinion on Internal Control Over Financial Reporting

We have audited TotalEnergies SE and subsidiaries' ("the Company") internal control over financial reporting as of December 31, 2021, based on criteria established in *Internal Control – Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission. In our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2021, based on criteria established in *Internal Control – Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated balance sheets of the Company as of December 31, 2021, 2020, and 2019, the related consolidated statements of income, comprehensive income, changes in shareholders' equity and cash flows for each of the years in the three-year period ended December 31, 2021 and the related notes (collectively, "the consolidated financial statements"), and our report dated March 16, 2022 expressed an unqualified opinion on those consolidated financial statements.

Basis for Opinion

The Company's management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting included in the accompanying Management's Annual Report on Internal Control Over Financial Reporting. Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit. We are public accounting firms registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects.

Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audit also included performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

Definition and Limitations of Internal Control Over Financial Reporting

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company;

(2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Paris La Défense, March 16, 2022

KPMG Audit, a division of KPMG S.A.		ERNST & YOUNG Audit
/s/ JACQUES-FRANÇOIS GEORGES MARIE LETHU Jacques-François, Georges, Marie Lethu *Partner*	/s/ ERIC VALERY JEAN-YVES JACQUET Eric Valery, Jean-Yves Jacquet *Partner*	/s/ ERNST & YOUNG Audit

TotalEnergies SE
(Formerly Total SE)

Registered office: 2, place Jean Millier - La Défense 6 - 92400 Courbevoie - France

Report of Independent Registered Public Accounting Firms on the Consolidated Financial Statements

To the Shareholders and Board of Directors,

Opinion on the Consolidated Financial Statements

We have audited the accompanying consolidated balance sheets of TotalEnergies SE and subsidiaries (“the Company”) as of December 31, 2021, 2020 and 2019, the related consolidated statements of income, comprehensive income, changes in shareholders’ equity, and cash flows for each of the years in the three-year period ended December 31, 2021, and the related notes (collectively, “the consolidated financial statements”). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2021, 2020 and 2019, and the results of its operations and its cash flows for each of the years in the three-year period ended December 31, 2021, in conformity with International Financial Reporting Standards as adopted by the European Union and in conformity with International Financial Reporting Standards as issued by the International Accounting Standards Board.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (“PCAOB”), the Company’s internal control over financial reporting as of December 31, 2021, based on criteria established in Internal Control – Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission, and our report dated March 16, 2022 expressed an unqualified opinion on the effectiveness of the Company’s internal control over financial reporting.

Basis for Opinion

These consolidated financial statements are the responsibility of the Company’s management. Our responsibility is to express an opinion on these consolidated financial statements based on our audits. We are public accounting firms registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud.

Our audits included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. We believe that our audits provide a reasonable basis for our opinion.

Critical Audit Matters

The Critical Audit Matters communicated below are matters arising from the current period audit of the consolidated financial statements that were communicated or required to be communicated to the Audit Committee and that: (1) relate to accounts or disclosures that are material to the consolidated financial statements and (2) involved our especially challenging, subjective or complex judgments. The communication of Critical Audit Matters does not alter in any way our opinion on the consolidated financial statements, taken as a whole, and we are not, by communicating the Critical Audit Matters below, providing separate opinions on the Critical Audit Matters or on the accounts or disclosures to which they relate.

Evaluation of the impairment of non-current assets used in exploration and production activities in the Exploration and Production (E&P) and the Integrated Gas, Renewables and Power (iGRP) segments

Description of the Matter

As stated in Notes 7.1, 7.2, and 3 to the consolidated financial statements as of December 31, 2021, the non-current assets used in exploration and production activities in the E&P and iGRP segments are mainly comprised of proved and unproved properties and work in progress of exploration and production activities (82,042 million US dollars), proved mineral interests (6,872 million US dollars), unproved mineral interests (14,586 million US dollars), and a portion of the 26,838 million US dollars balance of investments and loans in equity affiliates.

Asset impairment of non-current assets in the E&P and in the iGRP segments in respect of 2021 amounts to 698 million US dollars in operating income and 832 million US dollars in net income (Company share).

The Company performs impairment tests on these assets when an indication of impairment is identified. As described in the note “Major judgments and accounting estimates” and in Note 3.D “Asset impairment” to the consolidated financial statements, in line with the publication by the IEA of the “World Energy Outlook 2021” and the publication by the Company of its ambition to achieve carbon neutrality by 2050 together with society and of the principles for capital expenditures allocation, at the General Meeting of Shareholders on May 28, 2021, the Company updated, in 2021, the long-term price scenarios for 2040 to 2050 used for its impairment tests, by making the hydrocarbon prices converge towards the IEA's NZE scenario prices in 2050. Indeed, Note 3.D states that the IEA's NZE is understood as the set of actions to be taken in order to be compatible with a "1.5°C by 2050" scenario and that this normative scenario therefore does not predict oil demand in the short and medium term.

In addition, the Company incorporated a minimum carbon price of 40$/t, and assumed a linear increase to reach 100$/t in 2030. This price is inflated by 2% every year beyond.

The impairment testing method is described in Note 3.D to the consolidated financial statements. The Company determines the recoverable amount of non-current assets used in exploration and production activities in the E&P and iGRP segments based on the cash-generating units (CGUs) that include the hydrocarbon sites and industrial assets involved in the production, processing and extraction of hydrocarbons. The recoverable amount is measured for each CGU, by developing cash flow models which take into account the economic business environment and the Company's operating plans. The primary assumptions used by the Company to measure the recoverable amount include future hydrocarbon prices, future carbon price, future operating costs, the estimates of hydrocarbon reserves, and the after-tax discount rate.

In addition, in order to evaluate the resilience of the portfolio to various parameters, sensitivities to a change in certain assumptions, including a 10% and 20% reduction in hydrocarbon prices used for the duration of the plan have been calculated by management, as well as sensitivity to a carbon price up to 100$/t as from 2022 untill 2030. Finally, as described in Note 7.2 "Property, plant and equipment" to the consolidated financial statements, exploration costs undergo specific impairment tests to ensure that the exploratory wells have found a sufficient quantity of hydrocarbon reserves and that the Company is making sufficient progress in assessing the reserves and the technical and economic viability of the project as a whole.

We considered the evaluation of the impairment of non-current assets used in exploration and production activities in the E&P and iGRP segments to be a critical audit matter, because evaluating the Company's assumptions described above involves a high degree of subjective auditor judgment, as they concern projections related to future events.

How We Addressed the Matter in Our Audit

The primary procedures we performed to address this critical audit matter included the following. We obtained an understanding, evaluated the design, and tested the operating effectiveness of certain controls set up by the Company to address the risk of material misstatement relating to the evaluation of the impairment of non-current assets used in exploration and production activities in the E&P and iGRP segments. This included testing certain controls concerning the determination of the primary assumptions used by management, underlying the recoverable amount of these assets, such as the estimates of future hydrocarbon prices, future the carbon price, operating costs, oil and gas reserves, and the after-tax discount rate.

We considered whether there was an impairment trigger for these assets, such as a significant decline in production, the enactment of a new tax law, the impact of new assumptions on hydrocarbon prices or the carbon price, including in connection with the Company's ambition to achieve carbon neutrality by 2050 together with society. We assessed the determination of key assumptions and the relevance of disclosures in the notes to the financial statements, in particular: we analyzed the carbon price assumptions included in the cash flows, notably by comparing them with current market data and publicly available segment information (in particular, IEA and World Bank data); we compared the hydrocarbon price scenarios used by the Company, prepared by the Strategy and Climate Division, with publicly available segment information (from the IEA, brokers and consultants as applicable), in particular the price relating to the SDS and NZE scenarios, considered by the IEA to be compatible with the Paris Agreement. We assessed the consistency of the dates used for the end of production in the cash flow projections used for impairment testing with those provided for in the contracts concerning license expiration.

We compared the primary assumptions to those included in the analyses to budgets and forecasts approved by the Executive Committee and the Board of Directors. We analyzed the assumptions on future operating costs by calculating cost-to-production ratios and comparing them over time or to those of other similar assets. We compared oil production profiles to the proved and probable hydrocarbon reserves prepared as part of the Company's internal procedures. We performed a re-calculation, with the assistance of our valuation specialists, of the after-tax discount rate used by management, which we compared to the rates calculated by market analysts. We assessed the consistency of the tax rates used by Management with the applicable tax schemes and the oil agreements in force. We inspected the documentation, for exploration expenditure, supporting a sufficient quantity of hydrocarbon reserves (as further described in our critical audit matter below) or progress in assessing the reserves and the technical and economic viability of the project.

We assessed the information disclosed in Note 3.D "Asset impairment" to the consolidated financial statements, including that relating to the sensitivities of operating income and net income to the scenarios for hydrocarbon pricing and the carbon price.

Effect of estimated proved and proved developed hydrocarbon reserves on the depreciation of the oil and gas assets used in production activities in the Exploration & Production (E&P) and integrated Gas Renewables Power (iGRP) segments

Description of the Matter

As discussed in paragraph "Estimation of hydrocarbon reserves" of the note "Major judgments and accounting estimates" to the consolidated financial statements, the estimation of proved and proved developed hydrocarbon reserves is used by the Company in the "Successful Efforts" method to account for its oil activities. Notes 7.1 and 7.2 to the consolidated financial statements outline that under this method, oil and gas assets are depreciated using the unit-of-production method based on either proved hydrocarbon reserves or proved developed hydrocarbon reserves. Those reserves are estimated by the Company's petroleum engineers in accordance with industry practice and Securities and Exchange Commission (SEC) regulations.

The primary assumptions used by the Company to estimate the proved and proved developed hydrocarbon reserves in order to calculate the depreciation of the oil and gas assets used in production activities in the E&P and iGRP segments for the year ended December 31, 2021 include the following: geoscience and engineering data used to determine deposit quantities, the contractual arrangements that determine the Company's share of the reserves, and hydrocarbons prices.

We considered the effect of estimated proved and proved developed hydrocarbon reserves on the depreciation of oil and gas assets used in production activities in the E&P and iGRP segments to be a critical audit matter because evaluating the Company's assumptions involves a high degree of complex auditor judgment due to the uncertain nature of such assumptions.

How We Addressed the Matter in Our Audit

The primary procedures we performed to address this critical audit matter included the following. We obtained an understanding, evaluated the design and tested the operating effectiveness of certain controls to address the risk of material misstatement relating to the depreciation of oil and gas assets used in production activities in the E&P and iGRP segments, depending on proved and proved developed hydrocarbon reserves. This included testing certain controls on the determination and evaluation of deposit quantities and the modeling of the contractual arrangements that determine the Company's share of proved and proved developed hydrocarbon reserves.

We assessed the qualifications and experience of the Company's petroleum engineers responsible for estimating reserves and we analyzed the main changes in proved and proved developed hydrocarbon reserves compared to the previous fiscal year. We compared previously forecasted production to actual production for 2021. We inspected evidence from contractual arrangements that determine the Company's share of proved and proved developed hydrocarbon reserves until expiration of the contracts. We evaluated, where appropriate, the reasons leading the Company to believe that the renewal of the contractual arrangements is reasonably certain. We assessed the consistency of the economic cut-off dates used to calculate depreciation with those provided for in the contracts concerning license expiration and in the cash flow forecasts used for impairment tests. We assessed the methodology used by the Company to estimate these proved and proved developed hydrocarbon reserves, considering SEC regulations and the 12-month average price for 2021.

Paris La Défense, March 16, 2022

KPMG Audit, a division of KPMG S.A.

/s/ JACQUES-FRANÇOIS GEORGES MARIE LETHU
Jacques-François, Georges, Marie Lethu
Partner

/s/ ERIC VALERY JEAN-YVES JACQUET
Eric, Valery, Jean-Yves Jacquet
Partner

We or our predecessor firms have served as
the Company's auditor since 1996.

ERNST & YOUNG Audit

/s/ ERNST & YOUNG Audit

We have served as the
Company's auditor since 2004.

Consolidated statement of income

TotalEnergies

For the year ended December 31, (M$)[a]		**2021**	**2020**	**2019**
Sales	*(Notes 3, 4, 5)*	**205,863**	**140,685**	**200,316**
Excise taxes	*(Notes 3 & 5)*	(21,229)	(20,981)	(24,067)
Revenues from sales	*(Notes 3 & 5)*	184,634	119,704	176,249
Purchases, net of inventory variation	*(Note 5)*	(118,622)	(77,486)	(116,221)
Other operating expenses	*(Note 5)*	(26,894)	(25,538)	(27,255)
Exploration costs	*(Note 5)*	(740)	(731)	(785)
Depreciation, depletion and impairment of tangible assets and mineral interests	*(Note 5)*	(13,556)	(22,264)	(15,731)
Other income	*(Note 6)*	1,312	2,237	1,163
Other expense	*(Note 6)*	(2,317)	(1,506)	(1,192)
Financial interest on debt		(1,904)	(2,147)	(2,333)
Financial income and expense from cash & cash equivalents		379	37	(19)
Cost of net debt	*(Note 15)*	(1,525)	(2,110)	(2,352)
Other financial income	*(Note 6)*	762	914	792
Other financial expense	*(Note 6)*	(539)	(690)	(764)
Net income (loss) from equity affiliates	*(Note 8)*	3,438	452	3,406
Income taxes	*(Note 11)*	(9,587)	(318)	(5,872)
CONSOLIDATED NET INCOME		**16,366**	**(7,336)**	**11,438**
TotalEnergies share		16,032	(7,242)	11,267
Non-controlling interests		334	(94)	171
Earnings per share ($)		5.95	(2.90)	4.20
Fully-diluted earnings per share ($)		5.92	(2.90)	4.17

(a) Except for per share amounts.

Consolidated statement of comprehensive income

TotalEnergies

For the year ended December 31, (M$)		**2021**	**2020**	**2019**
Consolidated net income		**16,366**	**(7,336)**	**11,438**
Other comprehensive income				
Actuarial gains and losses	*(Note 10)*	1,035	(212)	(192)
Change in fair value of investments in equity instruments	*(Note 8)*	66	533	142
Tax effect		(411)	65	53
Currency translation adjustment generated by the parent company	*(Note 9)*	(7,202)	7,541	(1,533)
Items not potentially reclassifiable to profit and loss		**(6,512)**	**7,927**	**(1,530)**
Currency translation adjustment	*(Note 9)*	4,216	(4,645)	740
Cash flow hedge	*(Notes 15 & 16)*	278	(313)	(599)
Variation of foreign currency basis spread	*(Note 15)*	2	28	1
Share of other comprehensive income of equity affiliates, net amount	*(Note 8)*	706	(1,831)	408
Other		(1)	(8)	(3)
Tax effect		(135)	72	202
Items potentially reclassifiable to profit and loss		**5,066**	**(6,697)**	**749**
Total other comprehensive income (net amount)		**(1,446)**	**1,230**	**(781)**
COMPREHENSIVE INCOME		**14,920**	**(6,106)**	**10,657**
- TotalEnergies share		*14,616*	*(6,312)*	*10,418*
- Non-controlling interests	*(Note 9)*	*304*	*206*	*239*

Consolidated balance sheet

TotalEnergies

As of December 31, (M$)		**2021**	**2020**	**2019**
ASSETS				
Non-current assets				
Intangible assets, net	*(Notes 4 & 7)*	32,484	33,528	33,178
Property, plant and equipment, net	*(Notes 4 & 7)*	106,559	108,335	116,408
Equity affiliates: investments and loans	*(Note 8)*	31,053	27,976	27,122
Other investments	*(Note 8)*	1,625	2,007	1,778
Non-current financial assets	*(Note 15)*	2,404	4,781	912
Deferred income taxes	*(Note 11)*	5,400	7,016	6,216
Other non-current assets	*(Note 6)*	2,797	2,810	2,415
Total non-current assets		**182,322**	**186,453**	**188,029**
Current assets				
Inventories, net	*(Note 5)*	19,952	14,730	17,132
Accounts receivable, net	*(Note 5)*	21,983	14,068	18,488
Other current assets	*(Note 5)*	35,144	13,428	17,013
Current financial assets	*(Note 15)*	12,315	4,630	3,992
Cash and cash equivalents	*(Note 15)*	21,342	31,268	27,352
Assets classified as held for sale	*(Note 2)*	400	1,555	1,288
Total current assets		**111,136**	**79,679**	**85,265**
TOTAL ASSETS		**293,458**	**266,132**	**273,294**
LIABILITIES & SHAREHOLDERS' EQUITY				
Shareholders' equity				
Common shares		8,224	8,267	8,123
Paid-in surplus and retained earnings		117,849	107,078	121,170
Currency translation adjustment		(12,671)	(10,256)	(11,503)
Treasury shares		(1,666)	(1,387)	(1,012)
Total shareholders' equity - TotalEnergies share	*(Note 9)*	**111,736**	**103,702**	**116,778**
Non-controlling interests		**3,263**	**2,383**	**2,527**
Total shareholders' equity		**114,999**	**106,085**	**119,305**
Non-current liabilities				
Deferred income taxes	*(Note 11)*	10,904	10,326	11,858
Employee benefits	*(Note 10)*	2,672	3,917	3,501
Provisions and other non-current liabilities	*(Note 12)*	20,269	20,925	20,613
Non-current financial debt	*(Note 15)*	49,512	60,203	47,773
Total non-current liabilities		**83,357**	**95,371**	**83,745**
Current liabilities				
Accounts payable		36,837	23,574	28,394
Other creditors and accrued liabilities	*(Note 5)*	42,800	22,465	25,749
Current borrowings	*(Note 15)*	15,035	17,099	14,819
Other current financial liabilities	*(Note 15)*	372	203	487
Liabilities directly associated with the assets classified as held for sale	*(Note 2)*	58	1,335	795
Total current liabilities		**95,102**	**64,676**	**70,244**
TOTAL LIABILITIES & SHAREHOLDERS' EQUITY		**293,458**	**266,132**	**273,294**

Consolidated statement of cash flow

TotalEnergies

For the year ended December 31, (M$)		**2021**	**2020**	**2019**
CASH FLOW FROM OPERATING ACTIVITIES				
Consolidated net income		16,366	(7,336)	11,438
Depreciation, depletion, amortization and impairment	*(Note 5.3)*	14,343	22,861	16,401
Non-current liabilities, valuation allowances, and deferred taxes	*(Note 5.5)*	962	(1,782)	(58)
(Gains) losses on disposals of assets		(454)	(909)	(614)
Undistributed affiliates' equity earnings		(667)	948	(1,083)
(Increase) decrease in working capital	*(Note 5.5)*	(616)	1,869	(1,718)
Other changes, net		476	(848)	319
Cash flow from operating activities		**30,410**	**14,803**	**24,685**
CASH FLOW USED IN INVESTING ACTIVITIES				
Intangible assets and property, plant and equipment additions	*(Note 7)*	(12,343)	(10,764)	(11,810)
Acquisitions of subsidiaries, net of cash acquired		(321)	(966)	(4,748)
Investments in equity affiliates and other securities		(2,678)	(2,120)	(1,618)
Increase in non-current loans		(1,247)	(1,684)	(1,061)
Total expenditures		**(16,589)**	**(15,534)**	**(19,237)**
Proceeds from disposals of intangible assets and property, plant and equipment		770	740	527
Proceeds from disposals of subsidiaries, net of cash sold		269	282	158
Proceeds from disposals of non-current investments		722	578	349
Repayment of non-current loans		1,172	855	1,026
Total divestments		**2,933**	**2,455**	**2,060**
Cash flow used in investing activities		**(13,656)**	**(13,079)**	**(17,177)**
CASH FLOW FROM FINANCING ACTIVITIES				
Issuance (repayment) of shares:				
– Parent company shareholders		381	374	452
– Treasury shares		(1,823)	(611)	(2,810)
Dividends paid:				
– Parent company shareholders		(8,228)	(6,688)	(6,641)
– Non-controlling interests		(124)	(184)	(115)
Net issuance of perpetual subordinated notes	*(Note 9)*	3,248	331	–
Payments on perpetual subordinated notes	*(Note 9)*	(313)	(315)	(371)
Other transactions with non-controlling interests		652	(204)	10
Net issuance (repayment) of non-current debt	*(Note 15)*	(359)	15,800	8,131
Increase (decrease) in current borrowings		(10,856)	(6,501)	(5,829)
Increase (decrease) in current financial assets and liabilities	*(Note 15)*	(8,075)	(604)	(536)
Cash flow from / (used in) financing activities		**(25,497)**	**1,398**	**(7,709)**
NET INCREASE (DECREASE) IN CASH AND CASH EQUIVALENTS		**(8,743)**	**3,122**	**(201)**
Effect of exchange rates		(1,183)	794	(354)
Cash and cash equivalents at the beginning of the periodg		31,268	27,352	27,907
CASH AND CASH EQUIVALENTS AT THE END OF THE PERIOD	*(Note 15)*	**21,342**	**31,268**	**27,352**

Consolidated statement of changes in shareholders' equity

TotalEnergies

(M$)	Common shares issued		Paid-in surplus and retained earnings	Currency translation adjustment	Treasury shares		Shareholders' equity - TotalEnergies share	Non-controlling interests	Total shareholders' equity
	Number	Amount			Number	Amount			
As of January 1, 2019	**2,640,602,007**	**8,227**	**120,569**	**(11,313)**	**(32,473,281)**	**(1,843)**	**115,640**	**2,474**	**118,114**
Net income 2019	–	–	11,267	–	–	–	11,267	171	11,438
Other comprehensive income.	–	–	(659)	(190)	–	–	(849)	68	(781)
Comprehensive income	**–**	**–**	**10,608**	**(190)**	**–**	**–**	**10,418**	**239**	**10,657**
Dividend	–	–	(7,730)	–	–	–	(7,730)	(115)	(7,845)
Issuance of common shares.	26,388,503	74	1,265	–	–	–	1,339	–	1,339
Purchase of treasury shares	–	–	–	–	(52,389,336)	(2,810)	(2,810)	–	(2,810)
Sale of treasury shares[a]	–	–	(219)	–	4,278,948	219	–	–	–
Share-based payments.	–	–	207	–	–	–	207	–	207
Share cancellation.	(65,109,435)	(178)	(3,244)	–	65,109,435	3,422	–	–	–
Net issuance (repayment) of perpetual subordinated notes	–	–	(4)	–	–	–	(4)	–	(4)
Payments on perpetual subordinated notes	–	–	(353)	–	–	–	(353)	–	(353)
Other operations with non-controlling interests	–	–	55	–	–	–	55	(42)	13
Other items	–	-	16	–	–	–	16	(29)	(13)
As of December 31, 2019	**2,601,881,075**	**8,123**	**121,170**	**(11,503)**	**(15,474,234)**	**(1,012)**	**116,778**	**2,527**	**119,305**
Net income 2020	–	–	(7,242)	–	–	–	(7,242)	(94)	(7,336)
Other comprehensive income.	–	–	(321)	1,251	–	–	930	300	1,230
Comprehensive income	**–**	**–**	**(7,563)**	**1,251**	**–**	**–**	**(6,312)**	**206**	**(6,106)**
Dividend	–	–	(7,899)	–	–	–	(7,899)	(234)	(8,133)
Issuance of common shares.	51,242,950	144	1,470	–	–	–	1,614	–	1,614
Purchase of treasury shares	–	–	-	–	(13,236,044)	(611)	(611)	–	(611)
Sale of treasury shares[a]	–	–	(236)	–	4,317,575	236	–	–	–
Share-based payments.	–	–	188	–	–	–	188	–	188
Share cancellation.	–	–	-	–	–	–	–	–	–
Net issuance (repayment) of perpetual subordinated notes	–	–	331	–	–	–	331	–	331
Payments on perpetual subordinated notes	–	–	(308)	–	–	–	(308)	–	(308)
Other operations with non-controlling interests	–	–	(61)	(4)	–	–	(65)	(117)	(182)
Other items	–	–	(14)	–	–	–	(14)	1	(13)
As of December 31, 2020	**2,653,124,025**	**8,267**	**107,078**	**(10,256)**	**(24,392,703)**	**(1,387)**	**103,702**	**2,383**	**106,085**
Net income 2021	–	–	16,032	–	–	–	16,032	334	16,366
Other comprehensive income.	–	–	991	(2,407)	–	–	(1,416)	(30)	(1,446)
Comprehensive income	**–**	**–**	**17,023**	**(2,407)**	**–**	**–**	**14,616**	**304**	**14,920**
Dividend	–	–	(8,200)	–	–	–	(8,200)	(124)	(8,324)
Issuance of common shares.	10,589,713	31	350	–	–	–	381	–	381
Purchase of treasury shares	–	–	–	–	(37,306,005)	(1,823)	(1,823)	–	(1,823)
Sale of treasury shares[a]	–	–	(216)	–	4,573,195	216	–	–	–
Share-based payments.	–	–	143	–	–	–	143	–	143
Share cancellation.	(23,284,409)	(74)	(1,254)	–	23,284,409	1,328	–	–	–
Net issuance (repayment) of perpetual subordinated notes	–	–	3,254	–	–	–	3,254	–	3,254
Payments on perpetual subordinated notes	–	–	(368)	–	–	–	(368)	–	(368)
Other operations with non-controlling interests	–	–	30	(6)	–	–	24	689	713
Other items	–	–	9	(2)	–	–	7	11	18
AS OF DECEMBER 31, 2021	**2,640,429,329**	**8,224**	**117,849**	**(12,671)**	**(33,841,104)**	**(1,666)**	**111,736**	**3,263**	**114,999**

(a) Treasury shares related to the performance share grants.

Changes in equity are detailed in Note 9.

TotalEnergies

Notes to the Consolidated Financial Statements

On March 16, 2022, the Board of Directors established and authorized the publication of the Consolidated Financial Statements of TotalEnergies SE for the year ended December 31, 2021, which will be submitted for approval to the Shareholders' Meeting to be held on May 25, 2022.

Basis of preparation of the consolidated financial statements

The Consolidated Financial Statements of TotalEnergies SE and its subsidiaries (the Company) are presented in U.S. dollars and have been prepared on the basis of IFRS (International Financial Reporting Standards) as adopted by the European Union and IFRS as issued by the IASB (International Accounting Standard Board) as of December 31, 2021.

The accounting principles applied for the consolidated financial statements at December 31, 2021, were the same as those that were used for the financial statements at December 31, 2020, with the exception of new IFRS standards listed below which had not been early adopted by TotalEnergies.

As of January 1, 2020, TotalEnergies early adopted the amendments to IFRS 7 and IFRS 9 relating to the interest rate benchmark reform phase II. In particular, these amendments allow to maintain the hedge accounting qualification of interest rate derivatives. As part of this transition, TotalEnergies set up a working group in order to cover all aspects relating to the IBOR reform and is currently assessing the future impacts of these index changes.

As of December 31, 2021, except for the index change on the remuneration of cash collateral with clearing houses, and the transition from the EONIA rate to the ESTR rate, whose impacts are not material, no other modification of the IBOR indices was applied on financial instruments used by TotalEnergies. The bonds and associated derivative instruments impacted by the reform are presented in Note 15.1 “Financial debt and derivative financial instruments”.

Major judgments and accounting estimates

The preparation of financial statements in accordance with IFRS for the closing as of December 31, 2021 requires the General Management to make estimates, assumptions and judgments that affect the information reported in the Consolidated Financial Statements and the Notes thereto.

These estimates, assumptions and judgments are based on historical experience and other factors believed to be reasonable at the date of preparation of the financial statements. They are reviewed on an on-going basis by General Management and therefore could be revised as circumstances change or as a result of new information.

Different estimates, assumptions and judgments could significantly affect the information reported, and actual results may differ from the amounts included in the Consolidated Financial Statements and the Notes thereto.

The following summary provides further information about the key estimates, assumptions and judgments that are involved in preparing the Consolidated Financial Statements and the Notes thereto. It should be read in conjunction with the sections of the Notes mentioned in the summary.

Estimation of hydrocarbon reserves

The estimation of oil and gas reserves is a key factor in the Successful Efforts method used by TotalEnergies to account for its oil and gas activities.

TotalEnergies' oil and gas reserves are estimated by TotalEnergies' petroleum engineers in accordance with industry standards and SEC (*U.S. Securities and Exchange Commission)* regulations.

Proved oil and gas reserves are those quantities of oil and gas, which, by analysis of geosciences and engineering data, can be determined with reasonable certainty to be recoverable (from a given date forward, from known reservoirs, and under existing economic conditions, operating methods, and government regulations), prior to the time at which contracts providing the rights to operate expire, unless evidence indicates that renewal is reasonably certain, regardless of whether deterministic or probabilistic methods are used for the estimation.

Proved oil and gas reserves are calculated using a 12-month average price determined as the unweighted arithmetic average of the first-day-of-the-month price for each month of the relevant year unless prices are defined by contractual arrangements, excluding escalations based upon future conditions. TotalEnergies reassesses its oil and gas reserves at least once a year on all its properties.

The Successful Efforts method and the mineral interests and property, plant and equipment of exploration and production are presented in Note 7 “Intangible and tangible assets”.

Impairment of property, plant and equipment, intangible assets and goodwill

As part of the determination of the recoverable value of assets for impairment (IAS 36), the estimates, assumptions and judgments mainly concern hydrocarbon prices scenarios, operating costs, production volumes and oil and gas proved and probable reserves, refining margins and product marketing conditions (mainly petroleum, petrochemical and chemical products as well as renewable industry products). The estimates and assumptions used by the executive management are determined in specialized internal departments in light of economic conditions and external expert analysis. The discount rate is reviewed annually.

In 2020, in line with its new Climate Ambition announced on May 5, 2020, which aims at carbon neutrality, TotalEnergies had reviewed its oil assets that could be qualified as “stranded”, and therefore had decided to impair its oil sands assets in Canada.

Impairment of assets and the method applied are described in Note 3 "Business segment information".

Climate change and energy transition

TotalEnergies supports the goals of the 2015 Paris Agreement, which calls for reducing greenhouse gas emissions in the context of sustainable development and the fight against poverty, and which aims to keep the increase in average global temperatures well below 2°C compared to pre-industrial levels.

TotalEnergies wants to rise to the dual challenge of meeting the energy needs of a growing world population while reducing global warming, and play an active role in the transformation that is underway in the energy industry, by transforming itself and becoming a broad energy company, capable of producing and selling the low-carbon molecules and electrons that the energy transition needs.

TotalEnergies has embedded the changing energy markets into its strategy by investing in renewables and electricity, developing the production of biofuels, biogas and low-carbon hydrogen, favoring the use of natural gas, the transition fuel whose flexibility offers a lower carbon alternative to coal for electricity production and helps to mitigate the intermittency of solar and wind energies, targeting its investments in low-cost and low-emission oil, and developing nature-based carbon storage solutions as well as CO_2 capture and sequestration.

TotalEnergies is committed to reducing its carbon footprint caused by the production, processing and supply of energy to its customers. Although the pace of the transition will depend on public policy, consumption patterns and resulting demand, TotalEnergies has set itself the mission to offer its customers energy products that are affordable and generate less CO_2 and to support its partners and suppliers in their own low-carbon strategies.

TotalEnergies' ambition is to get to Net Zero by 2050, across its production and energy products used by its customers (Scope 1+2+3), together with society.

A resolution presenting this ambition to get to Net Zero and its 2030 targets was approved by the Combined Shareholders' Meeting of May 28, 2021. It also states TotalEnergies' principles for capital expenditure allocation:

- TotalEnergies evaluates the solidity of its portfolio, including new material capital expenditure investments, on the basis of relevant scenarios. Each material capex investment, including in the exploration, acquisition or development of oil and gas resources, as well as in other energies and technologies, is subject to an evaluation that takes into consideration the objectives of the Paris Agreement.
- In order to evaluate the resilience of its portfolio, TotalEnergies works on the basis of a long-term oil and gas price scenario compatible with the objectives of the Paris Agreement. As described in note 3.D "Asset impairment", the price trajectory retained for oil by the Company for the computation of its impairments converges in 2040 towards the $\$50_{2022}$/b price retained by the IEA's SDS scenario. From 2040, the price trajectory converges towards the price retained in 2050 by the IEA's NZE scenario, i.e. $\$25_{2022}$/b; the prices retained for gas stabilize by 2025, stay until 2040 at lower levels than current prices, and converge towards the IEA's NZE scenario prices in 2050.

For investments in new upstream oil projects, TotalEnergies puts the priority on developing low-cost projects (typically less than $20/b for operating costs plus investment costs) and low-breakeven projects (typically $30/b, taxes included).

Although CO_2 pricing does not currently apply in all countries where it operates, TotalEnergies takes into account a minimum price for CO_2 of $40/t (or the applicable price in a given country, if it is higher) in all its investment decisions and assumes a linear increase of this price to reach $100/t in 2030 and beyond.

The strategy is implemented in the long-term plan of the Company, which is forecasted for a 5-year period, updated every year, and approved by the Board of Directors.

It reflects the economic environment, the ambition of the Company on carbon neutrality (Net Zero emissions) together with society, the related targets by 2030 and the current dynamics of energy transition, knowing that there is still significant uncertainty on the path to energy transition that the various countries will take.

The financial statements of TotalEnergies are prepared in coherence with the main technical and economic assumptions of the long-term plan and the objectives stated above.

They are also sensitive to various environmental considerations, including oil & gas prices and refining margins, as well as technical parameters, such as the estimation of hydrocarbons reserves. In particular, the selected assumptions and estimates have an impact on hydrocarbons reserves, the useful life of assets, the impairment of assets and provisions, and are described in the following notes to the consolidated financial statements: 3.D "Asset impairment", 7 "Intangible and tangible assets", 12 "Provisions and other non-current liabilities".

Employee benefits

The benefit obligations and plan assets can be subject to significant volatility due in part to changes in market values and actuarial assumptions. These assumptions vary between different pension plans and thus take into account local conditions. They are determined following a formal process involving expertise and TotalEnergies internal judgments, in financial and actuarial terms, and also in consultation with actuaries and independent experts.

The assumptions for each plan are reviewed annually and adjusted if necessary to reflect changes from the experience and actuarial advice. The discount rate is reviewed quarterly.

Payroll, staff and employee benefits obligations and the method applied are described in Note 10 "Payroll, staff and employee benefits obligations".

Asset retirement obligations

Asset retirement obligations, which result from a legal or constructive obligation, are recognized based on a reasonable estimate in the period in which the obligation arises.

This estimate is based on information available in terms of costs and work program. It is regularly reviewed to take into account the changes in laws and regulations, the estimates of reserves and production, the analysis of site conditions and technologies.

The discount rate is reviewed annually.

Asset retirement obligations and the method used are described in Note 12 “Provisions and other non-current liabilities”.

Income Taxes

A tax liability is recognized when in application of a tax regulation, a future payment is considered probable and can be reasonably estimated. The exercise of judgment is required to assess the impact of new events on the amount of the liability.

Deferred tax assets are recognized in the accounts to the extent that their recovery is considered probable. The amount of these assets is determined after taking into account deferred tax liabilities with comparable maturity, arising from the same entities and tax regimes. It takes into account existing taxable profits and future taxable profits which estimation is inherently uncertain and subject to change over time. The exercise of judgment is required to assess the impact of new events on the value of these assets and including changes in estimates of future taxable profits and the deadlines for their use.

In addition, these tax positions may depend on interpretations of tax laws and regulations in the countries where TotalEnergies operates. These interpretations may have uncertain nature. Depending on the circumstances, they are final only after negotiations or resolution of disputes with authorities that can last several years.

Incomes taxes and the accounting methods are described in Note 11 “Income taxes”.

Judgments in case of transactions not addressed by any accounting standard or interpretation

Furthermore, when the accounting treatment of a specific transaction is not addressed by any accounting standard or interpretation, the management applies its judgment to define and apply accounting policies that provide information consistent with the general IFRS concepts: faithful representation, relevance and materiality.

Note 1 General accounting principles

1.1 Accounting principles

A) Principles of consolidation

Entities that are directly controlled by the parent company or indirectly controlled by other consolidated entities are fully consolidated.

Investments in joint ventures are consolidated under the equity method. TotalEnergies accounts for joint operations by recognizing its share of assets, liabilities, income and expenses.

Investments in associates, in which TotalEnergies has significant influence, are accounted for by the equity method. Significant influence is presumed when TotalEnergies holds, directly or indirectly (e.g. through subsidiaries), 20% or more of the voting rights. Companies in which ownership interest is less than 20%, but over which TotalEnergies is deemed to exercise significant influence, are also accounted for by the equity method.

All internal balances, transactions and income are eliminated.

B) Business combinations

Business combinations are accounted for using the acquisition method. This method requires the recognition of the acquired identifiable assets and assumed liabilities of the companies acquired by TotalEnergies at their fair value.

The purchase accounting of the acquisition is finalized up to a maximum of one year from the acquisition date.

The acquirer shall recognize goodwill at the acquisition date, being the excess of:

- The consideration transferred, the amount of non-controlling interests and, in business combinations achieved in stages, the fair value at the acquisition date of the investment previously held in the acquired company;
- Over the fair value at the acquisition date of acquired identifiable assets and assumed liabilities.

If the consideration transferred is lower than the fair value of acquired identifiable assets and assumed liabilities, an additional analysis is performed on the identification and valuation of the identifiable elements of the assets and liabilities. After having completed such additional analysis, any negative goodwill is recorded as income.

Non-controlling interests are measured either at their proportionate share in the net assets of the acquired company or at fair value.

In transactions with non-controlling interests, the difference between the price paid (received) and the book value of non-controlling interests acquired (sold) is recognized directly in equity.

C) Foreign currency translation

The presentation currency of TotalEnergies' Consolidated Financial Statements is the US dollar. However, the functional currency of the parent company is the euro. The resulting currency translation adjustments are presented on the line "currency translation adjustment generated by the parent company" of the consolidated statement of comprehensive income, within "items not potentially reclassifiable to profit and loss". In the balance sheet, they are recorded in "currency translation adjustment".

The financial statements of subsidiaries are prepared in the currency that most clearly reflects their business environment. This is referred to as their functional currency.

Since July 1, 2018, Argentina is considered to be hyperinflationary. IAS 29 "Financial Reporting in Hyperinflationary Economies" is applicable to entities whose functional currency is the Argentine peso. The functional currency of the Argentine Exploration & Production subsidiary is the US dollar, therefore IAS 29 has no incidence on TotalEnergies accounts. Net asset of the other business segments is not significant.

(i) Monetary transactions

Transactions denominated in currencies other than the functional currency of the entity are translated at the exchange rate on the transaction date. At each balance sheet date, monetary assets and liabilities are translated at the closing rate and the resulting exchange differences are recognized in the statement of income.

(ii) Translation of financial statements

Assets and liabilities of entities denominated in currencies other than dollar are translated into dollar on the basis of the exchange rates at the end of the period. The income and cash flow statements are translated using the average exchange rates for the period. Foreign exchange differences resulting from such translations are either recorded in shareholders' equity under “Currency translation adjustments” (for TotalEnergies share) or under “Non-controlling interests” (for the share of non-controlling interests) as deemed appropriate.

1.2 Significant accounting principles applicable in the future

The expected impact of the standards or interpretations published respectively by the International Accounting Standards Board (IASB) and the International Financial Reporting Standards Interpretations Committee (IFRS IC) which were not yet in effect at December 31, 2021, is not material.

Note 2 Changes in TotalEnergies’ perimeter

2.1 MAIN ACQUISITIONS AND DIVESTMENTS

In 2021, the main changes in TotalEnergies perimeter were as follows:

Integrated Gas, Renewables & Power

- In January 2021, TotalEnergies finalized the acquisition of a 20% minority interest in Adani Green Energy Limited (AGEL) from Adani Group. Adani Green Energy Limited (AGEL) is an affiliate of the Indian Group Adani, which is the first solar project developer of the world.
- In July 2021, TotalEnergies completed a transaction with GIP in relation to the downstream facilities of the Gladstone LNG Project owned by its subsidiary TotalEnergies GLNG Australia (TGA), for a consideration of more than $750 million (with effective date January 1, 2021). As part of this transaction, GIP will receive a throughput-based tolling fee calculated on TGA’s share of gas processed through the downstream facilities over a period of 15 years. TGA retains full control and ownership of its 27.5% interest in the Gladstone LNG Downstream Joint Venture. This transaction was treated as a sale of a non-controlling interest sale in the financial statements.

Exploration & Production

- In July 2021, TotalEnergies, through its affiliate Total Venezuela, transferred its stake of 30.32% in Petrocedeño S.A. to Corporation Venezonala de Petróleos (CVP), an affiliate of Petróleos de Venezuela (PDVSA). This transaction carried out for a symbolic amount in exchange of a broad indemnity in relation to the past and future participation of TotalEnergies’ in Petrocedeño, resulted in the recognition of a loss of $1.38 billion in the financial statements of TotalEnergies.
- In December 2021, Total Gabon, TotalEnergies' 58% owned affiliate, finalized the sale agreement with Perenco of its interests in seven mature non-operated offshore fields, along with its interests and operatorship in the Cap Lopez oil terminal.

Refining-Chemicals

- In February 2021, TotalEnergies finalized the sale of Lindsey refinery and its associated logistic assets, as well as all the related rights and obligations, to the Prax Group.

2.2 MAJOR BUSINESS COMBINATIONS

Accounting principles

In accordance with IFRS 3 “Business combinations”, TotalEnergies is assessing the fair value of identifiable acquired assets, liabilities and contingent liabilities on the basis of available information. This assessment will be finalised within 12 months following the acquisition date.

In 2021, no significant business combination was recorded in TotalEnergies' financial statements.

2.3 DIVESTMENT PROJECTS

Accounting principles

Pursuant to IFRS 5 "Non-current assets held for sale and discontinued operations”, assets and liabilities of affiliates that are held for sale are presented separately on the face of the balance sheet. Depreciation of assets ceases from the date of classification in “Non-current assets held for sale”.

As of December 31, 2021, there is no material divestment project recorded in "assets held for sale".

Note 3 Business segment information

Description of the business segments

Financial information by business segment is reported in accordance with the internal reporting system and shows internal segment information that is used to manage and measure the performance of TotalEnergies and which is reviewed by the main operational decision-making body of TotalEnergies, namely the Executive Committee.

The operational profit and assets are broken down by business segment prior to the consolidation and inter-segment adjustments.

Sales prices between business segments approximate market prices.

The profitable growth in the gas and low carbon electricity integrated value chains is one of the key axes of TotalEnergies' strategy. In order to give more visibility to these businesses, a new reporting structure for the business segments’ financial information has been put in place, effective January 1, 2019.

The organization of TotalEnergies’ activities is structured around the four following segments:

- An Integrated Gas, Renewables & Power segment comprising integrated gas (including LNG) and low carbon electricity businesses. It includes the upstream and midstream LNG activity;
- An Exploration & Production segment. Starting September 2021, it notably includes the carbon sink activity (carbon storage and nature-based solutions) that was previously reported in the Integrated Gas, Renewables & Power segment. Business segment information relating to fiscal year 2020 has not been restated due to the non-material impact of this change;
- A Refining & Chemicals segment constituting a major industrial hub comprising the activities of refining, petrochemicals and specialty chemicals. This segment also includes the activities of oil Supply, Trading and marine Shipping;

- A Marketing & Services segment including the global activities of supply and marketing in the field of petroleum products;

In addition, the Corporate segment includes holdings operating and financial activities.

Definition of the indicators

(i) Operating income (measure used to evaluate operating performance)

Revenue from sales after deducting cost of goods sold and inventory variations, other operating expenses, exploration expenses and depreciation, depletion, and impairment of tangible assets and mineral interests.

Operating income excludes the amortization of intangible assets other than mineral interests, currency translation adjustments and gains or losses on the disposal of assets.

(ii) Net operating income (measure used to evaluate the return on capital employed)

Operating income after taking into account the amortization of intangible assets other than mineral interests, currency translation adjustments, gains or losses on the disposal of assets, as well as all other income and expenses related to capital employed (dividends from non-consolidated companies, income from equity affiliates, capitalized interest expenses…), and after income taxes applicable to the above.

The only income and expense not included in net operating income but included in net income TotalEnergies share are interest expenses related to net financial debt, after applicable income taxes (net cost of net debt) and non-controlling interests.

(iii) Adjusted income

Operating income, net operating income, or net income excluding the effect of adjustment items described below.

(iv) Capital employed

Non-current assets and working capital, at replacement cost, net of deferred income taxes and non-current liabilities.

(v) ROACE (Return on Average Capital Employed)

Ratio of adjusted net operating income to average capital employed between the beginning and the end of the period.

Performance indicators excluding the adjustment items, such as adjusted incomes and ROACE are meant to facilitate the analysis of the financial performance and the comparison of income between periods.

Adjustment items

Adjustment items include:

(i) Special items

Due to their unusual nature or particular significance, certain transactions qualified as “special items” are excluded from the business segment figures. In general, special items relate to transactions that are significant, infrequent or unusual. However, in certain instances, transactions such as restructuring costs or assets disposals, which are not considered to be representative of the normal course of business, may be qualified as special items although they may have occurred within prior years or are likely to occur again within the coming years.

(ii) The inventory valuation effect

The adjusted results of the Refining & Chemicals and Marketing & Services segments are presented according to the replacement cost method. This method is used to assess the segments’ performance and facilitate the comparability of the segments’ performance with those of its main competitors.

In the replacement cost method, which approximates the LIFO (Last-In, First-Out) method, the variation of inventory values in the statement of income is, depending on the nature of the inventory, determined using either the month-end prices differential between one period and another or the average prices of the period rather than the historical value. The inventory valuation effect is the difference between the results according to the FIFO (First-In, First-Out) and the replacement cost methods.

(iii) Effect of changes in fair value

The effect of changes in fair value presented as adjustment items reflects for certain transactions differences between the internal measure of performance used by TotalEnergies' Executive Committee and the accounting for these transactions under IFRS.

IFRS requires that trading inventories be recorded at their fair value using period end spot prices. In order to best reflect the management of economic exposure through derivative transactions, internal indicators used to measure performance include valuations of trading inventories based on forward prices.

TotalEnergies, in its trading activities, enters into storage contracts, whose future effects are recorded at fair value in TotalEnergies' internal economic performance. IFRS precludes recognition of this fair value effect.

Furthermore, TotalEnergies enters into derivative instruments to risk manage certain operational contracts or assets. Under IFRS, these derivatives are recorded at fair value while the underlying operational transactions are recorded as they occur. Internal indicators defer the fair value on derivatives to match with the transaction occurrence.

The adjusted results (adjusted operating income, adjusted net operating income, adjusted net income) are defined as replacement cost results, adjusted for special items and the effect of changes in fair value.

A) Information by business segment

For the year ended December 31, 2021 (M$)	Integrated Gas, Renewables & Power	Exploration & Production	Refining & Chemicals	Marketing & Services	Corporate	Intercompany	Total
External sales	30,704	7,246	87,600	80,288	25	–	205,863
Intersegment sales	4,260	34,896	27,637	451	254	(67,498)	–
Excise taxes	–	–	(1,108)	(20,121)	–	–	(21,229)
Revenues from sales	**34,964**	**42,142**	**114,129**	**60,618**	**279**	**(67,498)**	**184,634**
Operating expenses	(29,964)	(16,722)	(108,982)	(57,159)	(927)	67,498	(146,256)
Depreciation, depletion and impairment of tangible assets and mineral interests	(1,650)	(9,110)	(1,583)	(1,100)	(113)	–	(13,556)
Operating income	**3,350**	**16,310**	**3,564**	**2,359**	**(761)**	**–**	**24,822**
Net income (loss) from equity affiliates and other items	2,745	(760)	518	108	45	–	2,656
Tax on net operating income	(602)	(7,506)	(1,068)	(738)	152	–	(9,762)
Net operating income	**5,493**	**8,044**	**3,014**	**1,729**	**(564)**	**–**	**17,716**
Net cost of net debt							(1,350)
Non-controlling interests							(334)
NET INCOME - TotalEnergies SHARE							**16,032**

For the year ended December 31, 2021 (adjustments)[a] (M$)	Integrated Gas, Renewables & Power	Exploration & Production	Refining & Chemicals	Marketing & Services	Corporate	Intercompany	Total
External sales	(44)	–	–	–	–	–	(44)
Intersegment sales	–	–	–	–	–	–	–
Excise taxes	–	–	–	–	–	–	–
Revenues from sales	**(44)**	**–**	**–**	**–**	**–**	**–**	**(44)**
Operating expenses	(271)	(187)	1,470	278	–	–	1,290
Depreciation, depletion and impairment of tangible assets and mineral interests	(342)	(418)	(25)	(36)	–	–	(821)
Operating income[b]	**(657)**	**(605)**	**1,445**	**242**	**–**	**–**	**425**
Net income (loss) from equity affiliates and other items	(215)	(1,839)	56	(61)	(54)	–	(2,113)
Tax on net operating income	122	49	(396)	(70)	(67)	–	(362)
Net operating income[b]	**(750)**	**(2,395)**	**1,105**	**111**	**(121)**	**–**	**(2,050)**
Net cost of net debt							25
Non-controlling interests							(3)
NET INCOME - TotalEnergies SHARE							**(2,028)**

[a] Adjustments include special items, inventory valuation effect and the effect of changes in fair value.

[b] Of which inventory valuation effect

On operating income	–	–	1,481	315	–
On net operating income	–	–	1,296	236	–

For the year ended December 31, 2021 (adjusted) (M$)	Integrated Gas, Renewables & Power	Exploration & Production	Refining & Chemicals	Marketing & Services	Corporate	Intercompany	Total
External sales	30,748	7,246	87,600	80,288	25	–	205,907
Intersegment sales	4,260	34,896	27,637	451	254	(67,498)	–
Excise taxes	–	–	(1,108)	(20,121)	–	–	(21,229)
Revenues from sales	**35,008**	**42,142**	**114,129**	**60,618**	**279**	**(67,498)**	**184,678**
Operating expenses	(29,693)	(16,535)	(110,452)	(57,437)	(927)	67,498	(147,546)
Depreciation, depletion and impairment of tangible assets and mineral interests	(1,308)	(8,692)	(1,558)	(1,064)	(113)	–	(12,735)
Adjusted operating income	**4,007**	**16,915**	**2,119**	**2,117**	**(761)**	**–**	**24,397**
Net income (loss) from equity affiliates and other items	2,960	1,079	462	169	99	–	4,769
Tax on net operating income	(724)	(7,555)	(672)	(668)	219	–	(9,400)
Adjusted net operating income	**6,243**	**10,439**	**1,909**	**1,618**	**(443)**	**–**	**19,766**
Net cost of net debt							(1,375)
Non-controlling interests							(331)
ADJUSTED NET INCOME - TotalEnergies SHARE							**18,060**

For the year ended December 31, 2021 (M$)	Integrated Gas, Renewables & Power	Exploration & Production	Refining & Chemicals	Marketing & Services	Corporate	Intercompany	Total
Total expenditures	6,341	7,276	1,638	1,242	92	–	16,589
Total divestments	1,350	894	348	319	22	–	2,933
Cash flow from operating activities	827	22,009	6,473	2,333	(1,232)	–	30,410
Balance sheet as of December 31, 2021							
Property, plant and equipment, intangible assets, net	31,525	86,418	11,884	8,578	638	–	139,043
Investments & loans in equity affiliates	20,501	6,337	3,729	486	–	–	31,053
Other non-current assets	3,359	4,441	608	1,105	309	–	9,822
Working capital	5,058	(1,216)	(2,558)	378	(4,220)	–	(2,558)
Provisions and other non-current liabilities	(4,495)	(24,613)	(3,840)	(1,478)	581	–	(33,845)
Assets and liabilities classified as held for sale	30	308	–	–	–	–	338
Capital Employed (Balance sheet)	**55,978**	**71,675**	**9,823**	**9,069**	**(2,692)**	**–**	**143,853**
Less inventory valuation effect	–	–	(1,754)	(286)	–	–	(2,040)
CAPITAL EMPLOYED (BUSINESS SEGMENT INFORMATION)	**55,978**	**71,675**	**8,069**	**8,783**	**(2,692)**	**–**	**141,813**
ROACE as a percentage	**12 %**	**14 %**	**20 %**	**18 %**			**14 %**

For the year ended December 31, 2020 (M$)	Integrated Gas, Renewables & Power	Exploration & Production	Refining & Chemicals	Marketing & Services	Corporate	Intercompany	Total
External sales	15,629	4,973	56,615	63,451	17	–	140,685
Intersegment sales	2,003	18,483	17,378	357	223	(38,444)	–
Excise taxes	–	–	(2,405)	(18,576)	–	–	(20,981)
Revenues from sales	**17,632**	**23,456**	**71,588**	**45,232**	**240**	**(38,444)**	**119,704**
Operating expenses	(15,847)	(11,972)	(70,524)	(42,807)	(1,049)	38,444	(103,755)
Depreciation, depletion and impairment of tangible assets and mineral interests	(2,312)	(16,998)	(1,878)	(984)	(92)	–	(22,264)
Operating income	**(527)**	**(5,514)**	**(814)**	**1,441**	**(901)**	**–**	**(6,315)**
Net income (loss) from equity affiliates and other items	794	697	(393)	37	272	–	1,407
Tax on net operating income	71	(208)	59	(515)	(67)	–	(660)
Net operating income	**338**	**(5,025)**	**(1,148)**	**963**	**(696)**	**–**	**(5,568)**
Net cost of net debt							(1,768)
Non-controlling interests							94
NET INCOME - TotalEnergies SHARE							**(7,242)**

For the year ended December 31, 2020 (adjustments)[a] (M$)	Integrated Gas, Renewables & Power	Exploration & Production	Refining & Chemicals	Marketing & Services	Corporate	Intercompany	Total
External sales	20	–	–	–	–	–	20
Intersegment sales	–	–	–	–	–	–	–
Excise taxes	–	–	–	–	–	–	–
Revenues from sales	**20**	**–**	**–**	**–**	**–**	**–**	**20**
Operating expenses	(423)	(137)	(1,552)	(330)	(60)	–	(2,502)
Depreciation, depletion and impairment of tangible assets and mineral interests	(953)	(7,693)	(306)	–	–	–	(8,952)
Operating income[b]	**(1,356)**	**(7,830)**	**(1,858)**	**(330)**	**(60)**	**–**	**(11,434)**
Net income (loss) from equity affiliates and other items	(382)	54	(677)	(24)	107	–	(922)
Tax on net operating income	298	388	348	93	(145)	–	982
Net operating income[b]	**(1,440)**	**(7,388)**	**(2,187)**	**(261)**	**(98)**	**–**	**(11,374)**
Net cost of net debt							(29)
Non-controlling interests							102
NET INCOME - TotalEnergies SHARE							**(11,301)**

[a] Adjustments include special items, inventory valuation effect and the effect of changes in fair value.

[b] Of which inventory valuation effect

On operating income	–	–	(1,244)	(196)	–
On net operating income	–	–	(1,165)	(137)	–

For the year ended December 31, 2020 (adjusted) (M$)	Integrated Gas, Renewables & Power	Exploration & Production	Refining & Chemicals	Marketing & Services	Corporate	Intercompany	Total
External sales	15,609	4,973	56,615	63,451	17	–	140,665
Intersegment sales	2,003	18,483	17,378	357	223	(38,444)	–
Excise taxes	–	–	(2,405)	(18,576)	–	–	(20,981)
Revenues from sales	**17,612**	**23,456**	**71,588**	**45,232**	**240**	**(38,444)**	**119,684**
Operating expenses	(15,424)	(11,835)	(68,972)	(42,477)	(989)	38,444	(101,253)
Depreciation, depletion and impairment of tangible assets and mineral interests	(1,359)	(9,305)	(1,572)	(984)	(92)	–	(13,312)
Adjusted operating income	**829**	**2,316**	**1,044**	**1,771**	**(841)**	**–**	**5,119**
Net income (loss) from equity affiliates and other items	1,176	643	284	61	165	–	2,329
Tax on net operating income	(227)	(596)	(289)	(608)	78	–	(1,642)
Adjusted net operating income	**1,778**	**2,363**	**1,039**	**1,224**	**(598)**	**–**	**5,806**
Net cost of net debt							(1,739)
Non-controlling interests							(8)
AJUSTED NET INCOME - TotalEnergies SHARE							**4,059**

For the year ended December 31, 2020 (M$)	Integrated Gas, Renewables & Power	Exploration & Production	Refining & Chemicals	Marketing & Services	Corporate	Intercompany	Total
Total expenditures	6,230	6,782	1,325	1,052	145	–	15,534
Total divestments	1,152	819	149	158	177	–	2,455
Cash flow from operating activities	2,129	9,922	2,438	2,101	(1,787)	–	14,803
Balance sheet as of December 31, 2020							
Property, plant and equipment, intangible assets, net	30,704	89,207	12,486	8,734	732	–	141,863
Investments & loans in equity affiliates	16,455	7,328	3,638	555	–	–	27,976
Other non-current assets	3,647	5,093	791	1,260	1,042	–	11,833
Working capital	(1,004)	1,968	(264)	(43)	(4,470)	–	(3,813)
Provisions and other non-current liabilities	(4,566)	(24,909)	(4,658)	(1,641)	606	–	(35,168)
Assets and liabilities classified as held for sale	375	241	(83)	–	–	–	533
Capital Employed (Balance sheet)	**45,611**	**78,928**	**11,910**	**8,865**	**(2,090)**	**–**	**143,224**
Less inventory valuation effect	–	–	(535)	(72)	–	–	(607)
CAPITAL EMPLOYED (BUSINESS SEGMENT INFORMATION)	**45,611**	**78,928**	**11,375**	**8,793**	**(2,090)**	**–**	**142,617**
ROACE as a percentage	**4 %**	**3 %**	**9 %**	**14 %**			**4 %**

For the year ended December 31, 2019 (M$)	Integrated Gas, Renewables & Power	Exploration & Production	Refining & Chemicals	Marketing & Services	Corporate	Intercompany	Total
External sales	18,167	7,261	87,598	87,280	10	–	200,316
Intersegment sales	2,825	31,329	32,390	659	125	(67,328)	–
Excise taxes	–	–	(3,015)	(21,052)	–	–	(24,067)
Revenues from sales	**20,992**	**38,590**	**116,973**	**66,887**	**135**	**(67,328)**	**176,249**
Operating expenses	(18,316)	(16,389)	(112,104)	(63,855)	(925)	67,328	(144,261)
Depreciation, depletion and impairment of tangible assets and mineral interests	(1,492)	(11,659)	(1,527)	(980)	(73)	–	(15,731)
Operating income	**1,184**	**10,542**	**3,342**	**2,052**	**(863)**	**–**	**16,257**
Net income (loss) from equity affiliates and other items	2,330	610	322	101	42	–	3,405
Tax on net operating income	(741)	(4,572)	(470)	(598)	155	–	(6,226)
Net operating income	**2,773**	**6,580**	**3,194**	**1,555**	**(666)**	**–**	**13,436**
Net cost of net debt							(1,998)
Non-controlling interests							(171)
NET INCOME - TotalEnergies SHARE							**11,267**

For the year ended December 31, 2019 (adjustments)[a] (M$)	**Integrated Gas, Renewables & Power**	**Exploration & Production**	**Refining & Chemicals**	**Marketing & Services**	**Corporate**	**Intercompany**	**Total**
External sales	(64)	–	–	–	–	–	(64)
Intersegment sales	–	–	–	–	–	–	–
Excise taxes	–	–	–	–	–	–	–
Revenues from sales	**(64)**	**–**	**–**	**–**	**–**	**–**	**(64)**
Operating expenses	(240)	(145)	397	(40)	(112)	–	(140)
Depreciation, depletion and impairment of tangible assets and mineral interests	(156)	(721)	(41)	(2)	–	–	(920)
Operating income[b]	**(460)**	**(866)**	**356**	**(42)**	**(112)**	**–**	**(1,124)**
Net income (loss) from equity affiliates and other items	974	(112)	(83)	(83)	–	–	696
Tax on net operating income	(130)	49	(82)	27	(73)	–	(209)
Net operating income[b]	**384**	**(929)**	**191**	**(98)**	**(185)**	**–**	**(637)**
Net cost of net debt							(15)
Non-controlling interests							91
NET INCOME - TotalEnergies SHARE							**(561)**

[a] Adjustments include special items, inventory valuation effect and the effect of changes in fair value.

[b] Of which inventory valuation effect

On operating income	–	–	*477*	*(31)*	–
On net operating income	–	–	*371*	*(14)*	–

For the year ended December 31, 2019 (adjusted) (M$)	**Integrated Gas, Renewables & Power**	**Exploration & Production**	**Refining & Chemicals**	**Marketing & Services**	**Corporate**	**Intercompany**	**Total**
External sales	18,231	7,261	87,598	87,280	10	–	200,380
Intersegment sales	2,825	31,329	32,390	659	125	(67,328)	–
Excise taxes	–	–	(3,015)	(21,052)	–	–	(24,067)
Revenues from sales	**21,056**	**38,590**	**116,973**	**66,887**	**135**	**(67,328)**	**176,313**
Operating expenses	(18,076)	(16,244)	(112,501)	(63,815)	(813)	67,328	(144,121)
Depreciation, depletion and impairment of tangible assets and mineral interests	(1,336)	(10,938)	(1,486)	(978)	(73)	–	(14,811)
Adjusted operating income	**1,644**	**11,408**	**2,986**	**2,094**	**(751)**	**–**	**17,381**
Net income (loss) from equity affiliates and other items	1,356	722	405	184	42	–	2,709
Tax on net operating income	(611)	(4,621)	(388)	(625)	228	–	(6,017)
Adjusted net operating income	**2,389**	**7,509**	**3,003**	**1,653**	**(481)**	**–**	**14,073**
Net cost of net debt							(1,983)
Non-controlling interests							(262)
ADJUSTED NET INCOME - TotalEnergies SHARE							**11,828**

For the year ended December 31, 2019 (M$)	**Integrated Gas, Renewables & Power**	**Exploration & Production**	**Refining & Chemicals**	**Marketing & Services**	**Corporate**	**Intercompany**	**Total**
Total expenditures	7,053	8,992	1,698	1,374	120	–	19,237
Total divestments	1,108	368	322	249	13	–	2,060
Cash flow from operating activities	3,461	16,917	3,837	2,604	(2,134)	–	24,685
Balance sheet as of December 31, 2019							
Property, plant and equipment, intangible assets, net	29,597	98,894	12,196	8,316	583	–	149,586
Investments & loans in equity affiliates	15,271	7,631	3,787	433	–	–	27,122
Other non-current assets	2,993	4,484	744	1,179	1,009	–	10,409
Working capital	(1,192)	2,617	796	178	(3,909)	–	(1,510)
Provisions and other non-current liabilities	(5,488)	(25,208)	(3,898)	(1,531)	153	–	(35,972)
Assets and liabilities classified as held for sale	368	426	–	–	–	–	794
Capital Employed (Balance sheet)	**41,549**	**88,844**	**13,625**	**8,575**	**(2,164)**	**–**	**150,429**
Less inventory valuation effect	–	–	(1,397)	(204)	–	–	(1,601)
CAPITAL EMPLOYED (BUSINESS SEGMENT INFORMATION)	**41,549**	**88,844**	**12,228**	**8,371**	**(2,164)**	**–**	**148,828**
ROACE as a percentage	**6 %**	**8 %**	**26 %**	**22 %**			**10 %**

B) Reconciliation of the information by business segment with Consolidated Financial Statements

The table below presents the impact of adjustment items on the consolidated statement of income:

For the year ended December 31, 2021 (M$)	**Adjusted**	**Adjustments**[(a)]	**Consolidated statement of income**
Sales	**205,907**	**(44)**	**205,863**
Excise taxes	(21,229)	–	(21,229)
Revenues from sales	184,678	(44)	184,634
Purchases, net of inventory variation	(120,160)	1,538	(118,622)
Other operating expenses	(26,754)	(140)	(26,894)
Exploration costs	(632)	(108)	(740)
Depreciation, depletion and impairment of tangible assets and mineral interests	(12,735)	(821)	(13,556)
Other income	1,300	12	1,312
Other expense	(944)	(1,373)	(2,317)
Financial interest on debt	(1,904)	–	(1,904)
Financial income and expense from cash & cash equivalents	340	39	379
Cost of net debt	(1,564)	39	(1,525)
Other financial income	762	–	762
Other financial expense	(539)	–	(539)
Net income (loss) from equity affiliates	4,190	(752)	3,438
Income taxes	(9,211)	(376)	(9,587)
CONSOLIDATED NET INCOME	**18,391**	**(2,025)**	**16,366**
TotalEnergies share	18,060	(2,028)	16,032
Non-controlling interests	331	3	334

(a) Adjustments include special items, inventory valuation effect and the effect of changes in fair value.

For the year ended December 31, 2020 (M$)	**Adjusted**	**Adjustments**[(a)]	**Consolidated statement of income**
Sales	**140,665**	**20**	**140,685**
Excise taxes	(20,981)	–	(20,981)
Revenues from sales	119,684	20	119,704
Purchases, net of inventory variation	(75,672)	(1,814)	(77,486)
Other operating expenses	(24,850)	(688)	(25,538)
Exploration costs	(731)	–	(731)
Depreciation, depletion and impairment of tangible assets and mineral interests	(13,312)	(8,952)	(22,264)
Other income	1,405	832	2,237
Other expense	(689)	(817)	(1,506)
Financial interest on debt	(2,140)	(7)	(2,147)
Financial income and expense from cash & cash equivalents	68	(31)	37
Cost of net debt	(2,072)	(38)	(2,110)
Other financial income	914	–	914
Other financial expense	(689)	(1)	(690)
Net income (loss) from equity affiliates	1,388	(936)	452
Income taxes	(1,309)	991	(318)
CONSOLIDATED NET INCOME	**4,067**	**(11,403)**	**(7,336)**
TotalEnergies share	4,059	(11,301)	(7,242)
Non-controlling interests	8	(102)	(94)

(a) Adjustments include special items, inventory valuation effect and the effect of changes in fair value.

For the year ended December 31, 2019 (M$)	**Adjusted**	**Adjustments**[(a)]	**Consolidated statement of income**
Sales	**200,380**	**(64)**	**200,316**
Excise taxes	(24,067)	–	(24,067)
Revenues from sales	176,313	(64)	176,249
Purchases, net of inventory variation	(116,464)	243	(116,221)
Other operating expenses	(26,872)	(383)	(27,255)
Exploration costs	(785)	–	(785)
Depreciation, depletion and impairment of tangible assets and mineral interests	(14,811)	(920)	(15,731)
Other income	876	287	1,163
Other expense	(455)	(737)	(1,192)
Financial interest on debt	(2,318)	(15)	(2,333)
Financial income and expense from cash & cash equivalents	(19)	–	(19)
Cost of net debt	(2,337)	(15)	(2,352)
Other financial income	792	–	792
Other financial expense	(764)	–	(764)
Net income (loss) from equity affiliates	2,260	1,146	3,406
Income taxes	(5,663)	(209)	(5,872)
CONSOLIDATED NET INCOME	**12,090**	**(652)**	**11,438**
TotalEnergies share	11,828	(561)	11,267
Non-controlling interests	262	(91)	171

(a) Adjustments include special items, inventory valuation effect and the effect of changes in fair value.

C) Additional information on adjustment items

The main adjustment items for 2021 are the following:

1) An "Inventory valuation effect" amounting to $1,796 million in operating income and $1,495 million in net income TotalEnergies' share for the Refining & Chemicals and Marketing & Services segments;

2) "Gains (losses) on disposals of assets" mainly, in the Exploration & Production segment with the loss on the sale of Petrocedeño for an amount of $(1,379) million;

3) The "Asset impairment charges" amounting to $(759) million in operating income and $(910) million in net income TotalEnergies share, which include non-current assets impairment charges recorded in 2021. This amount includes the impairment of the Company's assets in Myanmar, of which $(201) million is included in operating income and $(305) million is included in net income, TotalEnergies share. Impairment testing methodology and asset impairment charges recorded during the year are detailed in the paragraph D of Note 3.

Adjustments to operating income

For the year ended December 31, 2021 (M$)	**Integrated Gas, Renewables & Power**	**Exploration & Production**	**Refining & Chemicals**	**Marketing & Services**	**Corporate**	**Total**
Inventory valuation effect	–	–	1,481	315	–	1,796
Effect of changes in fair value	(217)	–	–	–	–	(217)
Restructuring charges	(17)	(59)	(10)	–	–	(86)
Asset impairment charges	(342)	(356)	(25)	(36)	–	(759)
Gains (losses) on disposals of assets	–	(170)	–	–	–	(170)
Other items	(81)	(20)	(1)	(37)	–	(139)
TOTAL	**(657)**	**(605)**	**1,445**	**242**	**–**	**425**

Adjustments to net income, TotalEnergies share

For the year ended December 31, 2021 (M$)	**Integrated Gas, Renewables & Power**	**Exploration & Production**	**Refining & Chemicals**	**Marketing & Services**	**Corporate**	**Total**
Inventory valuation effect	–	–	1,277	218	–	1,495
Effect of changes in fair value	(194)	–	–	–	–	(194)
Restructuring charges	(17)	(75)	(118)	(44)	(54)	(308)
Asset impairment charges	(332)	(500)	(42)	(36)	–	(910)
Gains (losses) on disposals of assets[a]	–	(1,726)	–	–	–	(1,726)
Other items	(196)	(51)	(31)	(40)	(67)	(385)
TOTAL	**(739)**	**(2,352)**	**1,086**	**98**	**(121)**	**(2,028)**

[a] Of which $(1,379) million related to the impact of the TotalEnergies' interest sale of Petrocedeño to PDVSA.

Adjustments to operating income

For the year ended December 31, 2020 (M$)	**Integrated Gas, Renewables & Power**	**Exploration & Production**	**Refining & Chemicals**	**Marketing & Services**	**Corporate**	**Total**
Inventory valuation effect	–	–	(1,244)	(196)	–	(1,440)
Effect of changes in fair value	20	–	–	–	–	20
Restructuring charges	(39)	(35)	(30)	–	–	(104)
Asset impairment charges	(953)	(7,693)	(306)	–	–	(8,952)
Other items	(384)	(102)	(278)	(134)	(60)	(958)
TOTAL	**(1,356)**	**(7,830)**	**(1,858)**	**(330)**	**(60)**	**(11,434)**

Adjustments to net income, TotalEnergies share

For the year ended December 31, 2020 (M$)	**Integrated Gas, Renewables & Power**	**Exploration & Production**	**Refining & Chemicals**	**Marketing & Services**	**Corporate**	**Total**
Inventory valuation effect	–	–	(1,160)	(120)	–	(1,280)
Effect of changes in fair value	23	–	–	–	–	23
Restructuring charges	(43)	(29)	(292)	–	–	(364)
Asset impairment charges	(829)	(7,328)	(306)	(2)	–	(8,465)
Gains (losses) on disposals of assets	–	–	–	–	104	104
Other items	(566)	–	(423)	(106)	(224)	(1,319)
TOTAL	**(1,415)**	**(7,357)**	**(2,181)**	**(228)**	**(120)**	**(11,301)**

Adjustments to operating income

For the year ended December 31, 2019 (M$)	**Integrated Gas, Renewables & Power**	**Exploration & Production**	**Refining & Chemicals**	**Marketing & Services**	**Corporate**	**Total**
Inventory valuation effect	–	–	477	(31)	–	446
Effect of changes in fair value	(19)	–	–	–	–	(19)
Restructuring charges	(4)	–	–	–	–	(4)
Asset impairment charges	(156)	(721)	(41)	(2)	–	(920)
Other items	(281)	(145)	(80)	(9)	(112)	(627)
TOTAL	**(460)**	**(866)**	**356**	**(42)**	**(112)**	**(1,124)**

Adjustments to net income, TotalEnergies share

For the year ended December 31, 2019 (M$)	**Integrated Gas, Renewables & Power**	**Exploration & Production**	**Refining & Chemicals**	**Marketing & Services**	**Corporate**	**Total**
Inventory valuation effect	–	–	369	(23)	–	346
Effect of changes in fair value	(15)	–	–	–	–	(15)
Restructuring charges	(31)	(5)	(22)	–	–	(58)
Asset impairment charges	105	(530)	(39)	(1)	–	(465)
Gains (losses) on disposals of assets	–	–	–	–	–	–
Other items	422	(405)	(119)	(82)	(185)	(369)
TOTAL	**481**	**(940)**	**189**	**(106)**	**(185)**	**(561)**

D) Asset impairment

Accounting principles

The recoverable amounts of intangible assets and property, plant and equipment are tested for impairment as soon as any indication of impairment exists. This test is performed at least annually for goodwill.

The recoverable amount is the higher of the fair value (less costs to sell) or the value in use.

Assets are grouped into cash-generating units (or CGUs) and tested. A CGU is a homogeneous set of assets that generates cash inflows that are largely independent of the cash inflows from other groups of assets.

The value in use of a CGU is determined by reference to the discounted expected future cash flows of these assets, based upon Management's expectation of future economic and operating conditions. When this value is less than the carrying amount of the CGU, an impairment loss is recorded. This loss is allocated first to goodwill with a corresponding amount in "Other expenses". Any further losses are then allocated to property, plant and mineral interests with a corresponding amount in "Depreciation, depletion and impairment of tangible assets and mineral interests" and to other intangible assets with a corresponding amount in "Other expenses".

Impairment losses recognized in prior periods can be reversed up to the original carrying amount, had the impairment loss not been recognized. Impairment losses recognized on goodwill cannot be reversed.

Investments in associates or joint ventures are tested for impairment whenever indication of impairment exists. If any objective evidence of impairment

exists, the carrying amount of the investment is compared with its recoverable amount, being the higher of its fair value less costs to sell and value in use. If the carrying amount exceeds the recoverable amount, an impairment loss is recorded in "Net income (loss) from equity affiliates".

For the financial year 2021, asset impairments were recorded for an amount of $(759) million in operating income and $(910) million in net income, TotalEnergies share. These impairments were qualified as adjustment items of the operating income and net income, TotalEnergies share.

Impairments relate to certain cash-generating units (CGUs) for which indicators of impairment have been identified, due to changes in operating conditions or the economic environment of the activities concerned.

Principles for determining value in use of a CGU

The principles applied are as follows:

- The future cash flows were determined using the assumptions included in the 2022 budget and in the long-term plan of the Company approved by the Executive Committee and the Board of Directors. These assumptions, in particular including operational costs, estimation of oil and gas reserves, future volumes produced and marketed, represent the best estimate from the Company Management of economic and technical conditions over the remaining life of the assets;
- The Company, notably relying on data on global energy demand from the “World Energy Outlook” issued by the IEA since 2016, and on its own supply and demand assessments, determines oil & gas prices scenarios based on assumptions about the evolution of core indicators of the Upstream activity (demand for oil & gas products in different markets, investment forecasts, decline in production fields, changes in oil & gas reserves and supply by area and by nature of oil & gas products), of the Downstream activity (changes in refining capacity and demand for petroleum products) and by integrating climate challenges.
- These price scenarios, first prepared within the Strategy & Markets Division, are also reviewed with the Company segments which bring their own expertise. They also integrate studies issued by international agencies, banks and independent consultants. They are then approved by the Executive Committee and the Board of Directors.
- The IEA 2021 World Energy Outlook anticipates four scenarios that are key references for the Company: the STEPS (Stated Policies Scenario) and APS (Announced Pledges Scenario) for the short/mid-term, the SDS (Sustainable Development Scenario) for the mid/long term and the NZE (Net Zero Emissions by 2050) for the long-term.
- The STEPS only includes climate actions already implemented to date around the world and those under development. The APS also takes into account climate ambitions declared to date in the world, including the NDCs (Nationally Determined Contributions) and carbon neutrality ambitions. The SDS takes into account necessary measures to achieve a temperature rise of less than 2°C compared to pre-industrial levels by 2100, and the energy-related goals set in the “2030 Agenda for Sustainable Development” adopted in 2015 by the UN members. The IEA's NZE is understood as the set of actions to be taken to be compatible with a 1.5°C scenario in 2050 (without overshooting). This normative scenario does not predict oil demand in the short and medium term, and therefore the price scenarios it proposes, particularly in the short and medium term, do not include a "realistic" evolution of demand. In fact, this scenario predicts that oil demand will fall by 30% between 2020 and 2030, whereas, according to the Company's projections and those of most energy companies and consultants, demand will stabilize between 2025 and 2030, before declining from 2030 onwards.
- Beyond the 2020-2030 decade, the oil price trajectory retained by the Company converges in the mid-term, i.e. by 2040, towards the $\$50_{2022}$/b price retained by the IEA's SDS scenario, compatible with the Paris Agreement. In the long term, beyond 2040, the Company's price trajectory converges towards the price retained in 2050 by the IEA's NZE scenario, i.e. $\$25_{2022}$/b; the prices retained for gas, the transition fuel, stabilize between now and 2025 and until 2040 at lower levels than the current prices and converge towards the IEA's NZE scenario prices in 2050.

The oil price trajectories adopted by the Company are based on the following assumptions:

- The recession observed in 2020 due to the health crisis has strongly affected oil demand in 2020 and early 2021. It should gradually return to its pre-crisis level in 2022 and then continue to grow until 2030, in a context of sustained growth in global energy demand. Indeed, population growth and rising living standards, particularly in emerging countries, are expected to support oil consumption, despite the gradual electrification of transport and efficiency gains in combustion engines, mainly in developed countries. The Company maintains its analysis, that the weakness of investment in oil upstream since 2015, accentuated by the health and economic crisis of 2020, will result by 2025 in insufficient worldwide production capacities. Thus, the Brent price scenario used to determine the value in use of the CGUs is as follows: $\$60_{2022}$/b in 2022, $\$63_{2022}$/b in 2023, $\$67_{2022}$/b in 2024 and then a stabilization at $\$70_{2022}$/b from 2025 to 2030.
- Beyond 2030, given technological developments, particularly in the transport sector, oil demand should have reached its peak and the selected price scenario decreases linearly to reach $\$50_{2022}$/b in 2040, in line with the IEA’s SDS scenario, and then $\$25_{2022}$/b in 2050, in line with the NZE scenario.

The average Brent prices over the period 2022-2050 thus stands at $\$53.9_{2022}$/b.

For natural gas, the transition fuel, the price trajectory adopted by the Company is based on the following assumptions:

- Natural gas demand in 2021 has exceeded its pre-crisis level. However, the Company does not anticipate that record prices of the end of 2021 will persist over time and expects a return to pre-crisis prices during 2022. Thereafter, natural gas demand would be driven by the same fundamentals as oil, plus its substitution for coal in power generation and by its role as an alternative source to mitigate the intermittent use of renewable energies. The abundant global supply and the growth of liquefied natural gas would, however, limit the potential for higher gas prices.

In this context, the gas price level used to determine the value in use of the CGUs concerned is as follows:

- On the NBP quotation (Europe): \$10$_{2022}$/Mbtu in 2022, \$8.8$_{2022}$/Mbtu in 2023, \$7.5$_{2022}$/Mbtu in 2024, then \$6.3$_{2022}$/Mbtu between 2025 and 2040. From 2040 onwards, the price trajectory converges towards the price retained in 2050 by the NZE scenario, i.e. \$3.7$_{2022}$/Mbtu.
- On the Henry Hub quotation (United States): \$2.5$_{2022}$/Mbtu in 2022, then \$2.7$_{2022}$/Mbtu between 2023 and 2040. From 2040 onwards, the price trajectory converges towards the price retained in 2050 by the NZE scenario, i.e. \$2.1$_{2022}$/Mbtu.
- On the DES Japan (Asia) quotation: \$11.5$_{2022}$/Mbtu in 2022, \$10.5$_{2022}$/Mbtu in 2023, \$9.6$_{2022}$/Mbtu in 2024, then \$8.6$_{2022}$/Mbtu between 2025 and 2040. From 2040 onwards, the price trajectory converges towards the price retained in 2050 by the NZE scenario, i.e. \$4.4$_{2022}$/Mbtu.

The future operational costs were determined by taking into account the existing technologies, the fluctuation of prices for petroleum services in line with market developments and the internal cost reduction programs effectively implemented.

The determination of value in use also takes into account a minimum CO_2 cost of \$40/t or the applicable price in a given country, if it is higher. A linear increase of this price to \$100/t in 2030 is assumed. Beyond 2030, the CO_2 price is \$100/t inflated by 2% per year.

The future cash flows are estimated over a period consistent with the life of the assets of the CGUs. They are prepared post-tax and take into account specific risks related to the CGUs' assets. They are discounted using a 7% post-tax discount rate, this rate being the weighted-average cost of TotalEnergies capital estimated from historical market data. This rate was 7% in 2020 and 2019. The value in use calculated by discounting the above post-tax cash flows using a 7% post-tax discount rate is not materially different from the value in use calculated by discounting pre-tax cash flows using a pre-tax discount rate determined by an iterative computation from the post-tax value in use. These pre-tax discount rates generally range from 7% to 14%.

Impairment losses recognized by segment

The CGUs of the Exploration & Production segment are defined as oil and gas fields or groups of oil and gas fields with industrial assets enabling the production, treatment and evacuation of the oil and gas. For the financial year 2021, the Company recorded impairments of assets over CGUs of the Exploration & Production segment for \$(356) million in operating income and \$(500) million in net income, TotalEnergies share. Impairments recognized in 2021 mainly relate to the Company's assets in Myanmar.

As for sensitivities of the Exploration & Production segment:

- a decrease by 1 point in the discount rate would have an impact close to zero in operating income and in net income, TotalEnergies share;
- an increase by 1 point in the discount rate would have an additional negative impact of approximately \$0.3 billion in operating income and \$0.3 billion in net income, TotalEnergies share;
- a decrease of 10% of the oil and gas prices over the duration of the plan (thus an average oil price of around \$48$_{2022}$/b) would have an additional negative impact of approximately \$1.3 billion in operating income and \$0.9 billion in net income, TotalEnergies share.

The most sensitive assets would be the assets already impaired in 2021 or before.

- a decrease of 20% of the oil and gas prices over the duration of the plan (thus an average oil price of around \$43$_{2022}$/b) would have an additional negative impact of approximately \$4.6 billion in operating income and \$3.3 billion in net income, TotalEnergies share.

The most sensitive assets would be the assets already impaired in 2021 or before.

- Taking into account a CO_2 cost of \$100/t from 2022 onwards for all assets would have an additional negative impact of approximately \$0.2 billion on operating income and \$0.1 billion on net income, TotalEnergies share.

The most sensitive assets would be the assets already impaired in 2021 or before.

The CGUs of the Integrated Gas, Renewables & Power segment are subsidiaries or groups of subsidiaries organized by activity or geographical area, and by fields or groups of fields for upstream LNG activities. For the financial year 2021, the Company recorded impairments on CGUs in the Integrated Gas, Renewables & Power segment for \$(342) million in operating income and \$(332) million in net income, TotalEnergies share. Impairments recognized notably relate to the end of the Qatargas 1 contract and unconventional assets in the United States.

As for sensitivities of the Integrated Gas, Renewables & Power segment:

- a decrease by 1 point in the discount rate would have a positive impact of \$0.1 billion in operating income and close to zero in net income, TotalEnergies share;
- an increase by 1 point in the discount rate would have an additional negative impact of approximately \$0.4 billion in operating income and \$0.3 billion in net income, TotalEnergies share;
- a decrease of 10% of the oil and gas prices over the duration of the plan would have an additional negative impact of approximately \$1.6 billion in operating income and \$1.3 billion in net income, TotalEnergies share.

The most sensitive assets would be the assets already impaired in 2021 or before.

- a decrease of 20% of the oil and gas prices over the duration of the plan would have an additional negative impact of approximately \$3.8 billion in operating income and \$4.1 billion in net income, TotalEnergies share.

The most sensitive assets would be the assets already impaired in 2021 or before.

- Taking into account a CO_2 cost of $100/t from 2022 onwards for all assets would have an additional negative impact of approximately $0.1 billion on operating income and close to zero in net income, TotalEnergies share.

The CGUs of the Refining & Chemicals segment are defined as legal entities with operational activities for refining and petrochemicals activities. Future cash flows are based on the gross contribution margin (calculated on the basis of net sales after purchases of crude oil and refined products, the effect of inventory valuation and variable costs). The other activities of the segment are global divisions, each division gathering a set of businesses or homogeneous products for strategic, commercial and industrial plans. Future cash flows are determined from the specific margins of these activities, unrelated to the price of oil. For the financial year 2021, the Company recorded impairments on CGUs in the Refining & Chemicals segment for $(25) million in operating income and $(42) million in net income, TotalEnergies share.

As for sensitivities of the Refining & Chemicals segment:

- an increase by 1 point in the discount rate would have a negative impact of approximately $0.1 billion in operating income and $0.1 billion in net income, TotalEnergies share;
- a decrease of 10% of the refining margins would have a negative impact of approximately $0.6 billion in operating income and $0.6 billion in net income, TotalEnergies share.

The most sensitive assets would be the refining assets in France.

The CGUs of the Marketing & Services segment are subsidiaries or groups of subsidiaries organized by geographical area. For the financial year 2021, the Company recorded impairments on the CGUs of the Marketing & Services segment for $(36) million in operating income and $(36) million in net income, TotalEnergies share.

Impairments recognized in years 2020 and 2019

For the financial year 2020, asset impairments were recorded in the Exploration & Production, Integrated Gas, Renewables & Power, Refining & Chemicals and Marketing & Services segments with an impact of $(3,492) million in operating income and $(2,991) million in net income, TotalEnergies share.

In addition, in 2020, in line with its new Climate Ambition announced on May 5, 2020, which aims at carbon neutrality, the Company had reviewed its oil assets that could be qualified as stranded, meaning with reserves beyond 20 years and high production costs, whose overall reserves may therefore not be produced by 2050. The only projects identified in this category were the Canadian oil sands projects of Fort Hills and Surmont.

The Company had decided to take into account only proved reserves on these two assets – unlike general practice which considers so-called proved and probable reserves. This led to an additional exceptional asset impairment of $(5,460) million in operating income and $(5,474) million in net income, TotalEnergies share.

Overall, asset impairments were recorded for the financial year 2020, for an amount of $(8,952) million in operating income and $(8,465) million in net income, TotalEnergies share, including $(6,988) million on Canadian oil sands assets alone.

These impairments were qualified as adjustment items of the operating income and net income, TotalEnergies share.

For the financial year 2019, the Company recorded impairments in Exploration & Production, Integrated Gas, Renewables & Power, Refining & Chemicals and Marketing & Services segments for an amount of $(920) million in operating income and $(465) million in net income, TotalEnergies share. These impairments were qualified as adjustments items of the operating income and net income, TotalEnergies share.

Note 4 Segment Information by geographical area

(M$)	France	Rest of Europe	North America	Africa	Rest of the world	Total
For the year ended December 31, 2021						
External sales	43,316	85,072	22,998	19,520	34,957	**205,863**
Property, plant and equipment, intangible assets, net	14,204	29,660	12,229	41,593	41,357	**139,043**
Capital expenditures	2,157	3,027	1,680	3,696	6,029	**16,589**
For the year ended December 31, 2020						
External sales	32,748	67,292	13,258	16,011	11,376	**140,685**
Property, plant and equipment, intangible assets, net	14,555	30,932	11,891	43,087	41,398	**141,863**
Capital expenditures	2,044	3,165	899	3,816	5,610	**15,534**
For the year ended December 31, 2019						
External sales	43,877	99,176	19,946	21,303	16,014	**200,316**
Property, plant and equipment, intangible assets, net	13,212	28,765	18,916	45,573	43,120	**149,586**
Capital expenditures	1,979	3,201	1,748	7,663	4,646	**19,237**

Note 5 Main items related to operating activities

Items related to the statement of income

5.1 NET SALES

Accounting principles

IFRS 15 requires identification of the performance obligations for the transfer of goods and services in each contract with customers. Revenue is recognized upon satisfaction of the performance obligations for the amounts that reflect the consideration to which TotalEnergies expects to be entitled in exchange for those goods and services.

Sales of goods

Revenues from sales are recognized when the control has been transferred to the buyer and the amount can be reasonably measured. Revenues from sales of crude oil and natural gas are recorded upon transfer of title, according to the terms of the sales contracts.

Revenues from the production of crude oil and natural gas properties, in which TotalEnergies has an interest with other producers, are recognized based on actual entitlement volumes sold over the period. Any difference between entitlement volumes and volumes sold, based on TotalEnergies net working interest, are recognized in the “Under-lifting” and “Over-lifting” accounts in the balance sheet and in operating expenses in the profit and loss.

Oil and gas delivered quantities that represent production royalties and taxes, when paid in cash, are included in revenues, except for the United States and Canada.

Certain transactions within the trading activities (contracts involving quantities that are purchased from third parties then resold to third parties) are shown at their net value in purchases, net of inventory variation. These transactions relate in particular to crude oil, petroleum products, gas, power and LNG.

Exchanges of crude oil and petroleum products realized within trading activities are shown at their net value in both the statement of income and the balance sheet.

Sales of services

Revenues from services are recognized when the services have been rendered.

Revenues from gas transport are recognized when services are rendered. These revenues are based on the quantities transported and measured according to procedures defined in each service contract.

Shipping revenues and expenses from time-charter activities are recognized on a pro rata basis over a period that commences upon the unloading of the previous voyage and terminates upon the unloading of the current voyage. Shipping revenue recognition starts only when a charter has been agreed to by both TotalEnergies and the customer.

Income related to the distribution of electricity and gas is not recognized in revenues in certain countries because TotalEnergies acts as an agent in this transaction. In these countries, TotalEnergies is not responsible for the delivery and does not set the price of the service, because it can only pass on to the customer the amounts invoiced to it by the distributors.

Excise taxes

Excise taxes are rights or taxes which amount is calculated based on the quantity of oil and gas products put on the market. Excise taxes are determined by the states. They are paid directly to the customs and tax authorities and then invoiced to final customers by being included in the sales price.

The analysis of the criteria set by IFRS 15 led TotalEnergies to determine that it was acting as principal in these transactions. Therefore, sales include excise taxes collected by TotalEnergies within the course of its oil distribution operations. Excise taxes are deducted from sales in order to obtain the “Revenues from sales” indicator.

5.2 OPERATING EXPENSES AND RESEARCH AND DEVELOPMENT

Accounting principles

TotalEnergies applies IFRS 6 “Exploration for and Evaluation of Mineral Resources”. Oil and gas exploration and production properties and assets are accounted for in accordance with the Successful Efforts method.

Geological and geophysical costs, including seismic surveys for exploration purposes are expensed as incurred in exploration costs.

Costs of dry wells and wells that have not found proved reserves are charged to expense in exploration costs.

5.2.1 Operating expenses

For the year ended December 31, (M$)	**2021**	**2020**	**2019**
Purchases, net of inventory variation [(a)] [(b)]	(118,622)	(77,486)	(116,221)
Exploration costs	(740)	(731)	(785)
Other operating expenses [(c)]	(26,894)	(25,538)	(27,255)
of which non-current operating liabilities (allowances) reversals	*1,299*	*778*	*1,152*
of which current operating liabilities (allowances) reversals	*(30)*	*(77)*	*(157)*
OPERATING EXPENSES	**(146,256)**	**(103,755)**	**(144,261)**

(a) Includes taxes paid on oil and gas production in the Exploration & Production segment, amongst others, royalties.
(b) TotalEnergies values under / over lifting at market value.
(c) Principally composed of production and administrative costs (see in particular the payroll costs as detailed in Note 10 to the Consolidated Financial Statements “Payroll, staff and employee benefits obligations").

5.2.2 Research and development costs

Accounting principles

Research costs are charged to expense as incurred.

Development expenses are capitalized when the criteria of IAS 38 are met.

Research and development costs incurred by TotalEnergies in 2021 and booked in operating expenses (excluding depreciations) amount to $824 million ($895 million in 2020 and $968 million in 2019), corresponding to 0.40% of the sales.

The staff dedicated in 2021 to these research and development activities are estimated at 3,830 people (4,088 in 2020 and 4,339 in 2019).

5.3 AMORTIZATION, DEPRECIATION AND IMPAIRMENT OF TANGIBLE ASSETS AND MINERAL INTERESTS

The amortization, depreciation and impairment of tangible assets and mineral interests are detailed as follows:

For the year ended December 31, (M$)	**2021**	**2020**	**2019**
Depreciation and impairment of tangible assets	(12,683)	(21,188)	(14,640)
Amortization and impairment of mineral assets	(873)	(1,076)	(1,091)
TOTAL	**(13,556)**	**(22,264)**	**(15,731)**

Items related to balance sheet

5.4 WORKING CAPITAL

5.4.1 Inventories

Accounting principles

Inventories are measured in the Consolidated Financial Statements at the lower of historical cost or market value. Costs for petroleum and petrochemical products are determined according to the FIFO (First-In, First-Out) method or weighted-average cost method and other inventories are measured using the weighted-average cost method.

In addition stocks held for trading are measured at fair value less cost to sell.

Refining & Chemicals

Petroleum product inventories are mainly comprised of crude oil and refined products. Refined products principally consist of gasoline, distillate and fuel produced by TotalEnergies' refineries. The turnover of petroleum products does not exceed two months on average.

Crude oil costs include raw material and receiving costs. Refining costs principally include crude oil costs, production costs (energy, labor, depreciation of producing assets) and an allocation of production overheads (taxes, maintenance, insurance, etc.).

Costs of chemical product inventories consist of raw material costs, direct labor costs and an allocation of production overheads. Start-up costs, general administrative costs and financing costs are excluded from the costs of refined and chemicals products.

Marketing & Services

The costs of products refined by TotalEnergies' entities include mainly raw materials costs, production costs (energy, labor, depreciation of producing assets), primary costs of transport and an allocation of production overheads (taxes, maintenance, insurance, etc.).

General administrative costs and financing costs are excluded from the cost price of refined products.

Product inventories purchased from entities external to TotalEnergies are valued at their purchase cost plus primary costs of transport.

Carbon dioxide emission rights generated as part of the EU Emission Trading scheme (EU ETS)

In the absence of a current IFRS standard or interpretation on accounting for emission rights of carbon dioxide generated as part of the EU Emission Trading scheme (EU ETS), the following principles are applied:

- Emission rights are managed as a cost of production and as such are recognized in inventories:
- Emission rights allocated for free are booked in inventories with a nil carrying amount;
- Purchased emission rights are booked at acquisition cost;
- Sales or annual surrender of emission rights result in decreases in inventories valued at weighted-average cost;
- If the carrying amount of inventories at closing date is higher than the market value, an impairment loss is recorded.
- If emission rights to be surrendered at the end of the compliance period are higher than emission rights (allocated and purchased), the shortage is accounted for as a liability at market value;
- Forward transactions are recognized at their fair market value in the balance sheet. Changes in the fair value of such forward transactions are recognized in the statement of income.

Energy savings certificates

In the absence of current IFRS standards or interpretations on accounting for energy savings certificates (ESC), the following principles are applied:

- If the obligations linked to the sales of energy are greater than the number of ESC’s held then a liability is recorded. These liabilities are valued based on the price of the last transactions;
- In the event that the number of ESC’s held exceeds the obligation at the balance sheet date this is accounted for as inventory. Otherwise a valuation allowance is recorded ;
- ESC inventories are valued at weighted-average cost (acquisition cost for those ESC’s acquired or cost incurred for those ESC’s generated internally).

If the carrying value of the inventory of certificates at the balance sheet date is higher than the market value, an impairment loss is recorded.

As of December 31, 2021 (M$)	**Gross value**	**Valuation allowance**	**Net value**
Crude oil and natural gas	3,221	(7)	3,214
Refined products	5,411	(50)	5,361
Chemicals products	1,519	(98)	1,421
Trading inventories	6,501	–	6,501
Other inventories	4,538	(1,083)	3,455
TOTAL	**21,190**	**(1,238)**	**19,952**

As of December 31, 2020 (M$)	**Gross value**	**Valuation allowance**	**Net value**
Crude oil and natural gas	1,818	(1)	1,817
Refined products	3,913	(68)	3,845
Chemicals products	1,330	(102)	1,228
Trading inventories	5,130	–	5,130
Other inventories	3,824	(1,114)	2,710
TOTAL	**16,015**	**(1,285)**	**14,730**

As of December 31, 2019 (M$)	**Gross value**	**Valuation allowance**	**Net value**
Crude oil and natural gas	2,381	(14)	2,367
Refined products	5,326	(45)	5,281
Chemicals products	1,448	(91)	1,357
Trading inventories	5,500	–	5,500
Other inventories	3,651	(1,024)	2,627
TOTAL	**18,306**	**(1,174)**	**17,132**

Changes in the valuation allowance on inventories are as follows:

For the year ended December 31, (M$)	**Valuation allowance as of January 1,**	**Increase (net)**	**Currency translation adjustment and other variations**	**Valuation allowance as of December 31,**
2021	**(1,285)**	**(36)**	**83**	**(1,238)**
2020	(1,174)	(85)	(26)	(1,285)
2019	(1,343)	205	(36)	(1,174)

5.4.2 Accounts receivable and other current assets

As of December 31, 2021 (M$)	**Gross value**	**Valuation allowance**	**Net value**
Accounts receivable	**22,776**	**(793)**	**21,983**
Recoverable taxes	3,713	(54)	3,659
Other operating receivables	29,767	(214)	29,553
Prepaid expenses	1,879	–	1,879
Other current assets	53	–	53
Other current assets	**35,412**	**(268)**	**35,144**

As of December 31, 2020 (M$)	**Gross value**	**Valuation allowance**	**Net value**
Accounts receivable	**14,899**	**(831)**	**14,068**
Recoverable taxes	3,598	(67)	3,531
Other operating receivables	8,251	(208)	8,043
Prepaid expenses	1,801	–	1,801
Other current assets	53	–	53
Other current assets	**13,703**	**(275)**	**13,428**

As of December 31, 2019 (M$)	**Gross value**	**Valuation allowance**	**Net value**
Accounts receivable	**19,162**	**(674)**	**18,488**
Recoverable taxes	4,209	(95)	4,114
Other operating receivables	11,746	(240)	11,506
Prepaid expenses	1,336	–	1,336
Other current assets	57	–	57
Other current assets	**17,348**	**(335)**	**17,013**

Changes in the valuation allowance on “Accounts receivable” and “Other current assets” are as follows:

For the year ended December 31, (M$)	**Valuation allowance as of January 1,**	**Increase (net)**	**Currency translation adjustments and other variations**	**Valuation allowance as of December 31,**
Accounts receivable				
2021	**(831)**	**(24)**	**62**	**(793)**
2020	(674)	(107)	(50)	(831)
2019	(624)	(89)	39	(674)
Other current assets				
2021	**(275)**	**(10)**	**17**	**(268)**
2020	(335)	37	23	(275)
2019	(573)	(46)	284	(335)

As of December 31, 2021, the net portion of the overdue receivables included in “Accounts receivable” and “Other current assets” was $4,482 million, of which $2,844 million was due less than 90 days, $260 million was due between 90 days and 6 months, $556 million was due between 6 and 12 months and $823 million was due after 12 months.

As of December 31, 2020, the net portion of the overdue receivables included in “Accounts receivable” and “Other current assets” was $4,197 million, of which $2,140 million was due less than 90 days, $239 million was due between 90 days and 6 months, $553 million was due between 6 and 12 months and $1,265 million was due after 12 months.

As of December 31, 2019, the net portion of the overdue receivables included in “Accounts receivable” and “Other current assets” was $3,760 million, of which $2,089 million was due less than 90 days, $357 million was due between 90 days and 6 months, $402 million was due between 6 and 12 months and $912 million was due after 12 months.

5.4.3 Other creditors and accrued liabilities

As of December 31, (M$)	**2021**	**2020**	**2019**
Accruals and deferred income	3,744	842	522
Payable to States (including taxes and duties)	10,281	5,734	7,438
Payroll	1,481	1,587	1,527
Other operating liabilities	27,294	14,302	16,262
TOTAL	**42,800**	**22,465**	**25,749**

As of December 31, 2021, the heading “Other operating liabilities” notably includes the second quarterly interim dividend for the fiscal year 2021 for $1,974 million, which was paid in January 2022 and the third quarterly interim dividend for the fiscal year 2021 for $1,948 million, which will be paid in April 2022.

As of December 31, 2020, the heading “Other operating liabilities” notably included the second quarterly interim dividend for the fiscal year 2020 for $2,129 million, which was paid in January 2021 and the third quarterly interim dividend for the fiscal year 2020 for $2,149 million, which was paid in April 2021.

As of December 31, 2019, the heading "Other operating liabilities" notably included the second quarterly interim dividend for the fiscal year 2019 for $1,918 million, which was paid in January 2020 and the third quarterly interim dividend for the fiscal year 2019 for $2,038 million, which was paid in April 2020.

Items related to the cash flow statement

5.5 CASH FLOW FROM OPERATING ACTIVITIES

Accounting principles

The Consolidated Statement of Cash Flows prepared in currencies other than dollar has been translated into dollars using the exchange rate on the transaction date or the average exchange rate for the period. Currency translation differences arising from the translation of monetary assets and liabilities denominated in foreign currency into dollars using the closing exchange rates are shown in the Consolidated Statement of Cash Flows under "Effect of exchange rates". Therefore, the Consolidated Statement of Cash Flows will not agree with the figures derived from the Consolidated Balance Sheet.

The following table gives additional information on cash paid or received in the cash flow from operating activities.

Detail of interest, taxes and dividends

For the year ended December 31, (M$)	**2021**	**2020**	**2019**
Interests paid	(1,886)	(2,145)	(2,181)
Interests received	284	197	210
Income tax paid[a]	(4,508)	(2,858)	(5,293)
Dividends received	2,346	1,444	1,988

(a) These amounts include taxes paid in kind under production-sharing contracts in exploration and production activities.

Detail of changes in working capital

For the year ended December 31, (M$)	**2021**	**2020**	**2019**
Inventories	(5,903)	2,274	(2,071)
Accounts receivable	(6,788)	4,818	(933)
Other current assets	(21,026)	3,374	(2,001)
Accounts payable	12,073	(5,355)	1,998
Other creditors and accrued liabilities	21,028	(3,242)	1,289
NET AMOUNT, DECREASE (INCREASE)	**(616)**	**1,869**	**(1,718)**

Detail of changes in provisions and deferred taxes

As of December 31, (M$)	**2021**	**2020**	**2019**
Accruals	(467)	350	403
Deferred taxes	1,429	(2,132)	(461)
TOTAL	**962**	**(1,782)**	**(58)**

Note 6 Other items from operating activities

6.1 OTHER INCOME AND OTHER EXPENSE

For the year ended December 31, (M$)	**2021**	**2020**	**2019**
Gains on disposal of assets	890	961	670
Foreign exchange gains	227	746	238
Other	195	530	255
OTHER INCOME	**1,312**	**2,237**	**1,163**
Losses on disposal of assets	(436)	(52)	(56)
Foreign exchange losses	(702)	(320)	(463)
Amortization of other intangible assets (excl. mineral interests)	(448)	(343)	(266)
Other	(731)	(791)	(407)
OTHER EXPENSE	**(2,317)**	**(1,506)**	**(1,192)**

Other income

In 2021, gains on disposal of assets include the sale of interests in onshore Oil Mining Lease 17 in Nigeria in the Exploration & Production segment, the sale of interests in two portfolios of renewable assets in the Gas Renewables & Power segment, and the sale of a part of TotalEnergies' investment in Trapil in the Refining & Chemicals and Marketing & Services segments

In 2020, gains on disposal of assets mainly related to the sale of non-strategic assets in the British North Sea in the Exploration & Production segment, to the sale of TotalEnergies' interest in the Fos Cavaou regasification terminal in France and the sale of infrastructure assets in the Integrated Gas Renewables & Power segment, as well as to the sale of real estate in Belgium in the Holding segment.

In 2019, gains on disposal of assets mainly related to the sale of assets and interests in Norway in the Exploration & Production segment, to the sale of Hazira and SunPower assets in the Integrated Gas Renewables & Power segment and the sale of assets in China in the Refining & Chemicals segment.

Other expense

In 2021, the losses on disposal are mainly related to the sale of the Utica asset in the United States as well as the sale of interests in non-operated assets and the Cap Lopez oil terminal in Gabon in the Exploration & Production segment. The heading “Other” mainly consists of the restructuring charges in the Exploration & Production, Refining & Chemicals, Marketing & Services and Holding segments for an amount of $288 million, and of the impairment of non-consolidated shares and provision for financial risks for $238 million.

In 2020, the heading “Other” notably consisted of restructuring charges in the Exploration & Production, Integrated Gas Renewables & Power and Refining & Chemicals segments for an amount of $312 million, and of the impairment of non-consolidated shares and loans granted to non-consolidated subsidiaries for an amount of $64 million.

In 2019, the heading “Other” notably consisted of restructuring charges in the Exploration & Production, Integrated Gas Renewables & Power and Refining & Chemicals segments for an amount of $96 million, and of the revaluation at fair value of non-consolidated shares for $94 million.

6.2 OTHER FINANCIAL INCOME AND EXPENSE

As of December 31, (M$)	**2021**	**2020**	**2019**
Dividend income on non-consolidated subsidiaries	203	160	178
Capitalized financial expenses	134	110	227
Other	425	644	387
OTHER FINANCIAL INCOME	**762**	**914**	**792**
Accretion of asset retirement obligations	(449)	(607)	(639)
Other	(90)	(83)	(125)
OTHER FINANCIAL EXPENSE	**(539)**	**(690)**	**(764)**

6.3 OTHER NON-CURRENT ASSETS

As of December 31, 2021 (M$)	**Gross value**	**Valuation allowance**	**Net value**
Loans and advances [(a)]	2,364	(257)	2,107
Other non-current financial assets related to operational activities	312	–	312
Other	378	–	378
TOTAL	**3,054**	**(257)**	**2,797**

As of December 31, 2020 (M$)	**Gross value**	**Valuation allowance**	**Net value**
Loans and advances [(a)]	2,731	(273)	2,458
Other non-current financial assets related to operational activities	287	–	287
Other	65	–	65
TOTAL	**3,083**	**(273)**	**2,810**

As of December 31, 2019 (M$)	**Gross value**	**Valuation allowance**	**Net value**
Loans and advances [(a)]	2,248	(266)	1,982
Other non-current financial assets related to operational activities	332	–	332
Other	101	–	101
TOTAL	**2,681**	**(266)**	**2,415**

(a) Excluding loans to equity affiliates.

Changes in the valuation allowance on loans and advances are detailed as follows:

For the year ended December 31, (M$)	**Valuation allowance as of January 1,**	**Increases**	**Decreases**	**Currency translation adjustment and other variations**	**Valuation allowance as of December 31,**
2021	**(273)**	**(6)**	**14**	**8**	**(257)**
2020	(266)	(30)	15	8	(273)
2019	(303)	(7)	43	1	(266)

Note 7 Intangible and tangible assets

7.1 INTANGIBLE ASSETS

Accounting principles

Goodwill

Guidance for measuring goodwill is presented in Note 1.1 paragraph B to the Consolidated Financial Statements. Goodwill is not amortized but is tested for impairment at least annually and as soon as there is any indication of impairment.

Mineral interests

Unproved mineral interests are tested for impairment based on the results of the exploratory activity or as part of the impairment tests of the cash-generating units to which they are allocated.

Unproved mineral interests are transferred to proved mineral interests at their net book value as soon as proved reserves are booked.

Proved mineral interests are depreciated using the unit-of-production method based on proved reserves.

The corresponding expense is recorded as depreciation of tangible assets and mineral interests.

Other intangible assets

Other intangible assets include patents, and trademarks.

Intangible assets are carried at cost, after deducting any accumulated amortization and accumulated impairment losses.

Intangible assets (excluding mineral interests) that have a finite useful life are amortized on a straight-line basis over three to twenty years depending on the useful life of the assets. The corresponding depreciation expense is recorded under other expense.

As of December 31, 2021 (M$)	**Cost**	**Amortization and impairment**	**Net**
Goodwill	9,728	(899)	8,829
Proved mineral interests	17,382	(9,730)	7,652
Unproved mineral interests	16,637	(2,831)	13,806
Other intangible assets	7,185	(4,988)	2,197
TOTAL INTANGIBLE ASSETS	**50,932**	**(18,448)**	**32,484**

As of December 31, 2020 (M$)	**Cost**	**Amortization and impairment**	**Net**
Goodwill	9,738	(931)	8,807
Proved mineral interests	16,559	(9,595)	6,964
Unproved mineral interests	20,300	(4,790)	15,510
Other intangible assets	7,212	(4,965)	2,247
TOTAL INTANGIBLE ASSETS	**53,809**	**(20,281)**	**33,528**

As of December 31, 2019 (M$)	**Cost**	**Amortization and impairment**	**Net**
Goodwill	9,357	(1,011)	8,346
Proved mineral interests	15,966	(8,741)	7,225
Unproved mineral interests	20,138	(4,558)	15,580
Other intangible assets	5,743	(3,716)	2,027
TOTAL INTANGIBLE ASSETS	**51,204**	**(18,026)**	**33,178**

Change in net intangible assets is analyzed in the following table:

(M$)	**Net amount as of January 1,**	**Expenditures**	**Disposals**	**Amortization and impairment**	**Currency translation adjustment**	**Other**	**Net amount as of December 31,**
2021	**33,528**	**696**	**(271)**	**(1,322)**	**(394)**	**247**	**32,484**
2020	33,178	784	(277)	(1,430)	305	968	33,528
2019	28,922	1,087	(118)	(1,359)	(95)	4,741	33,178

In 2021, the heading “Amortization and impairment" includes the accounting impact of exceptional asset impairments for an amount of $253 million, notably relating to the end of the Qatargas 1 licence agreement and unconventional assets in the United States (see note 3 paragraph D to the Consolidated Financial Statements).

In 2021, the heading “Other” mainly reflects changes in the consolidation scope (including the acquisition of Blue Raven Solar for $140 million and Fonroche Biogaz for $89 million).

In 2020, the heading “Amortization and impairment" included the accounting impact of exceptional asset impairments for an amount of $323 million (see note 3 paragraph D to the Consolidated Financial Statements).

In 2020, the heading “Other” mainly reflected changes in the consolidation scope (including the acquisition of the residential gas and electricity supply business in Spain) for $898 million.

In 2019, the heading “Amortization and impairment" included the accounting impact of exceptional asset impairments for an amount of $251 million (see note 3 paragraph D to the Consolidated Financial Statements).

In 2019, the heading "Other" mainly reflected changes in the consolidation scope (including the assets of Anadarko in Mozambique) for $3,887 million.

A summary of changes in the carrying amount of goodwill by business segment for the year ended December 31, 2021 is as follows:

(M$)	Net goodwill as of January 1, 2021	Increases	Impairments	Other	Net goodwill as of December 31, 2021
Integrated Gas, Renewables & Power	5,247	215	–	(219)	5,243
Exploration & Production	2,638	–	–	(26)	2,612
Refining & Chemicals	534	–	–	(15)	519
Marketing & Services	357	45	–	24	426
Corporate	31	-	–	(2)	29
TOTAL	**8,807**	**260**	**–**	**(238)**	**8,829**

The heading “Increases” includes the effect of entries in the consolidation scope, mainly the acquisition of Blue Raven Solar for $126 million, and the acquisition of Fonroche Biogaz for $89 million.

7.2 PROPERTY, PLANT AND EQUIPMENT

Accounting principles

Exploration costs

TotalEnergies applies IFRS 6 “Exploration for and Evaluation of Mineral Resources”. Oil and gas exploration and production properties and assets are accounted for in accordance with the Successful Efforts method.

Exploratory wells are capitalized and tested for impairment on an individual basis as follows:

- Costs of exploratory wells which result in proved reserves are capitalized and then depreciated using the unit-of-production method based on proved developed reserves;
- Costs of exploratory wells are capitalized as work in progress until proved reserves have been found, if both of the following conditions are met:
  - The well has found a sufficient quantity of reserves to justify, if appropriate, its completion as a producing well, assuming that the required capital expenditures are made;
  - TotalEnergies is making sufficient progress assessing the reserves and the economic and operating viability of the project. This progress is evaluated on the basis of indicators such as whether additional exploratory works are under way or firmly planned (wells, seismic or significant studies), whether costs are being incurred for development studies and whether TotalEnergies is waiting for governmental or other third-party authorization on a proposed project, or availability of capacity on an existing transport or processing facility.

Costs of exploratory wells not meeting these conditions are charged to exploration costs.

Oil and Gas production assets of exploration and production activities

Development costs of oil and gas production facilities are capitalized. These costs include borrowing costs incurred during the period of construction and the present value of estimated future costs of asset retirement obligations.

The depletion rate of development wells and of production assets is equal to the ratio of oil and gas production for the period to proved developed reserves (unit-of-production method).

In the event that, due to the price effect on reserves evaluation, the unit-of-production method does not reflect properly the useful life of the asset, an alternative depreciation method is applied based on the reserves evaluated with the price of the previous year. This was the case for fiscal year 2020 where the method of unit-of-production depreciation was applied to all assets over 2020 based on proved reserves measured with the price used in 2019. As of December 31, 2021, this alternative method is no longer applied as, given the price used to assess the reserves, the unit-of-production method correctly reflects the useful life of the assets.

With respect to phased development projects or projects subject to progressive well production start-up, the fixed assets’ depreciable amount, excluding production or service wells, is adjusted to exclude the portion of development costs attributable to the undeveloped reserves of these projects.

With respect to production sharing contracts, the unit-of-production method is based on the portion of production and reserves assigned to TotalEnergies taking into account estimates based on the contractual clauses regarding the reimbursement of exploration, development and production costs (cost oil/gas) as well as the sharing of hydrocarbon rights after deduction of cost oil (profit oil/gas).

Hydrocarbon transportation and processing assets are depreciated using the unit-of-production method based on throughput or by using the straight-line method whichever best reflects the economic life of the asset.

Other property, plant and equipment

Other property, plant and equipment are carried at cost, after deducting any accumulated depreciation and accumulated impairment losses. This cost includes borrowing costs directly attributable to the acquisition or production of a qualifying asset incurred until assets are placed in service. Borrowing costs are capitalized as follows:

- if the project benefits from a specific funding, the capitalization of borrowing costs is based on the borrowing rate;
- if the project is financed by all TotalEnergies' debt, the capitalization of borrowing costs is based on the weighted average borrowing cost for the period.

Routine maintenance and repairs are charged to expense as incurred. The costs of major turnarounds of refineries and large petrochemical units are capitalized as incurred and depreciated over the period of time between two consecutive major turnarounds.

Other property, plant and equipment are depreciated using the straight-line method over their useful lives, which are as follows:

• Furniture, office equipment, machinery and tools	3-12 years
• Transportation equipment	5-20 years
• Storage tanks and related equipment	10-15 years
• Specialized complex installations and pipelines	10-30 years
• Buildings	10-50 years

As of December 31, 2021 (M$)	**Cost**	**Depreciation and impairment**	**Net**
Property, plant and equipment of exploration and production activities			
Proved properties	212,264	(149,221)	63,043
Unproved properties	1,635	(268)	1,367
Work in progress	18,463	(831)	17,632
Subtotal	**232,362**	**(150,320)**	**82,042**
Other property, plant and equipment			
Land	3,145	(973)	2,172
Machinery, plant and equipment (including transportation equipment)	38,285	(26,425)	11,860
Buildings	10,558	(6,646)	3,912
Work in progress	3,625	(8)	3,617
Other	10,434	(7,478)	2,956
Subtotal	**66,047**	**(41,530)**	**24,517**
TOTAL PROPERTY, PLANT AND EQUIPMENT	**298,409**	**(191,850)**	**106,559**

As of December 31, 2020 (M$)	**Cost**	**Depreciation and impairment**	**Net**
Property, plant and equipment of exploration and production activities			
Proved properties	215,892	(147,914)	67,978
Unproved properties	2,978	(268)	2,710
Work in progress	13,873	(861)	13,012
Subtotal	**232,743**	**(149,043)**	**83,700**
Other property, plant and equipment			
Land	2,999	(905)	2,094
Machinery, plant and equipment (including transportation equipment)	39,506	(27,381)	12,125
Buildings	11,184	(6,858)	4,326
Work in progress	3,063	(1)	3,062
Other	10,983	(7,955)	3,028
Subtotal	**67,735**	**(43,100)**	**24,635**
TOTAL PROPERTY, PLANT AND EQUIPMENT	**300,478**	**(192,143)**	**108,335**

As of December 31, 2019 (M$)	**Cost**	**Depreciation and impairment**	**Net**
Property, plant and equipment of exploration and production activities			
Proved properties	210,071	(130,134)	79,937
Unproved properties	2,160	(288)	1,872
Work in progress	12,056	(569)	11,487
Subtotal	**224,287**	**(130,991)**	**93,296**
Other property, plant and equipment			
Land	2,826	(792)	2,034
Machinery, plant and equipment (including transportation equipment)	36,747	(25,548)	11,199
Buildings	10,519	(6,032)	4,487
Work in progress	2,501	(2)	2,499
Other	10,137	(7,244)	2,893
Subtotal	**62,730**	**(39,618)**	**23,112**
TOTAL PROPERTY, PLANT AND EQUIPMENT	**287,017**	**(170,609)**	**116,408**

Change in net property, plant and equipment is analyzed in the following table:

(M$)	**Net amount as of January 1,**	**Expenditures**	**Disposals**	**Depreciation and impairment**	**Currency translation adjustment**	**Other**	**Net amount as of December 31,**
2021	**108,335**	**11,647**	**(705)**	**(13,133)**	**(1,739)**	**2,154**	**106,559**
2020	116,408	9,980	(611)	(21,544)	1,706	2,396	108,335
2019	113,324	11,426	(1,052)	(15,097)	(270)	8,077	116,408

In 2021, the heading “Disposals” mainly includes the sale of non-operated assets in Gabon for $397 million.

In 2021, the heading “Depreciation and impairment” includes the impact of impairments of assets recognized for an amount of $615 million including the Company's assets in Myanmar and unconventional assets in the United States (see Note 3 paragraph D to the Consolidated Financial Statements).

In 2021, the heading “Other” includes the impact of changes in the consolidation scope, and the impact of the new IFRS 16 contracts of the period (mainly new chartering contracts) for an amount of $1,786 million.

In 2020, the heading “Disposals” mainly included the sale of non strategic assets in the United Kingdom for $240 million.

In 2020, the heading “Depreciation and impairment” included the impact of impairments of assets recognized for an amount of $8,629 million (see Note 3 paragraph D to the Consolidated Financial Statements).

In 2020, the heading “Other” included the impact of changes in the consolidation scope, the impact of the new IFRS 16 contracts of the period (mainly LNG carriers and FPSO vessels) for an amount of $1,815 million, and the reversal of the reclassification under IFRS 5 as at December 31, 2019 for $434 million corresponding to disposals (mainly non strategic assets in the United Kingdom and Total E&P Deep Offshore Borneo BV).

In 2019, the heading "Disposals" mainly included the impact of the 4% sale of Ichthys LNG in Australia.

In 2019, the heading "Depreciation and impairment" included the impact of impairments of assets recognized for an amount of $669 million (see Note 3 paragraph D to the Consolidated Financial Statements).

In 2019, the heading "Other" principally corresponded to the effect of the first application of IFRS 16 for an amount of $5,698 million, the entries in the consolidation scope (including Anadarko assets for $767 million), and the reversal of the reclassification under IFRS 5 as at December 31, 2018 for $812 million corresponding to disposals.

Following the application of IFRS 16 “Leases”, property, plant and equipment as at December 31, 2021, 2020 and 2019 presented above include the following amounts for rights of use of assets:

As of December 31, 2021 (M$)	**Cost**	**Depreciation and impairment**	**Net**
Property, plant and equipment of exploration and production activities	3,228	(1,683)	1,545
Other property, plant and equipment			
Land	1,441	(324)	1,117
Machinery, plant and equipment (including transportation equipment)	4,910	(1,819)	3,091
Buildings	1,853	(561)	1,292
Other	712	(404)	308
Subtotal	**8,916**	**(3,108)**	**5,808**
TOTAL PROPERTY, PLANT AND EQUIPMENT	**12,144**	**(4,791)**	**7,353**

As of December 31, 2020 (M$)	**Cost**	**Depreciation and impairment**	**Net**
Property, plant and equipment of exploration and production activities	2,758	(1,297)	1,461
Other property, plant and equipment			
Land	1,187	(222)	965
Machinery, plant and equipment (including transportation equipment)	4,606	(1,631)	2,975
Buildings	1,778	(385)	1,393
Other	682	(286)	396
Subtotal	**8,253**	**(2,524)**	**5,729**
TOTAL PROPERTY, PLANT AND EQUIPMENT	**11,011**	**(3,821)**	**7,190**

As of December 31, 2019 (M$)	**Cost**	**Depreciation and impairment**	**Net**
Property, plant and equipment of exploration and production activities	2,482	(517)	1,965
Other property, plant and equipment			
Land	1,031	(104)	927
Machinery, plant and equipment (including transportation equipment)	3,527	(999)	2,528
Buildings	1,545	(201)	1,344
Other	483	(134)	349
Subtotal	**6,586**	**(1,438)**	**5,148**
TOTAL PROPERTY, PLANT AND EQUIPMENT	**9,068**	**(1,955)**	**7,113**

Note 8 Equity affiliates, other investments and related parties

8.1 EQUITY AFFILIATES: INVESTMENTS AND LOANS

Accounting principles

Under the equity method, the investment in the associate or joint venture is initially recognized at acquisition cost and subsequently adjusted to recognize TotalEnergies’ share of the net income and other comprehensive income of the associate or joint venture.

Unrealized gains on transactions between TotalEnergies and its equity-accounted entities are eliminated to the extent of TotalEnergies’ interest in the equity accounted entity.

In equity affiliates, goodwill is included in investment book value.

In cases where TotalEnergies holds less than 20% of the voting rights in another entity, the determination of whether TotalEnergies exercises significant influence is also based on other facts and circumstances: representation on the Board of Directors or an equivalent governing body of the entity, participation in policy-making processes, including participation in decisions relating to dividends or other distributions, significant transactions between the investor and the entity, exchange of management personnel, or provision of essential technical information.

The contribution of equity affiliates in the consolidated balance sheet, consolidated statement of income and consolidated statement of comprehensive income is presented below:

Equity value **As of December 31,** (M$)	**2021**	**2020**	**2019**
Total Associates	17,244	15,745	17,026
Total Joint ventures	9,277	7,102	6,097
Total	**26,521**	**22,847**	**23,123**
Loans	4,532	5,129	3,999
TOTAL	**31,053**	**27,976**	**27,122**

Profit/(loss) (M$)	**2021**	**2020**	**2019**
Total Associates	1,186	753	2,534
Total Joint ventures	2,252	(301)	872
TOTAL	**3,438**	**452**	**3,406**

Other comprehensive income

(M$)	2021	2020	2019
Total Associates	734	(1,704)	592
Total Joint ventures	(28)	(127)	(184)
TOTAL	**706**	**(1,831)**	**408**

A) Information related to associates

Information (100% gross) related to significant associates is as follows:

Exploration & production activites	Novatek[a]			Liquefaction entities			PetroCedeño[a]	
(M$)	2021	2020	2019	2021	2020	2019	2020	2019
Non current assets	26,954	23,748	24,081	39,348	34,273	30,578	4,008	3,994
Current assets	8,208	4,170	6,898	11,075	7,537	9,994	6,428	7,457
TOTAL ASSETS	**35,162**	**27,918**	**30,979**	**50,423**	**41,810**	**40,572**	**10,436**	**11,451**
Shareholder's equity	25,944	22,160	24,884	23,867	23,403	23,640	4,548	4,548
Non current liabilities	3,246	3,164	3,727	19,659	13,608	11,445	73	76
Current liabilities	5,972	2,594	2,368	6,897	4,799	5,487	5,815	6,827
TOTAL LIABILITIES	**35,162**	**27,918**	**30,979**	**50,423**	**41,810**	**40,572**	**10,436**	**11,451**
Revenue from sales	15,876	9,733	13,227	23,243	15,584	22,684	66	356
Net income	**5,871**	**1,759**	**8,260**	**8,056**	**2,416**	**5,692**	**–**	**(33)**
Other comprehensive income	**(82)**	**(3,206)**	**1,807**	**–**	**–**	**–**	**–**	**–**
% owned	19.40 %	19.40 %	19.40 %				30.32 %	30.32 %
Equity value	6,243	5,596	6,469	5,582	5,534	5,493	1,379	1,379
Including goodwill and identifiable assets	1,210	1,297	1,641	1,832	1,837	1,714	–	–
Profit/(loss)	1,065	264	1,508	1,024	237	637	–	(10)
Share of Other Comprehensive Income, net amount	446	(1,409)	634	85	(122)	23	–	–
Dividends paid to TotalEnergies	387	229	266	817	406	752	–	–

(a) Information includes the best Company's estimates of results at the date of TotalEnergies' financial statements.

Novatek, listed in Moscow and London, is the 2nd largest producer of natural gas in Russia. TotalEnergies' share of Novatek's market value amounted to $13,452 million as at December 31, 2021. Novatek is consolidated by the equity method. TotalEnergies exercises significant influence particularly through its representation on the Board of Directors of Novatek and its interest in Yamal LNG and the project Arctic LNG 2.

TotalEnergies is not aware of significant restrictions limiting the ability of OAO Novatek to transfer funds to its shareholder, be it under the form of dividends, repayment of advances or loans made.

TotalEnergies' interests in associates operating liquefaction plants are combined. The amounts include investments in: Nigeria LNG (15.00%), TotalEnergies LNG Angola (13.60%), Yemen LNG (39.62%), Qatar Liquefied Gas Company Limited (Qatargas) (10.00%), Qatar Liquefied Gas Company Limited II (16.70%), Oman LNG (5.54%), and Abu Dhabi Gas Liquefaction Company Limited (5.00%), Arctic LNG 2 (10.00%).

TotalEnergies' stake in PetroCedeño was sold in July 2021.

Renewables and Electricity activities	Adani Green Energy Limited[b]
(M$)	2021
Non current assets	6,223
Current assets	1,042
TOTAL ASSETS	**7,265**
Shareholder's equity	316
Non current liabilities	5,560
Current liabilities	1,389
TOTAL LIABILITIES	**7,265**
Revenue from sales	545
Net income	**35**
Other comprehensive income	**(10)**
% owned	20.00 %
Equity value	2,102
including goodwill and identifiable assets	2,039
Profit/(loss)	7
Share of Other Comprehensive Income, net amount	6
Dividends paid to TotalEnergies	–

(b) Interest acquired in 2021

Refining & Chemicals activities (M$)	Saudi Aramco Total Refining & Petrochemicals 2021	2020	2019	Qatar 2021	2020	2019
Non current assets	10,264	10,698	10,976	3,909	4,105	4,160
Current assets	2,221	1,211	1,793	1,908	1,521	1,571
TOTAL ASSETS	**12,485**	**11,909**	**12,769**	**5,817**	**5,626**	**5,731**
Shareholder’s equity	1,164	1,256	2,113	2,693	2,717	2,676
Non current liabilities	7,322	7,994	8,098	1,906	2,171	2,150
Current liabilities	3,999	2,659	2,558	1,218	738	905
TOTAL LIABILITIES	**12,485**	**11,909**	**12,769**	**5,817**	**5,626**	**5,731**
Revenue from sales	11,123	6,031	10,522	9,266	5,222	8,225
Net income	**(245)**	**(686)**	**(171)**	**649**	**91**	**42**
Other comprehensive income	**155**	**(171)**	**(124)**	**(5)**	**–**	**111**
% owned	37.50 %	37.50 %	37.50 %			
Equity value	437	471	792	693	716	706
including goodwill and identifiable assets	–	–	–	–	–	–
Profit/(loss)	(92)	(257)	(64)	174	57	91
Share of Other Comprehensive Income, net amount	116	(128)	(33)	13	(16)	14
Dividends paid to TotalEnergies	–	–	–	199	63	159

Saudi Aramco Total Refining & Petrochemicals is an entity including a refinery in Jubail, Saudi Arabia, with a capacity of 460,000 barrels/day with integrated petrochemical units.

The TotalEnergies’ interests in associates of the Refining & Chemicals segment, operating steam crackers and polyethylene lines in Qatar have been combined: Qatar Petrochemical Company Ltd. (20.00%), Qatofin (49.09%), Laffan Refinery (10.00%) and Laffan Refinery II (10.00%).

B) Information related to joint ventures

The information (100% gross) related to significant joint ventures is as follows:

(M$)	Liquefaction entities (Integrated Gas, Renewables & Power) 2021	2020	2019	Hanwha Total Petrochemicals (Refining & Chemicals) 2021	2020	2019
Non current assets	66,924	70,425	70,279	4,443	4,664	4,310
Current assets excluding cash and cash equivalents	2,912	1,513	1,866	2,117	1,575	1,842
Cash and cash equivalents	2,312	1,834	1,678	151	303	322
TOTAL ASSETS	**72,148**	**73,772**	**73,823**	**6,711**	**6,542**	**6,474**
Shareholder’s equity	9,956	4,433	7,151	3,538	3,443	3,319
Other non current liabilities	8,205	8,259	6,864	164	167	150
Non current financial debts	50,920	58,128	56,379	1,241	1,703	1,761
Other current liabilities	3,067	2,952	3,429	1,055	583	756
Current financial debts	–	–	–	713	646	488
TOTAL LIABILITIES	**72,148**	**73,772**	**73,823**	**6,711**	**6,542**	**6,474**
Revenue from sales	14,380	8,543	9,240	8,600	5,734	8,437
Depreciation and depletion of tangible assets and mineral interests	(3,058)	(3,130)	(3,040)	(312)	(278)	(256)
Interest income	–	2	5	–	–	–
Interest expense	(2,599)	(2,972)	(2,993)	(44)	(2)	(14)
Income taxes	(1,448)	77	(270)	(222)	(69)	(124)
Net income	**5,600**	**(2,399)**	**383**	**620**	**133**	**302**
Other comprehensive income	**323**	**(323)**	**(429)**	**(308)**	**194**	**(116)**
% owned				50.00 %	50.00 %	50.00 %
Equity value	2,725	1,602	2,318	1,769	1,721	1,660
including goodwill and identifiable assets	502	546	660	–	–	–
Profit/(loss)	1,119	(633)	(19)	310	67	150
Share of Other Comprehensive Income, net amount	84	(84)	(112)	(150)	87	(68)
Dividends paid to TotalEnergies	81	–	–	109	102	200

TotalEnergies’ interests in joint ventures operating liquefaction plants have been combined. The amounts include investments in Yamal LNG in Russia (20.02% direct holding) and Ichthys LNG in Australia (26.00%).

Hanwha Total Petrochemicals is a South Korean company that operates a petrochemical complex in Daesan (condensate separator, steam cracker, styrene, paraxylene, polyolefins).

Off balance sheet commitments relating to joint ventures are disclosed in Note 13 of the Consolidated Financial Statements.

C) Other equity consolidated affiliates

In TotalEnergies share, the main aggregated financial items in equity consolidated affiliates including assets held for sale, which have not been presented individually are as follows:

As of December 31, (M$)	2021 Associates	2021 Joint ventures	2020 Associates	2020 Joint ventures	2019 Associates	2019 Joint ventures
Non Current assets	5,987	9,745	5,454	7,002	5,435	4,287
Current assets	1,849	1,799	1,299	1,671	1,357	1,276
TOTAL ASSETS	**7,836**	**11,544**	**6,753**	**8,673**	**6,792**	**5,563**
Shareholder's equity	1,366	2,531	1,183	1,963	1,405	1,437
Non current liabilities	5,455	7,460	4,881	5,469	4,412	3,091
Current liabilities	1,015	1,553	689	1,241	975	1,035
TOTAL LIABILITIES	**7,836**	**11,544**	**6,753**	**8,673**	**6,792**	**5,563**

For the year ended December 31, (M$)	2021 Associates	2021 Joint ventures	2020 Associates	2020 Joint ventures	2019 Associates	2019 Joint ventures
Revenues from sales	2,450	4,850	2,154	3,116	2,190	3,535
NET INCOME	**514**	**381**	**478**	**202**	**383**	**288**
Share of other comprehensive income items	68	38	(29)	(130)	(46)	(4)
Equity value	2,188	4,782	2,049	3,779	2,187	2,119
Profit/(Loss)	(992)	823	452	265	372	741
Dividends paid to TotalEnergies	498	96	409	59	362	50

8.2 OTHER INVESTMENTS

Accounting principles

Other investments are equity instruments and are measured according to IFRS 9 at fair value through profit and loss (default option). On initial recognition, the standard allows to make an election to record the changes of fair value in other comprehensive income. For these equity instruments, only dividends can be recognized in profit or loss.

TotalEnergies recognizes changes in fair value in equity or in profit or loss according to the option chosen on an instrument by instrument basis.

For quoted shares on active markets, this fair value is based on the market price.

As of December 31, 2021 (M$)	As of January 1, 2021	Increase - Decrease	Change in fair value	As of December 31, 2021
Enphase Energy Inc	613	(177)	21	457
Tellurian Investments Inc.	57	(111)	54	–
Other shares through fair value OCI (unit value < $50M)	113	12	(9)	116
Equity instruments recorded through fair value OCI	**783**	**(276)**	**66**	**573**
BBPP	58	(58)	–	–
BTC Limited	27	–	(13)	14
Other shares through fair value P&L (unit value < $50M)	1,139	(106)	5	1,038
Equity instruments recorded through fair value P&L	**1,224**	**(164)**	**(8)**	**1,052**
TOTAL EQUITY INSTRUMENTS	**2,007**	**(440)**	**58**	**1,625**

As of December 31, 2020 (M$)	As of January 1, 2020	Increase - Decrease	Change in fair value	As of December 31, 2020
Enphase Energy Inc	173	(251)	691	613
Tellurian Investments Inc.	207	(1)	(149)	57
Other shares through fair value OCI (unit value < $50M)	126	(4)	(9)	113
Equity instruments recorded through fair value OCI	**506**	**(256)**	**533**	**783**
BBPP	62	(4)	–	58
BTC Limited	28	–	(1)	27
Tas Helat Marketing Company [(a)]	108	(108)	–	–
Other shares through fair value P&L (unit value < $50M)	1,074	84	(19)	1,139
Equity instruments recorded through fair value P&L	**1,272**	**(28)**	**(20)**	**1,224**
TOTAL EQUITY INSTRUMENTS	**1,778**	**(284)**	**513**	**2,007**

(a) Tas Helat Marketing Company is a joint venture with SAUDI ARAMCO to develop the retail business. It was consolidated in 2020 (using the equity method).

As of December 31, 2019 (M$)	**As of January 1, 2019**	**Increase - Decrease**	**Change in fair value**	**As of December 31, 2019**
Enphase Energy Inc	36	(5)	142	173
Tellurian Investments Inc.	207	–	–	207
Other shares through fair value OCI (unit value < $50M)	119	7	–	126
Equity instruments recorded through fair value OCI	**362**	**2**	**142**	**506**
BBPP	62	–	–	62
BTC Limited	50	–	(22)	28
Tas Helat Marketing Company [(a)]	–	108	–	108
Total Lubrificantes do Brasil[(b)]	111	(111)	–	–
Other shares through fair value P&L (unit value < $50M)	836	238	–	1,074
Equity instruments recorded through fair value P&L	**1,059**	**235**	**(22)**	**1,272**
TOTAL EQUITY INSTRUMENTS	**1,421**	**237**	**120**	**1,778**

(a) Tas Helat Marketing Company is a joint venture with SAUDI ARAMCO to develop the retail business. It will be consolidated in 2020 (using the equity method).
(b) Total Lubrificantes do Brasil was consolidated in 2019.

8.3 RELATED PARTIES

The main transactions as well as receivable and payable balances with related parties (principally non-consolidated subsidiaries and equity consolidated affiliates) are detailed as follows:

As of December 31, (M$)	**2021**	**2020**	**2019**
Balance sheet			
Receivables			
Debtors and other debtors	809	545	486
Loans (excl. loans to equity affiliates)	113	89	42
Payables			
Creditors and other creditors	1,347	662	968
Debts	2	3	2

For the year ended December 31, (M$)	**2021**	**2020**	**2019**
Statement of income			
Sales	4,250	3,134	4,127
Purchases	(13,473)	(7,183)	(10,158)
Financial income	–	1	4
Financial expense	(8)	(6)	(4)

8.4 COMPENSATION FOR THE ADMINISTRATION AND MANAGEMENT BODIES

The aggregated amount of direct and indirect compensation accounted by the French and foreign affiliates of TotalEnergies, for all executive officers of TotalEnergies as of December 31 and for the members of the Board of Directors who are employees of TotalEnergies, is detailed below.

During fiscal year 2020, the Corporation, taking into account the definition from US regulations applicable to Executive Officers and in the interest of harmonization, has chosen to reduce the list of its Executive Officers to the members of the Executive Committee in order to align this list with the list of “Persons Discharging Managerial Responsibilities” (PDMR) within the sense of Article 19.5 of Regulation (EU) No. 596/2014 on Market Abuse (“Regulation”). For the purposes of this Regulation, PDMRs are defined as the persons referred to in Article L. 621-18-2 (a) of the French Monetary and Financial Code (the “Directors”) and the persons referred to in Article L. 621-18-2 (b) of the same code that TotalEnergies SE has defined as the members of TotalEnergies Executive Committee (“Comex”).

As of December 31, 2021 and December 31, 2020, TotalEnergies Executive Officers are the members of the Executive Committee, i.e. eight people.

As of December 31, 2019, TotalEnergies Executive Officers included the members of the Executive Committee and the four directors of the corporate functions members of TotalEnergies Performance Management Committee (Communication, Legal, Health, Safety and Environment, Investor relations), and the TotalEnergies Treasurer, i.e. thirteen people.

There are three employees members of the Board of Directors on December 31, 2021 and December 31, 2020. They were two on December 31, 2019. The increase in the number of employees members results from the appointment of a second director representing employees on the Board of Directors in accordance with the French "Pacte law" of May 22, 2019.

For the year ended December 31, (M$)	2021	2020	2019
Number of people	11	11	15
Direct or indirect compensation	11.9	12.6	15.0
Pension expenses (a)	1.4	1.5	(4.9)
Share-based payments expense (IFRS 2) (b)	4.9	7.2	8.7

(a) The benefits provided for Executive Officers of TotalEnergies and the members of the Board of Directors, who are employees of TotalEnergies, include severance to be paid upon retirement, supplementary pension schemes and insurance plans, which represent a commitment of $90.7 million as of December 31, 2021 (against $129.0 million as of December 31, 2020 and $113.3 million as of December 31, 2019). Converted into Euros, this commitment amounts to €80.1 million as of December 31, 2021 (against €105.2 million as of December 31, 2020 and €100.8 million as of December 31, 2019).

(b) Share-based payments expense computed for the Executive Officers and the members of the Board of Directors who are employees of TotalEnergies and based on the principles of IFRS 2 "Share-based payments" described in Note 9.

Restating the 2019 data to the scope of TotalEnergies' Executive Officers as defined in 2020, the detail of the compensation is as follows:

For the year ended December 31, (M$)	2021	2020	2019
Number of people	11	11	10
Direct or indirect compensation	11.9	12.6	12.0
Pension expenses	1.4	1.5	(2.4)
Share-based payments expense (IFRS2)	4.9	7.2	7.7

The compensation allocated to members of the Board of Directors as directors' fees totaled $2.06 million in 2021 ($1.44 million in 2020 and $1.57 million in 2019).

Note 9 Shareholders' equity and share-based payments

9.1 SHAREHOLDERS' EQUITY

Number of TotalEnergies shares and rights attached

As of December 31, 2021, the share capital of TotalEnergies SE amounts to €6,601,073,322.50, divided into 2,640,429,329 shares, with a par value of €2.50. There is only one category of shares. The shares may be held in either registered or bearer form.

The authorized share capital amounts to 3,686,636,841 shares as of December 31, 2021 compared to 3,668,371,962 shares as of December 31, 2020 and 3,593,399,547 shares as of December 31, 2019.

A double voting right is assigned to shares that are fully-paid and held in registered form in the name of the same shareholder for at least two years, with due consideration for the total portion of the share capital represented. A double voting right is also assigned, in the event of an increase in share capital by incorporation of reserves, profits or premiums, to registered shares granted without charge to a shareholder due to shares already held that are entitled to this right.

Pursuant to the Corporation's bylaws (Statutes), no shareholder may cast a vote at a Shareholders' Meeting, either by himself or through an agent, representing more than 10% of the total voting rights for the Corporation's shares. This limit applies to the aggregated amount of voting rights held directly, indirectly or through voting proxies. However, in the case of double voting rights, this limit may be extended up to 20% of the total voting rights for the Corporation's shares.

These restrictions no longer apply if any individual or entity, acting alone or in concert, acquires at least two-thirds of the total share capital of the Corporation, directly or indirectly, following a public tender offer for all of the Corporation's shares.

Share cancellation

The Board of Directors, pursuant to the authorization granted by the Extraordinary Shareholders' Meeting on May 26, 2017, in the thirteenth resolution to reduce, on one or more occasions, the Corporation's share capital by cancelling shares, in accordance with the provisions of Articles L. 225-209 and L. 225-213 of the French Commercial Code, has proceeded with the following cancellation of TotalEnergies shares:

			Buybacks for the purpose of		
Fiscal year	Board of Directors' decision date	Number of shares bought back and cancelled	cancellation of the dilution[a]	the shareholder return policy	Percentage of the share capital cancelled[b]
2021	February 8, 2021	23,284,409 shares bought back between October 31, 2019 and March 9, 2020	n/a	23,284,409 shares	0.88 %
2019	December 11, 2019	65,109,435 shares bought back between October 29, 2018 and September 9, 2019	34,860,133 shares issued as payment for the 1st, 2nd and 3rd 2018 interim dividends	30,249,302 shares	2.44 %

[a] Cancellation of the dilution for the shares issued, without discount, for the scrip dividend.

[b] Percentage of the share capital that the cancelled shares represented on the operations' date.

Variation of the number of shares composing the share capital

AS OF DECEMBER 31, 2018 (a)		**2,640,602,007**
	2019 Capital increase reserved for employees	10,047,337
	Capital increase as payment of the scrip dividend (second and third 2018 interim dividend)	16,076,936
	Exercise of TotalEnergies share subscription options	264,230
	Capital reduction by cancellation of treasury shares	(65,109,435)
AS OF DECEMBER 31, 2019 (b)		**2,601,881,075**
	Deferred contribution pursuant to the 2015 capital increase reserved for employees	18,879
	2020 Capital increase reserved for employees	13,160,383
	Capital increase as payment of the scrip dividend (final 2019 dividend)	38,063,688
AS OF DECEMBER 31, 2020 (c)		**2,653,124,025**
	Capital reduction by cancellation of treasury shares	(23,284,409)
	2021 Capital increase reserved for employees	10,589,713
AS OF DECEMBER 31, 2021 (d)		**2,640,429,329**

(a) Including 32,473,281 treasury shares deducted from consolidated shareholders' equity.
(b) Including 15,474,234 treasury shares deducted from consolidated shareholders' equity.
(c) Including 24,392,703 treasury shares deducted from consolidated shareholders' equity.
(d) Including 33,841,104 treasury shares deducted from consolidated shareholders' equity.

Capital increase reserved for employees

The Extraordinary Shareholders' Meeting ("**ESM**") of May 28, 2021, in its seventeenth resolution, granted the authority to the Board of Directors to carry out, a capital increase, in one or more occasions within a maximum period of twenty-six months, reserved to members (employees and retirees) of a company or group savings plan of the Corporation ("**ESOP**").

In fiscal year 2021, the Board of Directors of September 15, 2021, by virtue of the seventeenth resolution above-mentioned, decided to proceed with a capital increase reserved for employees and retirees within the limit of 18 million shares with immediate dividend rights. On this occasion, the Board of Directors has granted all powers to the Chairman and Chief Executive Officer to determine the opening and closing dates of the subscription period and the subscription price. This capital increase is expected to be completed after the Shareholders' Meeting of May 25, 2022.

During the fiscal years 2021, 2020 and 2019, the Corporation completed the following ESOP, which terms are set out below:

Fiscal year	**2021**	**2020**	**2019**
Date of the ESOP	June 9, 2021	June 11, 2020	June 6, 2019
By virtue of	20th resolution of the ESM of May 29, 2020	18th resolution of the ESM of June 1, 2018	18th resolution of the ESM of June 1, 2018
Subscriptions			
Number of shares subscribed	10,376,190	12,952,925	9,845,111
Subscription price	30.50 euros	26.20 euros	40.10 euros
Free shares			
Number of shares granted	213,523	207,458	202,226
By virtue of		19th resolution of the ESM of June 1, 2018	19th resolution of the ESM of June 1, 2018
Deferred contribution			
Number of shares granted	–	1,380	5,932
Number of beneficiaries	–	276	1,187
End of the acquisition period	–	June 11, 2025	June 6, 2024

Treasury shares

Accounting principles

Treasury shares held by TotalEnergies SE, or by its subsidiaries are deducted from consolidated shareholders' equity. Gains or losses on sales of treasury shares are excluded from the determination of net income and are recognized in shareholders' equity.

Number of treasury shares held by TotalEnergies SE

As of December 31,	**2021**	**2020**	**2019**
Number of treasury shares held by TotalEnergies SE	33,841,104	24,392,703	15,474,234
Percentage of share capital	1.28 %	0.92 %	0.59 %
Of which shares acquired with the intention to cancel them	*30,665,526*	*23,284,409*	*11,051,144*
Of which shares allocated to TotalEnergies share performance plans	*3,103,018*	*1,055,446*	*4,357,324*
Of which shares intended to be allocated to new share performance or purchase options plans	*72,560*	*52,848*	*65,766*

Paid-in surplus

In accordance with French law, the paid-in surplus corresponds to premiums related to shares issuances, contributions or mergers of the parent company which can be capitalized or used to offset losses if the legal reserve has reached its minimum required level. The amount of the paid-in surplus may also be distributed subject to taxation except when it qualifies as a refund of shareholder contributions.

As of December 31, 2021, paid-in surplus relating to TotalEnergies SE amounted to €36,030 million (€36,722 million as of December 31, 2020 and €35,415 million as of December 31, 2019).

Reserves

Under French law, 5% of net income must be transferred to the legal reserve until the legal reserve reaches 10% of the nominal value of the share capital. This reserve cannot be distributed to the shareholders other than upon liquidation but can be used to offset losses.

If wholly distributed, the unrestricted reserves of TotalEnergies SE would be taxed for an approximate amount of $362 million as of December 31, 2021 ($492 million as of December 31, 2020 and $575 million as of December 31, 2019) due to additional corporation tax applied on regulatory reserves so that they become distributable.

Earnings per share

Accounting principles

Earnings per share is calculated by dividing net income (TotalEnergies share) by the weighted-average number of common shares outstanding during the period, excluding TotalEnergies shares held by TotalEnergies SE (Treasury shares) which are deducted from consolidated shareholders' equity.

Diluted earnings per share is calculated by dividing net income (TotalEnergies share) by the fully-diluted weighted-average number of common shares outstanding during the period. Treasury shares held by the parent company, TotalEnergies SE are deducted from consolidated shareholders' equity. These shares are not considered outstanding for purposes of this calculation which also takes into account the dilutive effect of share subscription or purchase options plans, share grants and capital increases with a subscription period closing after the end of the fiscal year.

The weighted-average number of fully-diluted shares is calculated in accordance with the treasury stock method provided for by IAS 33. The proceeds, which would be recovered in the event of an exercise of rights related to dilutive instruments, are presumed to be a share buyback at the average market price over the period. The number of shares thereby obtained leads to a reduction in the total number of shares that would result from the exercise of rights.

In compliance with IAS 33, earnings per share and diluted earnings per share are based on the net income after deduction of the remuneration due to the holders of deeply subordinated notes.

The variation of both weighted-average number of shares and weighted-average number of diluted shares respectively, as of December 31, respectively used in the calculation of earnings per share and fully-diluted earnings per share is detailed as follows:

	2021	2020	2019
Number of shares as of January 1,	**2,653,124,025**	**2,601,881,075**	**2,640,602,007**
TotalEnergies shares held by TotalEnergies SE or by its subsidiaries and deducted from shareholders' equity	(24,392,703)	(15,474,234)	(32,473,281)
Evolution of the number of shares during the financial year *(pro-rated)*			
Exercise of TotalEnergies share subscription options	–	–	157,153
Final grant of TotalEnergies performance shares	3,810,430	2,154,064	2,140,576
Capital increase reserved for employees (a)	6,177,333	7,689,476	5,860,947
Capital increase as payment of the scrip dividend	–	17,445,857	12,360,894
Buyback of TotalEnergies treasury shares including:	(7,296,460)	(11,669,489)	(27,026,481)
Shares repurchased during the fiscal year to cancel the dilution caused by the scrip dividend payment and within the framework of the share buyback program	*(3,762,794)*	*(10,666,710)*	*(24,818,443)*
Shares repurchased during the fiscal year to cover for the performance share plans	*(3,533,666)*	*(1,002,779)*	*(2,208,038)*
WEIGHTED-AVERAGE NUMBER OF SHARES	**2,631,422,625**	**2,602,026,749**	**2,601,621,815**
Dilutive effect			
Grant of TotalEnergies share subscription or purchase options	–	–	33,636
Grant of TotalEnergies performance shares	14,492,673	–	14,593,030
Capital increase reserved for employees(a)	1,552,947	–	1,759,407
WEIGHTED-AVERAGE NUMBER OF DILUTED SHARES AS OF DECEMBER 31,(b)	**2,647,468,245**	**2,602,026,749**	**2,618,007,888**

(a) Including the capital increase in consideration to the deferred contribution pursuant to the capital increase reserved for employees.
(b) In 2020, the effect generated by the grant of TotalEnergies performance shares and by the capital increase reserved for employees (19,007,836 shares) is anti-dilutive. In accordance with IAS 33, the weighted-average number of diluted shares is therefore equal to the weighted-average number of shares.

Earnings per share in euros

The earnings per share in euros, converted from the earnings per share in dollars, by using the average exchange rate euro/dollar, is €5.03 per share for 2021 closing (€(2.54) for 2020 closing). The fully-diluted earnings per share calculated by using the same method is €5.01 per share for 2021 closing (€(2.54) for 2020 closing).

Dividend

The Board of Directors, on February 9, 2022, after approving the financial statements for the 2021 fiscal year, decided to propose to the Shareholders' Meeting on May 25, 2022 the payment of a €2.64 dividend per share for the fiscal year 2021. Subject to the Shareholders' decision, considering the first three interim dividends already decided by the Board of Directors, the final dividend for the fiscal year 2021 will be €0.66 per share.

2021 Dividend	First interim	Second interim	Third interim	Final
Amount	€0.66	€0.66	€0.66	€0.66
Set date	April 28, 2021	July 28, 2021	October 27, 2021	May 25, 2022
Ex-dividend date	September 21, 2021	January 3, 2022	March 22, 2022	June 21, 2022
Payment date	October 1, 2021	January 13, 2022	April 1, 2022	July 1, 2022

Issuances of perpetual subordinated notes

On 17 January 2022, TotalEnergies SE issued two tranches of perpetual subordinated notes in euro:

- Deeply subordinated notes 2.000% perpetual maturity callable after 5.25 years (€1,000 million); and
- Deeply subordinated notes 3.250% perpetual maturity callable after 15 years (€750 million).

These two tranches were issued to refinance the €1,750 million perpetual subordinated notes with a first call date scheduled in May 2022.

On 25 January 2021, TotalEnergies SE issued two tranches of perpetual subordinated notes in euro:

- Deeply subordinated notes 1.625% perpetual maturity callable after 7 years (€1,500 million); and
- Deeply subordinated notes 2.125% perpetual maturity callable after 12 years (€1,500 million).

In 2020, TotalEnergies SE issued perpetual subordinated notes in euro:

- Deeply subordinated notes 2.000% perpetual maturity callable after 10 years (€1,000 million).

In parallel with this issuance, TotalEnergies SE partially tendered perpetual 2.250% subordinated notes issued in 2015 (of which the outstanding nominal amount before the operation was €1,000 million following a first partial tender executed in April 2019) for an amount of €703 million. Following this transaction, the new nominal amount of the tendered tranche was €297 million and TotalEnergies' total outstanding amount of perpetual subordinated notes rose temporarily by €297 million. This residual amount was fully repaid in February 2021 on its first call date.

In 2019, TotalEnergies SE issued perpetual subordinated notes in euro:

- Deeply subordinated notes 1.750% perpetual maturity callable after 5 years (€1,500 million).

In parallel with this issuance, TotalEnergies SE partially tendered perpetual 2.250% subordinated notes issued in 2015 for an amount of €1,500 million. Following this transaction, the new nominal amount of the tranche tendered was €1,000 million and TotalEnergies' total outstanding amount of perpetual subordinated notes remained unchanged.

In 2018 and 2017, TotalEnergies SE did not issue any perpetual subordinated notes.

In 2016, TotalEnergies SE issued three tranches of perpetual subordinated notes in euro:

- Deeply subordinated notes 3.875% perpetual maturity callable after 6 years (€1,750 million);
- Deeply subordinated notes 2.708% perpetual maturity callable after 6.6 years (€1,000 million); and
- Deeply subordinated notes 3.369% perpetual maturity callable after 10 years (€1,500 million).

In 2015, TotalEnergies SE issued two tranches of perpetual subordinated notes in euro:

- Deeply subordinated notes 2.250% perpetual maturity callable after 6 years (€2,500 million); and
- Deeply subordinated notes 2.625% perpetual maturity callable after 10 years (€2,500 million).

Based on their characteristics (mainly no mandatory repayment and no obligation to pay a coupon except under certain circumstances specified into the documentation of the notes) and in compliance with IAS 32 standard – *Financial instruments - Presentation*, these notes were recorded in equity.

As of December 31, 2021, the amount of perpetual deeply subordinated notes booked in TotalEnergies shareholders' equity is $13,922 million. The coupons attributable to the holders of these securities are recognized as a deduction from TotalEnergies shareholders' equity for an amount of $368 million for fiscal year 2021 closing. The tax saving due to these coupons is booked in the statement of income.

Other comprehensive income

Detail of other comprehensive income showing both items potentially reclassifiable and those not potentially reclassifiable from equity to net income is presented in the table below:

For the year ended December 31, (M$)	**2021**	**2020**	**2019**
Actuarial gains and losses	1,035	(212)	(192)
Change in fair value of investments in equity instruments	66	533	142
Tax effect	(411)	65	53
Currency translation adjustment generated by the parent company	(7,202)	7,541	(1,533)
Sub-total items not potentially reclassifiable to profit & loss	**(6,512)**	**7,927**	**(1,530)**
Currency translation adjustment	**4,216**	**(4,645)**	**740**
– Unrealized gain/(loss) of the period	4,380	(4,607)	800
– Less gain/(loss) included in net income	164	38	60
Cash flow hedge	**278**	**(313)**	**(599)**
– Unrealized gain/(loss) of the period	109	(175)	(552)
– Less gain/(loss) included in net income	(169)	138	47
Variation of foreign currency basis spread	**2**	**28**	**1**
– Unrealized gain/(loss) of the period	(47)	(22)	(57)
– Less gain/(loss) included in net income	(49)	(50)	(58)
Share of other comprehensive income of equity affiliates, net amount	**706**	**(1,831)**	**408**
– Unrealized gain/(loss) of the period	626	(1,841)	421
– Less gain/(loss) included in net income	(80)	(10)	13
Other	**(1)**	**(8)**	**(3)**
Tax effect	**(135)**	**72**	**202**
Sub-total items potentially reclassifiable to profit & loss	**5,066**	**(6,697)**	**749**
TOTAL OTHER COMPREHENSIVE INCOME, NET AMOUNT	**(1,446)**	**1,230**	**(781)**

The currency translation adjustment by currency is detailed in the following table:

As of December 31, 2021 (M$)	**Total**	**Euro**	**Pound sterling**	**Ruble**	**Other currencies**
Currency translation adjustment generated by the parent company	**(7,202)**	(7,202)	–	–	–
Currency translation adjustment	**4,216**	4,654	(180)	(1)	(257)
Currency translation adjustment of equity affiliates	**536**	730	4	(27)	(171)
TOTAL CURRENCY TRANSLATION ADJUSTMENT RECOGNIZED IN COMPREHENSIVE INCOME	**(2,450)**	(1,818)	(176)	(28)	(428)

As of December 31, 2020 (M$)	**Total**	**Euro**	**Pound sterling**	**Ruble**	**Other currencies**
Currency translation adjustment generated by the parent company	**7,541**	7,541	–	–	–
Currency translation adjustment	**(4,645)**	(4,668)	115	(12)	(80)
Currency translation adjustment of equity affiliates	**(1,657)**	(851)	(11)	(886)	91
TOTAL CURRENCY TRANSLATION ADJUSTMENT RECOGNIZED IN COMPREHENSIVE INCOME	**1,239**	2,022	104	(898)	11

As of December 31, 2019 (M$)	**Total**	**Euro**	**Pound sterling**	**Ruble**	**Other currencies**
Currency translation adjustment generated by the parent company	**(1,533)**	(1,533)	–	–	–
Currency translation adjustment	**740**	636	138	7	(41)
Currency translation adjustment of equity affiliates	**607**	149	(7)	530	(65)
TOTAL CURRENCY TRANSLATION ADJUSTMENT RECOGNIZED IN COMPREHENSIVE INCOME	**(186)**	(748)	131	537	(106)

Tax effects relating to each component of other comprehensive income are as follows:

	2021			**2020**			**2019**		
For the year ended December 31, (M$)	**Pre-tax amount**	**Tax effect**	**Net amount**	**Pre-tax amount**	**Tax effect**	**Net amount**	**Pre-tax amount**	**Tax effect**	**Net amount**
Actuarial gains and losses	1,035	(372)	663	(212)	47	(165)	(192)	55	(137)
Change in fair value of investments in equity instruments	66	(39)	27	533	18	551	142	(2)	140
Currency translation adjustment generated by the parent company	(7,202)	–	(7,202)	7,541	–	7,541	(1,533)	–	(1,533)
Sub-total items not potentially reclassifiable to profit & loss	**(6,101)**	**(411)**	**(6,512)**	**7,862**	**65**	**7,927**	**(1,583)**	**53**	**(1,530)**
Currency translation adjustment	4,216	–	4,216	(4,645)	–	(4,645)	740	–	740
Cash flow hedge	278	(130)	148	(313)	79	(234)	(599)	202	(397)
Variation of foreign currency basis spread	2	(5)	(3)	28	(7)	21	1	–	1
Share of other comprehensive income of equity affiliates, net amount	706	–	706	(1,831)	–	(1,831)	408	–	408
Other	(1)	–	(1)	(8)	–	(8)	(3)	–	(3)
Sub-total items potentially reclassifiable to profit & loss	**5,201**	**(135)**	**5,066**	**(6,769)**	**72**	**(6,697)**	**547**	**202**	**749**
TOTAL OTHER COMPREHENSIVE INCOME	**(900)**	**(546)**	**(1,446)**	**1,093**	**137**	**1,230**	**(1,036)**	**255**	**(781)**

Non-controlling interests

As mentioned in Note 2.1 Main acquisitions and divestments, TotalEnergies has completed a transaction with GIP for a consideration of more than $750 million, with an effective date January 1, 2021. GIP's participation is recognized as non-controlling interest.

9.2 SHARE-BASED PAYMENTS

Accounting principles

TotalEnergies SE may grant employees share subscription or purchase options plans, performance shares plans and offer its employees the opportunity to subscribe to reserved capital increases. These employee benefits are recognized as expenses with a corresponding credit to shareholders' equity.

The expense is equal to the fair value of the instruments granted. The expense is recognized on a straight-line basis over the period in which the advantages are acquired.

The fair value of the options is calculated using the Black-Scholes model at the grant date.

For performance shares plans, the fair value is calculated using the market price at the grant date after deducting the expected distribution rate during the vesting period.

The global cost is reduced to take into account the non-transferability over a 2-year holding period of the shares that could be awarded. The number of allocated equity instruments can be revised during the vesting period in cases of non-compliance with performance conditions, with the exception of those related to the market, or according to the rate of turnover of the beneficiaries.

The cost of employee-reserved capital increases is immediately expensed.

The cost of the capital increase reserved for employees consists of the cost related to the discount on the shares subscribed using the classic and/or the leveraged schemes, the cost of the free shares and the opportunity gain for the shares subscribed using the leveraged scheme, as applicable. This opportunity gain corresponds to the benefit of subscribing to the leveraged offer, rather than reproducing the same economic profile through the purchase of options in the market for individual investors.

The global cost is reduced to take into account the non-transferability of the shares that are subscribed by the employees over a period of five years.

A. TotalEnergies share subscription or purchase option plans

	2011 Plan	Total	Weighted average exercise price
Date of the Shareholders' Meeting	5/21/2010		
Award date [(a)]	9/14/2011		
Strike price	33.00 €		
Expiry date	9/14/2019		
Number of options			
Existing options as of January 1, 2019	**265,230**	**265,230**	**33.00 €**
Granted	**–**	**–**	**–**
Cancelled[(b)]	(1,000)	(1,000)	33.00 €
Exercised	(264,230)	(264,230)	33.00 €
Existing options as of January 1, 2020	**–**	**–**	**n/a**
Granted	–	–	n/a
Cancelled	–	–	n/a
Exercised	–	–	n/a
Existing options as of January 1, 2021	**–**	**–**	**n/a**
Granted	–	–	n/a
Cancelled	–	–	n/a
Exercised	–	–	n/a
Existing options as of December 31, 2021	**–**	**–**	**n/a**

(a) The grant date is the date of the Board meeting awarding the share subscription or purchase options.
(b) Options that were not exercised on September 14, 2019 due to the expiry of 2011 Plan.

Options granted as part of 2011 Plan were exercisable, subject to a presence condition, after a 2-year period from the date of the Board meeting awarding the options and have expired eight years after this date. The underlying shares were not transferable during four years from the date of grant. The transfer restriction period did not apply to employees of non-French subsidiaries as of the date of the grant, who may have transferred the underlying shares after a 2-year period from the date of the grant.

The Extraordinary Shareholders' Meeting of May 29, 2020 authorised the Board of Directors, for a period of thirty-eight months to grant share subscription or purchase options. Since the 2011 Plan, the Board of Directors has not decided any new grant of TotalEnergies share subscription or purchase option plan. All the option plans have expired.

B. TotalEnergies Performance share plans

	2016	2017	2018	2019	2020	2021	Total
Date of the Shareholders' Meeting	5/24/2016	5/24/2016	5/24/2016	6/1/2018	6/1/2018	6/1/2018	
Award date	7/27/2016	7/26/2017	3/14/2018	3/13/2019	3/18/2020	5/28/2021	
Date of the final award (end of the vesting period)	7/28/2019	7/27/2020	3/15/2021	3/14/2022	3/20/2023	5/29/2024	
Transfer authorized as from	7/29/2021	7/28/2022	3/16/2023	3/15/2024	3/21/2025	5/30/2026	
Grant date IFRS 2 fair value	35.37 €	35.57 €	36.22 €	40.11 €	12.40 €	27.40 €	
Number of performance shares							
Outstanding as of January 1, 2019	**5,543,220**	**5,650,919**	**6,070,795**	**–**	**–**	**–**	**17,264,934**
Notified	–	–	–	6,447,069	–	–	6,447,069
Cancelled	(1,267,392)	(41,220)	(41,260)	(39,246)	–	–	(1,389,118)
Finally granted	(4,275,828)	(1,840)	(1,100)	(180)	–	–	(4,278,948)
Outstanding as of January 1, 2020	**–**	**5,607,859**	**6,028,435**	**6,407,643**	**–**	**–**	**18,043,937**
Notified	–	–	–	–	6,727,352	–	6,727,352
Cancelled	–	(1,313,687)	(55,830)	(44,289)	(18,691)	–	(1,432,497)
Finally granted	–	(4,294,172)	(10,740)	(10,890)	(1,773)	–	(4,317,575)
Outstanding as of January 1, 2021	**–**	**–**	**5,961,865**	**6,352,464**	**6,706,888**	**–**	**19,021,217**
Notified	–	–	–	–	–	6,764,548	**6,764,548**
Cancelled	–	–	(1,395,555)	(58,578)	(52,301)	(31,118)	**(1,537,552)**
Finally granted	–	–	(4,566,310)	(4,810)	(1,385)	(690)	**(4,573,195)**
OUTSTANDING AS OF DECEMBER 31, 2021	**–**	**–**	**–**	**6,289,076**	**6,653,202**	**6,732,740**	**19,675,018**

The performance shares, which are bought back by TotalEnergies SE on the market, are finally granted to their beneficiaries after a 3-year vesting period, from the date of the grant. The final grant is subject to a continued employment condition as well as:

- two performance conditions for the 2016 to 2018 Plans,
- three performance conditions for the 2019 Plan,
- four performance conditions for the 2020 Plan, and
- five performance conditions for the 2021 Plan.

Moreover, the transfer of the performance shares finally granted under the 2016 to 2021 Plans will not be permitted until the end of a 2-year holding period from the date of the final grant.

2021 Plan

The Board of Directors granted performance shares, with effective date May 28, 2021, to certain employees and executive directors of TotalEnergies SE or its subsidiaries, subject to the fulfilment of the continued employment condition and five performance conditions.

The presence condition applies to all shares.

The performance conditions apply differently depending on the capacity of the beneficiaries. If all shares granted to senior executives are subject to performance conditions, the grant of the first 150 shares to non-senior executives are not subject to the performance condition abovementioned, which will, nonetheless, apply to any shares granted above this threshold.

The definitive number of granted shares will be based on the TSR (Total Shareholder Return), the annual variation of the net cash flow by share in dollars, the pre-dividend organic cash breakeven, the change in the greenhouse gas emissions on operated facilities (Scope 1 + 2), as well as the change in greenhouse gas emissions (Scope 3) of TotalEnergies' customers in Europe relating to fiscal years 2021, 2022 and 2023, applied as follows:

- For 25% of the shares, TotalEnergies will be ranked against its peers (ExxonMobil, Shell, BP and Chevron) each year during the three vesting years (2021, 2022 and 2023) based on the TSR criterion of the last quarter of the year in question, the dividend being considered reinvested based on the closing price on the ex-dividend date.
- For 25% of the shares, TotalEnergies will be ranked against its peers (ExxonMobil, Shell, BP and Chevron) each year during the three vesting years (2021, 2022 and 2023) using the annual variation in net cash flow per share criterion expressed in dollars.

Based on the ranking, a grant rate will be determined each year for each of these two first criteria: 1st: 180% of the grant; 2nd: 130% of the grant; 3rd: 80% of the grant; 4th and 5th: 0%, with a maximum of 100%.

- For 20% of the shares, the pre-dividend organic cash breakeven criterion will be assessed during the three vesting years (2021, 2022 and 2023) as follows:
  - the maximum grant rate, i.e. 100% for this criterion, will be achieved if the breakeven is less than or equal to $30/b,
  - the grant rate will be zero if the breakeven is greater than or equal to $40/b,
  - the interpolations are linear between these two points of reference.

  The pre-dividend organic cash breakeven is defined as the Brent price for which the operating cash flow before working capital changes[1] (MBA) covers the organic investments[2]. The ability of the TotalEnergies to resist to the variations of the Brent barrel price is measured by this parameter.

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[1] Operating cash flow before working capital changes, is defined as cash flow from operating activities before changes in working capital at replacement cost, excluding the mark-to-market effect of iGRP's contracts and including capital gain from renewable projects sales (effective first quarter 2020).

[2] Organic investments = net investments excluding acquisitions, asset sales and other operations with non-controlling interests.

- For 15% of the shares, the change in the greenhouse gas emissions (GHG) on operated facilities (Scope 1 + 2) will be assessed each year as regard to the achievement of the target to reduce the GHG emissions set for fiscal years 2021, 2022 and 2023 and corresponding to 42.4 Mt CO_2e for 2021, 41.8 Mt CO_2e for 2022 and 41.2 Mt CO_2e for 2023.
    - the maximum grant rate, i.e. 100% for this criterion, will be obtained if the GHG emissions (Scope 1 + 2) reach the target set;
    - the grant rate will be zero if the GHG emissions (Scope 1 + 2) of the year considered are 1 Mt CO^2e above the target set;
    - the interpolations are linear between these two points of reference.
- For 15% of the shares, the criterion of the change in the indirect greenhouse gas emissions (GHG) related to the use by customers of the energy products (Scope 3) in Europe will be assessed each year for the achievement of the target to reduce these GHG emissions set as follows: 2021: -12%; 2022: -14% and 2023: -16% relative to GHG emissions in 2015.
    - the maximum grant rate, i.e. 100% for this criterion, will be reached if the reductions in GHG emissions (Scope 3) of TotalEnergies' customers in Europe achieve the target set;
    - the grant rate will be zero if the reductions in GHG emissions (Scope 3) of TotalEnergies' customers in Europe of the year in question are 4 points below the target set, i.e. 2021: -8%, 2022: -10% and 2023: -12%;
    - the interpolations are linear between these two points of reference.

A grant rate will be determined each year for each of these last three criteria.

For each of the five criteria, the average of the three grant rates obtained (for each of the three fiscal years for which the performance conditions are assessed) will be rounded to the nearest 0.1 whole percent (0.05% being rounded to 0.1%) and capped at 100%.

The definitive grant rate will be rounded to the nearest 0.1 whole percent (0.05% being rounded to 0.1%). In the case of fractional shares, the number of shares definitively granted after determination of performance conditions will be determined according to the weighting of each criterion and rounded up to the next whole number of shares.

C. SunPower Plans

During fiscal year 2021, SunPower had one stock incentive plan: the SunPower Corporation 2015 Omnibus Incentive Plan ("2015 Plan"). The 2015 Plan was adopted by SunPower's Board of Directors in February 2015 and was approved by shareholders in June 2015.The 2015 Plan allows for the grant of options, as well as grant of stock appreciation rights, restricted stock grants, restricted stock units and other equity rights. The 2015 Plan also allows for tax withholding obligations related to stock option exercises or restricted stock awards to be satisfied through the retention of shares otherwise released upon vesting.

The 2015 Plan includes an automatic annual increase mechanism equal to the lower of three percent of the outstanding shares of all classes of SunPower's common stock measured on the last day of the immediately preceding fiscal year, 6 million shares, or such other number of shares as determined by SunPower's Board of Directors. In fiscal year 2015, SunPower's Board of Directors voted to reduce the stock incentive plan's automatic increase from 3% to 2% for 2016. As of December 31, 2021, approximately 23.0 million shares were available for grant under the 2015 Plan.

Incentive stock options, nonstatutory stock options, and stock appreciation rights may be granted at no less than the fair value of the common stock on the date of grant. The options and rights become exercisable when and as determined by SunPower's Board of Directors, although these terms generally do not exceed ten years for stock options. SunPower has not granted stock options since fiscal year 2008. All previously granted stock options have been exercised or expired and accordingly no options remain outstanding. Under the 2015 Plan, the restricted stock grants and restricted stock units typically vest in equal installments annually over three or four years.

The majority of shares issued are net of the minimum statutory withholding requirements that SunPower pays on behalf of its employees. During fiscal years 2021, 2020 and 2019, SunPower withheld 0.4 million, 1.3 million, and 0.8 million shares, respectively, to satisfy the employees' tax obligations. SunPower pays such withholding requirements in cash to the appropriate taxing authorities. Shares withheld are treated as common stock repurchases for accounting and disclosure purposes and reduce the number of shares outstanding upon vesting.

The following table summarizes SunPower's restricted stock activities:

	Restricted Stock Awards and Units	
	Shares (in thousands)	**Weighted-Average Grant Date Fair Value Per Share (in dollars)[a]**
Outstanding as of January 1, 2019	**7,660**	**9.11**
Granted	5,430	6.82
Vested (b)	(2,460)	9.65
Forfeited	(1,304)	8.28
Outstanding as of January 1, 2020	**9,326**	**7.75**
Granted	12,797	11.10
Vested (b)	(3,596)	9.88
Forfeited	(11,360)	7.07
Outstanding as of January 1, 2021	**7,167**	**13.75**
Granted	1,932	30.47
Vested (b)	(2,905)	14.67
Forfeited	(1,325)	15.72
OUTSTANDING AS OF DECEMBER 31, 2021	**4,869**	**19.30**

(a) SunPower estimates the fair value of the restricted stock unit awards as the stock price on the grant date.
(b) Restricted stock awards and units vested include shares withheld on behalf of employees to satisfy the minimum statutory tax withholding requirements.

D. Share-based payment expense

Share-based payment expense before tax was broken down as follows:

As of December 31, (M$)	2021	2020	2019
TotalEnergies performance shares plans	129	176	180
SunPower plans	25	26	26
Capital increase reserved for employees	14	12	27
TOTAL	**168**	**214**	**233**

The main assumptions used for the valuation of the cost of the capital increase reserved for employees in 2021 were the following:

For the year ended December 31,	2021
Date of the Board of Directors meeting that decided the issue	September 16, 2020
Reference price (€) (a)	38.08
Subscription price (€) (b)	30.50
Number of shares issued (in millions) (c)	10.59
Risk free interest rate over five years (%)	(0.450)
Employees loan financing rate (%) (d)	4.44
Non transferability cost (% of the reference's share price)	19.31

(a) Average of the closing prices of the TotalEnergies shares over the twenty trading sessions preceding April 28, 2021, being the date of the Chairman and CEO's decision setting the opening date of the subscription period and the subscription price.
(b) Reference price, reduced by a 20% discount and rounded off to the highest tenth of a euro.
(c) Including the free shares issued.
(d) Average of 5 year consumer's credit rates.

Note 10 Payroll, staff and employee benefits obligations

10.1 EMPLOYEE BENEFITS OBLIGATIONS

Accounting principles

In accordance with the laws and practices of each country, TotalEnergies participates in employee benefit plans offering retirement, death and disability, healthcare and special termination benefits. These plans provide benefits based on various factors such as length of service, salaries, and contributions made to the governmental bodies responsible for the payment of benefits.

These plans can be either defined contribution or defined benefit pension plans and may be entirely or partially funded with investments made in various non-consolidated instruments such as mutual funds, insurance contracts, and other instruments.

For defined contribution plans, expenses correspond to the contributions paid.

Defined benefit obligations are determined according to the Projected Unit Method. Actuarial gains and losses may arise from differences between actuarial valuation and projected commitments (depending on new calculations or assumptions) and between projected and actual return of plan assets. Such gains and losses are recognized in the statement of comprehensive income, with no possibility to subsequently recycle them to the income statement.

The past service cost is recorded immediately in the statement of income, whether vested or unvested.

The net periodic pension cost is recognized under “Other operating expenses”.

Liabilities for employee benefits obligations consist of the following:

As of December 31, (M$)	2021	2020	2019
Pension benefits liabilities	1,966	3,111	2,651
Other benefits liabilities	633	700	742
Restructuring reserves (early retirement plans)	73	106	108
TOTAL	**2,672**	**3,917**	**3,501**
Net liabilities relating to assets held for sale	(1)	1	–

Description of plans and risk management

TotalEnergies operates, for the benefit of its current and former employees, both defined benefit plans and defined contribution plans.

TotalEnergies recognized a charge of $145 million for defined contribution plans in 2021 ($135 million in 2020 and $133 million in 2019).

TotalEnergies' main defined benefit pension plans are located in France, the United Kingdom, the United States, Belgium and Germany. Their main characteristics, depending on the country-specific regulatory environment, are the following:

- the benefits are usually based on the final salary and seniority;
- they are usually funded (pension fund or insurer);
- they are usually closed to new employees who benefit from defined contribution pension plans;
- they are paid in annuity or in lump sum.

The pension benefits include also termination indemnities and early retirement benefits. The other benefits are employer contributions to post-employment medical care.

In order to manage the inherent risks, TotalEnergies has implemented a dedicated governance framework to ensure the supervision of the different plans. These governance rules provide for:

- TotalEnergies' representation in key governance bodies or monitoring committees;

- the principles of the funding policy;
- the general investment policy, including for most plans:
- the establishment of a monitoring committee to define and follow the investment strategy and performance,
- the principles in respect of investment allocation are respected;
- a procedure to approve the establishment of new plans or the amendment of existing plans;
- the principles of administration, communication and reporting.

Change in benefit obligations and plan assets

The fair value of the defined benefit obligation and plan assets in the Consolidated Financial Statements is detailed as follows:

As of December 31,	**Pension benefits**			**Other benefits**		
(M$)	**2021**	**2020**	**2019**	**2021**	**2020**	**2019**
Change in benefit obligation						
Benefit obligation at beginning of year	13,591	12,285	11,501	700	742	669
Current service cost	247	244	214	17	19	13
Interest cost	164	217	295	8	11	17
Past service cost	(197)	–	4	(1)	–	–
Settlements	3	(10)	(20)	–	(3)	(9)
Plan participants' contributions	17	10	7	–	–	–
Benefits paid	(704)	(702)	(667)	(34)	(27)	(26)
Actuarial losses / (gains)	(734)	818	847	(11)	(89)	87
Foreign currency translation and other	(610)	729	104	(46)	47	(9)
Benefit obligation at year-end	**11,777**	**13,591**	**12,285**	**633**	**700**	**742**
Of which plans entirely or partially funded	11,143	12,830	11,584	**–**	–	–
Of which plans not funded	634	761	701	633	700	742
Change in fair value of plan assets						
Fair value of plan assets at beginning of year	(10,580)	(9,769)	(9,145)	–	–	–
Interest income	(146)	(191)	(255)	–	–	–
Actuarial losses / (gains)	(290)	(517)	(745)	–	–	–
Settlements	–	2	11	–	–	–
Plan participants' contributions	(17)	(10)	(7)	–	–	–
Employer contributions	(303)	(229)	(172)	–	–	–
Benefits paid	635	622	573	–	–	–
Foreign currency translation and other	470	(488)	(29)	–	–	–
Fair value of plan assets at year-end	**(10,231)**	**(10,580)**	**(9,769)**	**–**	**–**	**–**
UNFUNDED STATUS	**1,546**	**3,011**	**2,516**	**633**	**700**	**742**
Asset ceiling	41	36	34	–	–	–
NET RECOGNIZED AMOUNT	**1,587**	**3,047**	**2,550**	**633**	**700**	**742**
Pension benefits and other benefits liabilities	1,966	3,111	2,651	633	700	742
Other non-current assets	(378)	(65)	(101)	–	–	–
Net benefit liabilities relating to assets held for sale	(1)	1	–	–	–	–

As of December 31, 2021, the contribution from the main geographical areas for the net pension liability in the balance sheet is: 97% for the Euro area, (13)% for the United Kingdom and 15% for the United States.

The amounts recognized in the consolidated income statement and the consolidated statement of comprehensive income for defined benefit plans are detailed as follows:

For the year ended December 31,	**Pension benefits**			**Other benefits**		
(M$)	**2021**	**2020**	**2019**	**2021**	**2020**	**2019**
Current service cost	247	244	214	17	19	13
Past service cost	(197)	–	4	(1)	–	–
Settlements	3	(7)	(10)	–	(3)	(9)
Net interest cost	18	25	39	8	11	17
Benefit amounts recognized on Profit & Loss	**71**	**262**	**247**	**24**	**27**	**21**
- Actuarial (Gains) / Losses						
* Effect of changes in demographic assumptions	(71)	(12)	(166)	(8)	(3)	(2)
* Effect of changes in financial assumptions	(450)	773	1,071	2	(1)	89
* Effect of experience adjustments	(214)	57	(59)	(5)	(85)	–
* Actual return on plan assets	(294)	(517)	(745)	–	–	–
- Effect of asset ceiling	5	–	3	–	–	–
Benefit amounts recognized on Equity	**(1,024)**	**301**	**104**	**(11)**	**(89)**	**87**
TOTAL BENEFIT AMOUNTS RECOGNIZED ON COMPREHENSIVE INCOME	**(953)**	**563**	**351**	**13**	**(62)**	**108**

Expected future cash outflows

The average duration of accrued benefits is approximately 13 years for defined pension benefits and 17 years for other benefits. TotalEnergies expects to pay contributions of $261 million in respect of funded pension plans in 2022.

Estimated future benefits either financed from plan assets or directly paid by the employer are detailed as follows:

Estimated future payments

(M$)	Pension benefits	Other benefits
2022	649	27
2023	413	26
2024	395	24
2025	387	24
2026	419	25
2027-2031	2,389	122

Type of assets

Asset allocation	Pension benefits		
as of December 31,	**2021**	**2020**	**2019**
Equity securities	39%	25%	25%
Debt securities	35%	45%	46%
Monetary	1%	2%	1%
Annuity contracts	17%	20%	20%
Real estate	8%	8%	8%

Investments on equity and debt markets are quoted on active markets.

Main actuarial assumptions and sensitivity analysis

Assumptions used to determine benefits obligations:	Pension benefits			Other benefits		
As of December 31,	**2021**	**2020**	**2019**	**2021**	**2020**	**2019**
Discount rate (weighted average for all regions)	***1.82%***	***1.28%***	***1.84%***	***1.83%***	***1.41%***	***1.71%***
Of which Euro zone	*0.99%*	*0.52%*	*0.73%*	*1.05%*	*0.68%*	*0.94%*
Of which United States	*3.00%*	*2.50%*	*3.25%*	*3.00%*	*2.50%*	*3.25%*
Of which United Kingdom	*2.00%*	*1.50%*	*2.25%*	–	–	–
Inflation rate (weighted average for all regions)	***2.41%***	***2.06%***	***2.20%***	**–**	**–**	**–**
Of which Euro zone	*1.71%*	*1.24%*	*1.21%*	–	–	–
Of which United States	*2.50%*	*2.50%*	*2.50%*	–	–	–
Of which United Kingdom	*3.25%*	*3.00%*	*3.25%*	–	–	–

The discount rate retained is determined by reference to the high quality rates for AA-rated corporate bonds for a duration equivalent to that of the obligations. It derives from a benchmark per monetary area of different market data at the closing date.

Sensitivity to inflation in respect of defined benefit pension plans is not material in the United States.

A 0.5% increase or decrease in discount rates – all other things being equal - would have the following approximate impact on the benefit obligation:

(M$)	0.5% Increase	0.5% Decrease
Benefit obligation as of December 31, 2021	(800)	866

A 0.5% increase or decrease in inflation rates – all other things being equal - would have the following approximate impact on the benefit obligation:

(M$)	0.5% Increase	0.5% Decrease
Benefit obligation as of December 31, 2021	475	(567)

10.2 PAYROLL AND STAFF

For the year ended December 31,	**2021**	**2020**	**2019**
Personnel expenses (M$)			
Wages and salaries (including social charges)	9,207	8,908	8,922
TotalEnergies employees at December 31,			
France (DROM COM includ.)			
● Management	13,903	14,016	13,848
● Other	21,232	21,886	22,831
International			
● Management	17,346	17,102	16,821
● Other	48,828	52,472	54,276
TOTAL	**101,309**	**105,476**	**107,776**

The number of employees includes only employees of fully consolidated subsidiaries.

2019 data were restated to show number of employees of France including DROM COM (overseas departments, regions and communities).

Note 11 Income taxes

Accounting principles

Income taxes disclosed in the statement of income include current tax expenses (or income) and deferred tax expenses (or income).

Current tax expenses (or income) are the estimated amount of the tax due for the taxable income of the period.

Deferred income taxes are recorded based on the temporary differences between the carrying amounts of assets and liabilities recorded in the balance sheet and their tax bases, and on carry-forwards of unused tax losses and other tax credits.

Deferred tax assets and liabilities are measured using the tax rates that have been enacted or substantially enacted at the balance sheet date. The tax rates used depend on the timing of reversals of temporary differences, tax losses and other tax credits. The effect of a change in tax rate is recognized either in the Consolidated Statement of Income or in shareholders' equity depending on the item it relates to.

Deferred tax resulting from temporary differences between the carrying amounts of equity-method investments and their tax bases are recognized. The deferred tax calculation is based on the expected future tax effect (dividend distribution rate or tax rate on capital gains).

Income taxes are detailed as follows:

For the year ended December 31, (M$)	**2021**	**2020**	**2019**
Current income taxes	(8,158)	(2,450)	(5,469)
Deferred income taxes	(1,429)	2,132	(403)
TOTAL INCOME TAXES	**(9,587)**	**(318)**	**(5,872)**

Before netting deferred tax assets and liabilities by fiscal entity, the components of deferred tax balances are as follows:

As of December 31, (M$)	**2021**	**2020**	**2019**
Net operating losses and tax carry forwards	5,129	5,106	3,752
Employee benefits	586	1,004	970
Other temporary non-deductible provisions	8,235	9,068	8,660
Differences in depreciations	(15,233)	(14,641)	(16,029)
Other temporary tax deductions	(4,221)	(3,847)	(2,995)
NET DEFERRED TAX LIABILITY	**(5,504)**	**(3,310)**	**(5,642)**

The reserves of TotalEnergies subsidiaries that would be taxable if distributed but for which no distribution is planned, and for which no deferred tax liability has therefore been recognized, totaled $6,727 million as of December 31, 2021.

Deferred tax assets not recognized as of December 31, 2021 amount to $4,924 million as their future recovery was not regarded as probable given the expected results of the entities. Particularly in the Exploration & Production segment, when the affiliate or the field concerned is in its exploration phase, the net operating losses created during this phase will be useable only if a final investment and development decision is made. Accordingly, the time limit for the utilization of those net operating losses is not known.

Deferred tax assets not recognized relate notably to France for an amount of $1,371 million, to Canada for an amount of $1,283 million and to United States for an amount of $276 million.

After netting deferred tax assets and liabilities by fiscal entity, deferred taxes are presented on the balance sheet as follows:

As of December 31, (M$)	**2021**	**2020**	**2019**
Deferred tax assets	5,400	7,016	6,216
Deferred tax liabilities	(10,904)	(10,326)	(11,858)
NET AMOUNT	**(5,504)**	**(3,310)**	**(5,642)**

The net deferred tax variation in the balance sheet is analyzed as follows:

As of December 31, (M$)	2021	2020	2019
Opening balance	**(3,310)**	**(5,642)**	**(4,827)**
Deferred tax on income	(1,429)	2,132	(403)
Deferred tax on shareholders' equity (a)	(546)	137	255
Changes in scope of consolidation and others	(315)	76	(695)
Currency translation adjustment	96	(13)	28
CLOSING BALANCE	**(5,504)**	**(3,310)**	**(5,642)**

(a) This amount includes mainly deferred taxes on actuarial gains and losses, current income taxes and deferred taxes for changes in fair value of investments inequity instruments, as well as deferred taxes related to the cash flow hedge (see Note 9 to the Consolidated Financial Statements).

Reconciliation between provision for income taxes and pre-tax income

For the year ended December 31, (M$)	2021	2020	2019
Consolidated net income	16,366	(7,336)	11,438
Income taxes	9,587	318	5,872
Pre-tax income	**25,953**	**(7,018)**	**17,310**
French statutory tax rate	28.41%	32.02%	34.43%
Theoretical tax charge	**(7,373)**	**2,247**	**(5,960)**
Difference between French and foreign income tax rates	(3,754)	(1,109)	(2,007)
Tax effect of equity in income (loss) of affiliates	977	145	1,173
Permanent differences	738	665	1,422
Adjustments on prior years income taxes	109	(31)	12
Adjustments on deferred tax related to changes in tax rates	(119)	(204)	(270)
Variation of deferred tax assets not recognized	(165)	(2,031)	(242)
INCOME TAXES IN THE STATEMENT OF INCOME	**(9,587)**	**(318)**	**(5,872)**

The French statutory tax rate includes the standard corporate tax rate (27.5%), additional and exceptional applicable taxes that bring the overall tax rate to 28.41% in 2021 (versus 32.02% in 2020 and 34.43% in 2019).

Permanent differences are mainly due to impairment of goodwill and to dividends from non-consolidated companies as well as the specific taxation rules applicable to certain activities.

Schedule of losses and tax credits carried forward

TotalEnergies has deferred tax assets related to losses and carried forward tax credit which expire according to the following years:

As of December 31, (M$)	2021	2020	2019
2020			71
2021		69	48
2022	27	26	27
2023	1	7	19
2024(a)	5	2	1,310
2025(b)	25	1,643	
2026 and after	1,652		
Unlimited	3,419	3,359	2,277
TOTAL	**5,129**	**5,106**	**3,752**

(a) 2024 and after for 2019.
(b) 2025 and after for 2020.

As of December 31, 2021 the schedule of deferred tax assets related to carried forward tax credits on net operating losses for the main countries is as follows:

	Tax				
As of December 31, 2021 (M$)	**Australia**	**United States**	**Canada**	**France**	**United Kingdom**
2022					
2023					
2024					
2025			17		
2026 and after		424	1,062		
Unlimited	1,044	472		586	145
TOTAL	**1,044**	**896**	**1,079**	**586**	**145**

Note 12 Provisions and other non-current liabilities

12.1 PROVISIONS AND OTHER NON-CURRENT LIABILITIES

Accounting principles

A provision is recognized when TotalEnergies has a present obligation, legal or constructive, as a result of a past event for which it is probable that an outflow of resources will be required and when a reliable estimate can be made regarding the amount of the obligation. The amount of the liability corresponds to the best possible estimate.

Provisions and non-current liabilities are comprised of liabilities for which the amount and the timing are uncertain. They arise from environmental risks, legal and tax risks, litigation and other risks.

As of December 31, (M$)	**2021**	**2020**	**2019**
Litigations and accrued penalty claims	285	320	386
Provisions for environmental contingencies	812	960	742
Asset retirement obligations	14,976	15,368	14,492
Other non-current provisions	2,766	2,868	2,927
of which restructuring activities	*506*	*293*	*135*
of which financial risks related to non-consolidated and equity consolidated affiliates	*265*	*134*	*130*
of which contingency reserve on solar panels warranties (SunPower)	*83*	*82*	*140*
Other non-current liabilities	1,430	1,409	2,066
TOTAL	**20,269**	**20,925**	**20,613**

In 2021, litigation reserves amount to $285 million of which $192 million in the Exploration & Production, notably in Brazil, Bolivia and Angola.

In 2020, litigation reserves amounted to $320 million of which $208 million in the Exploration & Production, notably in Brazil and Angola.

In 2019, litigation reserves amounted to $386 million of which $286 million in the Exploration & Production, notably in Brazil, Angola and in the USA.

Other non-current liabilities mainly include debts whose maturity is more than one year related to fixed assets acquisitions.

Changes in provisions and other non-current liabilities

Changes in provisions and other non-current liabilities are as follows:

(M$)	**As of January, 1**	**Allowances**	**Reversals**	**Currency translation adjustment**	**Other**	**As of December, 31**
2021	**20,925**	**1,446**	**(1,560)**	**(404)**	**(138)**	**20,269**
of which asset retirement obligations		*449*	*(527)*			
of which provisions for environmental contingencies		*43*	*(178)*			
of which provisions for restructuring of activities		*415*	*(178)*			
2020	**20,613**	**1,756**	**(1,378)**	**452**	**(518)**	**20,925**
of which asset retirement obligations		*607*	*(519)*			
of which provisions for environmental contingencies		*217*	*(93)*			
of which provisions for restructuring of activities		*271*	*(135)*			
2019	**21,432**	**1,248**	**(2,414)**	**(33)**	**380**	**20,613**
of which asset retirement obligations		*639*	*(460)*			
of which provisions for environmental contingencies		*30*	*(92)*			
of which provisions for restructuring of activities		*60*	*(122)*			

Asset retirement obligations

Accounting principles

Asset retirement obligations, which result from a legal or constructive obligation, are recognized based on a reasonable estimate in the period in which the obligation arises.

The associated asset retirement costs are capitalized as part of the carrying amount of the underlying asset and depreciated over the useful life of this asset.

An entity is required to measure changes in the liability for an asset retirement obligation due to the passage of time (accretion) by applying a risk-free discount rate to the amount of the liability. Given the long-term nature of expenditures related to our asset retirement obligations, the rate is determined by reference to the rates of high quality AA-rated corporate bonds on the USD area for a long-term horizon. The increase of the provision due to the passage of time is recognized as “Other financial expense”.

The discount rate used for the valuation of asset retirement obligation is 3% in 2021 and 2020 and 4.5% in 2019 (the expenses are estimated at current currency values with an inflation rate of 1.5% in 2021 and 2020 and 2% in 2019).

A decrease of 0.5% of this rate would increase the asset retirement obligation by $1,384 million, with a corresponding impact in tangible assets, and with a negative impact of approximately $93 million on the following years net income. Conversely, an increase of 0.5% would have a nearly symmetrical impact compared to the effect of the decrease of 0.5%.

Changes in the asset retirement obligation are as follows:

(M$)	As of January 1,	Accretion	Revision in estimates	New obligations	Spending on existing obligations	Currency translation adjustment	Other	As of December 31,
2021	**15,368**	**449**	**(109)**	**228**	**(527)**	**(194)**	**(239)**	**14,976**
2020	14,492	607	526	87	(519)	284	(109)	15,368
2019	14,286	639	(601)	567	(460)	47	14	14,492

12.2 OTHER RISKS AND CONTINGENT LIABILITIES

There are no governmental, legal or arbitration proceedings, including any proceeding of which the Corporation is aware that are pending or threatened against the Company, that could have, or could have had during the last 12 months, a material impact on TotalEnergies' financial situation or profitability.

Described below are the main administrative, legal and arbitration proceedings in which the Corporation and the other entities of TotalEnergies are involved.

FERC

The Office of Enforcement of the US Federal Energy Regulatory Commission (FERC) began in 2015 an investigation in connection with the natural gas trading activities in the United States of TotalEnergies Gas & Power North America, Inc. (TGPNA), a US subsidiary of TotalEnergies. The investigation covered transactions made by TGPNA between June 2009 and June 2012 on the natural gas market. TGPNA received a Notice of Alleged Violations from FERC on September 21, 2015. On April 28, 2016, FERC issued an order to show cause to TGPNA and two of its former employees, and to the Corporation and TotalEnergies Gas & Power Ltd., regarding the same facts. The case was remanded on July 15, 2021 to the FERC Administrative Judge for hearing and consideration on the merits. TGPNA contests the claims brought against it.

A class action, launched to seek damages from these three companies, was dismissed by a judgment of the US District court of New York issued on March 15, 2017. The Court of Appeal upheld this judgment on May 4, 2018. In September 2019, a California city initiated another class action against the same parties based on the same legal ground. This class action was dismissed by the US District court of New York on June 8, 2020. This judgment was confirmed on appeal by a ruling issued on December 3, 2021.

Dispute relating to Climate

In France, the Corporation was assigned in January 2020 before Nanterre's Court of Justice by certain associations and local communities in order to oblige the Company to complete its Vigilance Plan, by identifying in detail risks relating to a global warming above 1.5°C, as well as indicating the expected amount of future greenhouse gas emissions related to the Company's activities and its product utilization via third parties. TotalEnergies estimates that it has fulfilled its obligations regarding vigilance duty.

In the United States, two subsidiaries of TotalEnergies were assigned in 2017 by certain communities and associations for their liability in climate change before a California Court. These two subsidiaries, as well as the 34 other companies and professional associations, are contesting the State Court's competence to rule this request. In September 2020, the Attorney General of the State of Delaware launched an indemnity claim based upon climate change against the Corporation, Total Specialties USA (now known as TotalEnergies Marketing USA, Inc.) and about 30 other oil companies before a court of this State. These companies are contesting the competence of such court to rule this request.

Note 13 Off balance sheet commitments and lease contracts

13.1 OFF BALANCE SHEET COMMITMENTS AND CONTRACTUAL OBLIGATIONS

		Maturity and installments		
As of December 31, 2021 (M$)	**Total**	**Less than 1 year**	**Between 1 and 5 years**	**More than 5 years**
Non-current debt obligations net of hedging instruments *(Note 15)*	40,311	–	16,811	23,500
Current portion of non-current debt obligations net of hedging instruments *(Note 15)*	5,073	5,073	–	–
Lease obligations *(Note 13.2)*	9,034	1,390	3,321	4,323
Asset retirement obligations *(Note 12)*	14,976	610	1,751	12,615
Contractual obligations recorded in the balance sheet	**69,394**	**7,073**	**21,883**	**40,438**
Lease obligations for low value assets, short term contracts or not yet commenced *(Note 13.2)*	1,679	689	543	447
Purchase obligations	136,032	13,333	36,174	86,525
Contractual obligations not recorded in the balance sheet	**137,711**	**14,022**	**36,717**	**86,972**
TOTAL OF CONTRACTUAL OBLIGATIONS	**207,105**	**21,095**	**58,600**	**127,410**
Guarantees given to customs authorities	2,236	2,122	50	64
Guarantees given on borrowings	20,428	595	3,734	16,099
Guarantees related to sales of businesses	316	163	–	153
Guarantees of current liabilities	70	69	1	–
Guarantees to customers / suppliers	23,494	3,093	4,376	16,025
Letters of credit	2,993	2,869	122	2
Other operating commitments	21,138	3,058	1,594	16,486
TOTAL OF OTHER COMMITMENTS GIVEN	**70,675**	**11,969**	**9,877**	**48,829**
Assets received as collateral (security interests)	62	37	16	9
Sales obligations	92,555	7,565	33,271	51,719
Other commitments received	22,326	17,285	1,755	3,286
TOTAL OF COMMITMENTS RECEIVED	**114,943**	**24,887**	**35,042**	**55,014**
Of which commitments given relating to joint ventures	*33,373*	*253*	*7,353*	*25,767*
Of which commitments given relating to associates	*34,491*	*727*	*9,110*	*24,654*

		Maturity and installments		
As of December 31, 2020 (M$)	**Total**	**Less than 1 year**	**Between 1 and 5 years**	**More than 5 years**
Non-current debt obligations net of hedging instruments *(Note 15)*	48,705	–	22,745	25,960
Current portion of non-current debt obligations net of hedging instruments *(Note 15)*	4,674	4,674	–	–
Lease obligations *(Note 13.2)*	8,943	1,207	3,178	4,558
Asset retirement obligations *(Note 12)*	15,368	463	1,840	13,065
Contractual obligations recorded in the balance sheet	**77,690**	**6,344**	**27,763**	**43,583**
Lease obligations for low value assets, short term contracts or not yet commenced *(Note 13.2)*	1,745	704	626	415
Purchase obligations	143,177	11,719	39,126	92,332
Contractual obligations not recorded in the balance sheet	**144,922**	**12,423**	**39,752**	**92,747**
TOTAL OF CONTRACTUAL OBLIGATIONS	**222,612**	**18,767**	**67,515**	**136,330**
Guarantees given to customs authorities	2,312	2,189	60	63
Guarantees given on borrowings	14,164	746	3,660	9,758
Guarantees related to sales of businesses	333	179	–	154
Guarantees of current liabilities	147	68	56	23
Guarantees to customers / suppliers	19,182	2,603	1,853	14,726
Letters of credit	2,432	2,297	135	–
Other operating commitments	23,879	3,224	3,002	17,653
TOTAL OF OTHER COMMITMENTS GIVEN	**62,449**	**11,306**	**8,766**	**42,377**
Assets received as collateral (security interests)	77	28	24	25
Sales obligations	80,521	7,001	29,362	44,158
Other commitments received	20,401	15,270	1,474	3,657
TOTAL OF COMMITMENTS RECEIVED	**100,999**	**22,299**	**30,860**	**47,840**
Of which commitments given relating to joint ventures	*34,920*	*644*	*7,288*	*26,988*
Of which commitments given relating to associates	*51,795*	*999*	*8,664*	*42,132*

As of December 31, 2019 (M$)	**Total**	**Maturity and installments** **Less than 1 year**	**Between 1 and 5 years**	**More than 5 years**
Non-current debt obligations net of hedging instruments *(Note 15)*	40,931	–	19,888	21,043
Current portion of non-current debt obligations net of hedging instruments *(Note 15)*	5,331	5,331	–	–
Lease obligations *(Note 13.2)*	7,465	1,202	2,883	3,380
Asset retirement obligations *(Note 12)*	14,492	617	3,153	10,722
Contractual obligations recorded in the balance sheet	**68,219**	**7,150**	**25,924**	**35,145**
Lease obligations for low value assets, short term contracts or not yet commenced *(Note 13.2)*	2,077	536	879	662
Purchase obligations	147,516	10,763	38,189	98,564
Contractual obligations not recorded in the balance sheet	**149,593**	**11,299**	**39,068**	**99,226**
TOTAL OF CONTRACTUAL OBLIGATIONS	**217,812**	**18,449**	**64,992**	**134,371**
Guarantees given to customs authorities	2,012	1,876	17	119
Guarantees given on borrowings	14,510	306	7,372	6,832
Guarantees related to sales of businesses	331	163	16	152
Guarantees of current liabilities	172	79	60	33
Guarantees to customers / suppliers	12,318	1,435	2,169	8,714
Letters of credit	2,786	2,768	18	–
Other operating commitments	22,055	3,240	1,202	17,613
TOTAL OF OTHER COMMITMENTS GIVEN	**54,184**	**9,867**	**10,854**	**33,463**
Assets received as collateral (security interests)	85	23	37	25
Sales obligations	93,441	7,135	31,330	54,976
Other commitments received	22,358	16,845	1,705	3,808
TOTAL OF COMMITMENTS RECEIVED	**115,884**	**24,003**	**33,072**	**58,809**
Of which commitments given relating to joint ventures	*39,055*	*461*	*11,822*	*26,772*
Of which commitments given relating to associates	*31,465*	*913*	*8,381*	*22,171*

A. Contractual obligations

Debt obligations

"Non-current debt obligations" are included in the items "Non-current financial debt" and "Non-current financial assets" of the Consolidated Balance Sheet. It includes the non-current portion of swaps hedging bonds and excludes non-current lease obligations of $7,644 million.

The current portion of non-current debt is included in the items "Current borrowings", "Current financial assets" and "Other current financial liabilities" of the Consolidated Balance Sheet. It includes the current portion of swaps hedging bonds and excludes the current portion of lease obligations of $1,390 million.

The information regarding contractual obligations linked to indebtedness is presented in Note 15 to the Consolidated Financial Statements.

Lease contracts

The information regarding leases is presented in Note 13.2 to the Consolidated Financial Statements.

Asset retirement obligations

This item represents the discounted present value of Exploration & Production and Integrated Gas, Renewables & Power asset retirement obligations, primarily asset removal costs at the completion date. The information regarding contractual obligations linked to asset retirement obligations is presented in Note 12 to the Consolidated Financial Statements.

Purchase obligations

Purchase obligations are obligations under contractual agreements to purchase goods or services, including capital projects. These obligations are enforceable and legally binding on the company and specify all significant terms, including the amount and the timing of the payments.

These obligations mainly include: unconditional hydrocarbon purchase contracts (except where an active, highly-liquid market exists and when the hydrocarbons are expected to be re-sold shortly after purchase) in the Integrated Gas, Renewables & Power segment, reservation of transport capacities in pipelines, unconditional exploration works and development works in the Exploration & Production segment, and contracts for capital investment projects in the Refining & Chemicals segment.

B. Other commitments given

Guarantees given to customs authorities

These consist of guarantees given by TotalEnergies to customs authorities in order to guarantee the payments of taxes and excise duties on the importation of oil and gas products, mostly in France.

Guarantees given on borrowings

TotalEnergies guarantees bank debt and lease obligations of certain non-consolidated subsidiaries and equity affiliates. Maturity dates vary, and guarantees will terminate on payment and/or cancellation of the obligation. A payment would be triggered by failure of the guaranteed party to fulfill its obligation covered by the guarantee, and no assets are held as collateral for these guarantees. As of December 31, 2021, the maturities of these guarantees are up to 2053.

As of December 31, 2021, the guarantees provided by TotalEnergies SE in connection with the financing of the Ichthys LNG project amount to $4,860 million. As of December 31, 2020, the guarantees amounted to $4,912 million.

As of December 31, 2021, the guarantees provided by TotalEnergies SE in connection with the financing of the Mozambique LNG project amount to $4,600 million.

As of December 31, 2021, the guarantees provided by TotalEnergies SE in connection with the financing of the Yamal LNG project amount to $3,469 million. As of December 31, 2020, the guarantees amounted to $3,250 million.

As of December 31, 2021, guarantees provided by TotalEnergies SE in connection with the financing of the Bayport Polymers LLC project, amount to $1,820 million as in 2020.

As of December 31, 2021, TotalEnergies SE has confirmed guarantees for TotalEnergies Refining Saudi Arabia SAS shareholders' advances for an amount of $1,120 million.As of December 31, 2020, the guarantees amounted to $1,164 million.

As of December 31, 2021, the guarantees provided by TotalEnergies SE in connection with the financing of the Arctic LNG2 project amount to $1,076 million.

As of December 31, 2021, the guarantee given in 2008 by TotalEnergies SE in connection with the financing of the Yemen LNG project amounts to $509 million as in 2020.

Indemnities related to sales of businesses

In the ordinary course of business, TotalEnergies executes contracts involving standard indemnities for the oil industry and indemnities specific to transactions such as sales of businesses. These indemnities might include claims against any of the following: environmental, tax and shareholder matters, intellectual property rights, governmental regulations and employment-related matters, and commercial contractual relationships. Performance under these indemnities would generally be triggered by a breach of terms of the contract or by a third party claim. TotalEnergies regularly evaluates the probability of having to incur costs associated with these indemnities.

Other guarantees given

Non-consolidated subsidiaries

TotalEnergies also guarantees the current liabilities of certain non-consolidated subsidiaries. Performance under these guarantees would be triggered by a financial default of the entity.

Operating agreements

As part of normal ongoing business operations and consistent with generally accepted industry practices, TotalEnergies enters into numerous agreements with other parties. These commitments are often entered into for commercial purposes, for regulatory purposes or for other operating agreements.

C. Commitments received

Sales obligations

These amounts represent binding obligations to sell goods, including in particular hydrocarbon sales contracts (except where an active, highly-liquid market exists and when the volumes are expected to be re-sold shortly after purchase).

13.2 LEASE CONTRACTS

Accounting principles

A lease contract is a contract that grants lessee the right to use an identified asset for a specified period of time in exchange for consideration. At lease inception, an asset corresponding to right of use and a debt are recognized in the lessee’s balance sheet. Carrying value of right of use corresponds to present value of future lease payments plus any direct costs incurred for concluding the contract. Lease debt is recorded as a liability in the balance sheet under financial debts. Rights of use are depreciated over the useful lives applied by TotalEnergies.

Leases that are of short duration or that relate to low value assets are not recorded in the balance sheet, in accordance with the exemptions in the standard. They are presented as off-balance sheet commitments.

➢ ***First-time application of IFRS 16 "Leases"***

As part of the first application of IFRS 16 "Leases" as of January 1, 2019, TotalEnergies.:

- applied the simplified retrospective transition method, accounting for the cumulative effect of the initial application of the standard at the date of first application, without restating the comparative periods;
- used the following simplification measures provided by the standard in the transitional provisions:
  - exclusion of contracts that TotalEnergies. had not previously identified as containing a lease under IAS 17 and IFRIC 4,
  - exclusion of leases whose term ends within 12 months of the date of first application;
- recognized each lease component as a separate lease, separately from non-lease components of the lease (services);
- applied the two exemptions of the standard on short-term leases and leases of low-value assets.

The impact of the application of this standard as at January 1, 2019 is $5,698 million on fixed assets, $(5,505) million on net debt and $(193) million on other assets and liabilities. The weighted average incremental borrowing rate of 4.5% at transition date was determined on the basis of the initial duration of the contracts.

In 2019, the impact on fixed assets was broken down as follows:

(M$)	
Right of use of buildings	2,278
Right of use of machinery, plant and equipment (including transportation equipment)	2,632
Other right of use	788
TOTAL	**5,698**

TotalEnergies mainly leases real estate, retail stations, ships, and other equipment (see Note 7 to the Consolidated Financial Statements).

The future minimum lease payments on leases to which TotalEnergies is committed are as follows:

For the year ended December 31, 2021 (M$)	**Exempted contracts**	**Leases recorded in balance sheet**
2022	689	1,835
2023	194	1,347
2024	136	1,199
2025	111	1,097
2026	102	1,021
2027 and beyond	447	6,017
Total minimum payments	**1,679**	**12,516**
Less financial expenses		(3,482)
Nominal value of contracts		**9,034**
Less current portion of lease contracts *(note 15)*		(1,390)
Non-current lease liabilities		**7,644**

For the year ended December 31, 2020 (M$)	**Exempted contracts**	**Leases recorded in balance sheet**
2021	704	1,659
2022	252	1,366
2023	159	1,117
2024	118	1,022
2025	97	964
2026 and beyond	415	6,325
Total minimum payments	**1,745**	**12,453**
Less financial expenses		(3,510)
Nominal value of contracts		**8,943**
Less current portion of lease contracts *(note 15)*		(1,207)
Non-current lease liabilities		**7,736**

For the year ended December 31, 2019 (M$)	**Exempted contracts**	**Leases recorded in balance sheet**
2020	536	1,586
2021	360	1,228
2022	212	1,019
2023	162	835
2024	145	766
2025 and beyond	662	4,757
Total minimum payments	**2,077**	**10,191**
Less financial expenses		(2,726)
Nominal value of contracts		**7,465**
Less current portion of lease contracts *(note 15)*		(1,202)
Non-current lease liabilities		**6,263**

For the year ended December 31, 2021, rental expense recorded in the income statement and incurred under short term leases or low value assets leases and under variable lease payments is $487million and $242 million, respectively.

For the year ended December 31, 2020, rental expense recorded in the income statement and incurred under short term leases or low value assets leases and under variable lease payments was $600 million and $162 million, respectively.

For the year ended December 31, 2019, rental expense recorded in the income statement and incurred under short team leases or low value assets leases and under variable lease payments was $366 million and $132 million, respectively.

Other information required on lease debts, notably their maturity, is presented in Note 15 to the consolidated financial statements.

Note 14 Financial assets and liabilities analysis per instrument class and strategy

The financial assets and liabilities disclosed in the balance sheet are detailed as follows:

As of December 31, 2021 (M$) **Assets / (Liabilities)**	**Amortized cost**	**Fair value through P&L**	**Other Comprehensive Income**	**Fair value of bonds hedging instruments**	**Total**	**Fair value**
Equity affiliates: loans	4,532	–	–	–	4,532	**4,532**
Other investments	–	1,052	573	–	1,625	**1,625**
Non-current financial assets	847	770	–	787	2,404	**2,404**
Other non-current assets	2,419	–	–	–	2,419	**2,419**
Accounts receivable, net[b]	21,983	–	–	–	21,983	**21,983**
Other operating receivables	7,141	21,067	1,345	–	29,553	**29,553**
Current financial assets	12,001	272	–	42	12,315	**12,315**
Cash and cash equivalents	21,342	–	–	–	21,342	**21,342**
Total financial assets	**70,265**	**23,161**	**1,918**	**829**	**96,173**	**96,173**
Total non-financial assets					**197,285**	
TOTAL ASSETS					**293,458**	
Non-current financial debt[a]	(47,973)	(41)	–	(1,498)	(49,512)	**(53,144)**
Accounts payable[b]	(36,837)	–	–	–	(36,837)	**(36,837)**
Other operating liabilities	(11,128)	(15,266)	(900)	–	(27,294)	**(27,294)**
Current borrowings[a]	(15,035)	–	–	–	(15,035)	**(15,039)**
Other current financial liabilities	–	(56)	–	(316)	(372)	**(372)**
Total financial liabilities	**(110,973)**	**(15,363)**	**(900)**	**(1,814)**	**(129,050)**	**(132,686)**
Total non-financial liabilities					**(164,408)**	
TOTAL LIABILITIES					**(293,458)**	

(a) The financial debt is adjusted to the hedged risks value (currency and interest rate) as part of hedge accounting (see Note 15 to the Consolidated Financial Statements).
(b) The impact of offsetting on accounts receivable, net is $(4,584) million and $4,584 million on accounts payable.

As of December 31, 2020 (M$) **Assets / (Liabilities)**	**Amortized cost**	**Fair value through P&L**	**Other Comprehensive Income**	**Fair value of bonds hedging instruments**	**Total**	**Fair value**
Equity affiliates: loans	5,129	–	–	–	5,129	**5,129**
Other investments	–	1,224	783	–	2,007	**2,007**
Non-current financial assets	1,019	541	–	3,221	4,781	**4,781**
Other non-current assets	2,745	–	–	–	2,745	**2,745**
Accounts receivable, net[b]	14,068	–	–	–	14,068	**14,068**
Other operating receivables	6,615	1,428	–	–	8,043	**8,043**
Current financial assets	4,547	65	–	18	4,630	**4,630**
Cash and cash equivalents	31,268	–	–	–	31,268	**31,268**
Total financial assets	**65,391**	**3,258**	**783**	**3,239**	**72,671**	**72,671**
Total non-financial assets					**193,461**	
TOTAL ASSETS					**266,132**	
Non-current financial debt[a]	(58,470)	(118)	–	(1,615)	(60,203)	**(66,210)**
Accounts payable[b]	(23,574)	–	–	–	(23,574)	**(23,574)**
Other operating liabilities	(10,635)	(3,666)	–	(1)	(14,302)	**(14,302)**
Current borrowings[a]	(17,099)	–	–	–	(17,099)	**(17,121)**
Other current financial liabilities	–	(99)	–	(104)	(203)	**(203)**
Total financial liabilities	**(109,778)**	**(3,883)**	**–**	**(1,720)**	**(115,381)**	**(121,410)**
Total non-financial liabilities					**(150,751)**	
TOTAL LIABILITIES					**(266,132)**	

(a) The financial debt is adjusted to the hedged risks value (currency and interest rate) as part of hedge accounting (see Note 15 to the Consolidated Financial Statements).
(b) The impact of offsetting on accounts receivable, net is $(1,844) million and $1,844 million on accounts payable.

As of December 31, 2019

(M$)

Assets / (Liabilities)	**Amortized cost**	**Fair value through P&L**	**Other Comprehensive Income**	**Fair value of bonds hedging instruments**	**Total**	**Fair value**
Equity affiliates: loans	3,999	–	–	–	3,999	3,999
Other investments	–	1,272	506	–	1,778	1,778
Non-current financial assets	164	236	–	512	912	912
Other non-current assets	2,314	–	–	–	2,314	2,314
Accounts receivable, net(b)	18,488	–	–	–	18,488	18,488
Other operating receivables	6,713	4,791	–	2	11,506	11,506
Current financial assets	3,870	122	–	–	3,992	3,992
Cash and cash equivalents	27,352	–	–	–	27,352	27,352
Total financial assets	**62,900**	**6,421**	**506**	**514**	**70,341**	**70,341**
Total non-financial assets					**202,953**	
TOTAL ASSETS					**273,294**	
Non-current financial debt(a)	(46,035)	(44)	–	(1,694)	(47,773)	(50,921)
Accounts payable(b)	(28,394)	–	–	–	(28,394)	(28,394)
Other operating liabilities	(10,927)	(5,333)	–	(2)	(16,262)	(16,262)
Current borrowings (a)	(14,819)	–	–	–	(14,819)	(14,819)
Other current financial liabilities	–	(63)	–	(424)	(487)	(487)
Total financial liabilities	**(100,175)**	**(5,440)**	**–**	**(2,120)**	**(107,735)**	**(110,883)**
Total non-financial liabilities					**(165,559)**	
TOTAL LIABILITIES					**(273,294)**	

(a) The financial debt is adjusted to the hedged risks value (currency and interest rate) as part of hedge accounting (see Note 15 to the Consolidated Financial Statements).

(b) The impact of offsetting on accounts receivable, net is $(2,073) million and $2,073 million on accounts payable.

Note 15 Financial structure and financial costs

15.1 FINANCIAL DEBT AND DERIVATIVE FINANCIAL INSTRUMENTS

A) Non-current financial debt and derivative financial instruments

As of December 31, 2021
(M$)

(Assets) / Liabilities	**Secured**	**Unsecured**	**Total**
Non-current financial debt	7,720	41,792	49,512
of which hedging instruments of non-current financial debt (liabilities)	–	*1,498*	*1,498*
Non-current financial assets	(847)	(1,557)	(2,404)
of which hedging instruments of non-current financial debt (assets)	–	*(787)*	*(787)*
NON-CURRENT NET FINANCIAL DEBT AND RELATED FINANCIAL INSTRUMENTS	**6,873**	**40,235**	**47,108**
Variable rate bonds or bonds after fair value hedge	–	12,820	12,820
Fixed rate bonds or bonds after cash flow hedge	–	27,147	27,147
Other floating rate debt	15	634	649
Other fixed rate debt	61	363	424
Lease obligations	7,644	-	7,644
Non-current financial assets excluding derivative financial instruments	(847)	(675)	(1,522)
Non-current instruments held for trading	–	(54)	(54)
NON-CURRENT NET FINANCIAL DEBT AND RELATED FINANCIAL INSTRUMENTS	**6,873**	**40,235**	**47,108**

As of December 31, 2020
(M$)

(Assets) / Liabilities	**Secured**	**Unsecured**	**Total**
Non-current financial debt	7,849	52,354	60,203
of which hedging instruments of non-current financial debt (liabilities)	–	*1,615*	*1,615*
Non-current financial assets	(1,019)	(3,762)	(4,781)
of which hedging instruments of non-current financial debt (assets)	–	*(3,221)*	*(3,221)*
NON-CURRENT NET FINANCIAL DEBT AND RELATED FINANCIAL INSTRUMENTS	**6,830**	**48,592**	**55,422**
Variable rate bonds or bonds after fair value hedge	–	16,553	16,553
Fixed rate bonds or bonds after cash flow hedge	–	28,080	28,080
Other floating rate debt	40	3,944	3,984
Other fixed rate debt	73	438	511
Lease obligations	7,736	–	7,736
Non-current financial assets excluding derivative financial instruments	(1,019)	(432)	(1,451)
Non-current instruments held for trading	–	9	9
NON-CURRENT NET FINANCIAL DEBT AND RELATED FINANCIAL INSTRUMENTS	**6,830**	**48,592**	**55,422**

As of December 31, 2019
(M$)

(Assets) / Liabilities	**Secured**	**Unsecured**	**Total**
Non-current financial debt	6,438	41,335	47,773
of which hedging instruments of non-current financial debt (liabilities)	–	*1,694*	*1,694*
Non-current financial assets	(164)	(748)	(912)
of which hedging instruments of non-current financial debt (assets)	–	*(512)*	*(512)*
NON-CURRENT NET FINANCIAL DEBT AND RELATED FINANCIAL INSTRUMENTS	**6,274**	**40,587**	**46,861**
Variable rate bonds or bonds after fair value hedge	–	19,340	19,340
Fixed rate bonds or bonds after cash flow hedge	–	20,499	20,499
Other floating rate debt	72	618	690
Other fixed rate debt	103	322	425
Lease obligations	6,263	–	6,263
Non-current financial assets excluding derivative financial instruments	(164)	(169)	(333)
Non-current instruments held for trading	–	(23)	(23)
NON-CURRENT NET FINANCIAL DEBT AND RELATED FINANCIAL INSTRUMENTS	**6,274**	**40,587**	**46,861**

In April 2020, TotalEnergies put in place a new committed syndicated credit line with banking counterparties for an initial amount of USD 6,350 million and with a 12-month tenor (with the option to extend its maturity twice by a further 6 months at TotalEnergies' hand). On April 1, 2021, TotalEnergies reimbursed in full the balance of this committed syndicated credit line.

The bonds, as of December 31, 2021, after taking into account currency and interest rates swaps fair value, are detailed as follows:

Bonds after fair value hedge or variable rate bonds(a) (M$)	**Currency of issuance**	**Amount after December 31, 2021**	**Amount after December 31, 2020**	**Amount after December 31, 2019**	**Range of current maturities**	**Range of initial current rate before hedging instruments**
Bond	USD	5,001	6,253	6,276	2023 - 2028	2.434% - 3.883 %
Bond	USD	–	–	300		
Bond	CHF	409	410	410	2026 - 2029	0.176% - 0.298 %
Bond	NZD	–	–	164		
Bond	AUD	71	377	378	2025	4.000 %
Bond	EUR	7,528	8,666	9,675	2022 - 2044	0.250% - 3.125 %
Bond	EUR	–	–	1,641		
Bond	CAD	–	–	92		
Bond	GBP	1,524	1,522	2,035	2022 - 2031	1.405% - 2.250 %
Bond	HKD	129	129	128	2025	2.920 %
Current portion (less than one year)		(2,540)	(2,699)	(3,661)		
Principal financing entities(b)		**12,122**	**14,658**	**17,438**		
TotalEnergies SE(c)						
Bond		1,200	1,200	1,203		
Current portion (less than one year)		(1,200)	–	–		
Other consolidated subsidiaries		698	695	699		
TOTAL VARIABLE RATE BONDS OR BONDS AFTER FAIR VALUE HEDGE		**12,820**	**16,553**	**19,340**		

Bonds after cash flow hedge or fixed rate bonds (M$)	**Currency of issuance**	**Amount after December 31, 2021**	**Amount after December 31, 2020**	**Amount after December 31, 2019**	**Range of current maturities**	**Range of initial current rate before hedging instruments**
Bond	EUR	15,487	15,259	10,246	2024 - 2044	0.696 % - 5.125 %
Bond	USD	9,941	11,524	8,565	2022 - 2060	2.829% - 3.461 %
Bond	HKD	200	208	202	2026	3.088 %
Bond	CHF	1,113	1,134	1,079	2024 - 2027	0.510% - 1.010 %
Bond	GBP	1,004	998	982	2024 - 2026	1.250% - 1.660 %
Bond	AUD	5	9	5	2025	4.000 %
Current portion (less than one year)		(1,000)	(1,500)	(1,250)		
Principal financing entities(b)		**26,750**	**27,632**	**19,829**		
Other consolidated subsidiaries		397	448	670		
TOTAL FIXED RATE BONDS OR BONDS AFTER CASH FLOW HEDGE		**27,147**	**28,080**	**20,499**		

(a) The IBOR rate reform will mainly impact the bonds after fair value hedge, on principal financing entities and TotalEnergies SE, indexed on USLIBOR.
At December 31 2021, the amount of the bonds after fair value hedge (both non-current and current portions) on principal financing entities and TotalEnergies SE is $ 15,862 million.

(b) All debt securities issued through the following subsidiaries are fully and unconditionally guaranteed by TotalEnergies SE as to payment of principal, premium, if any, interest and any other amounts due:
- TotalEnergies Capital is a wholly and directly owned subsidiary of TotalEnergies SE (except for one share held by each director). It acts as a financing vehicle for TotalEnergies. The repayment of its financial debt (capital, premium and interest) is fully and unconditionally guaranteed by TotalEnergies SE.
- TotalEnergies Capital Canada Ltd. is a wholly and directly owned subsidiary of TotalEnergies SE. It acts as a financing vehicle for the activities of TotalEnergies in Canada. The repayment of its financial debt (capital, premium and interest) is fully and unconditionally guaranteed by TotalEnergies SE.
- TotalEnergies Capital International is a wholly and directly owned subsidiary of TotalEnergies SE (except for one share held by each director). It acts as a financing vehicle for TotalEnergies. The repayment of its financial debt (capital, premium and interest) is fully and unconditionally guaranteed by TotalEnergies SE.

(c) Debt financing of $1.2 billion through a structure combining the issuance of cash-settled convertible bonds with the purchase of cash-settled call options to hedge TotalEnergies' exposure to the exercise of the conversion rights under the bonds. At 31 December 2021, this debt financing is fully presented as a current portion item.

Loan repayment schedule (excluding current portion)

As of December 31, 2021 (M$)	**Non-current financial debt**	***of which hedging instruments of non-current financial debt (liabilities)***	**Non-current financial assets**	***of which hedging instruments of non-current financial debt (assets)***	**Non-current net financial debt and related financial instruments**	**%**
2023	6,143	*115*	(111)	*(51)*	6,032	13 %
2024	6,506	*190*	(219)	*(103)*	6,287	13 %
2025	4,471	*194*	(89)	*(51)*	4,382	9 %
2026	3,348	*238*	(71)	*(34)*	3,277	7 %
2027 and beyond	29,044	*761*	(1,914)	*(548)*	27,130	58 %
TOTAL	**49,512**	***1,498***	**(2,404)**	***(787)***	**47,108**	**100 %**

As of December 31, 2020 (M$)	**Non-current financial debt**	***of which hedging instruments of non-current financial debt (liabilities)***	**Non-current financial assets**	***of which hedging instruments of non-current financial debt (assets)***	**Non-current net financial debt and related financial instruments**	**%**
2022	9,932	*142*	(142)	*(58)*	9,790	18 %
2023	5,988	*59*	(268)	*(218)*	5,720	10 %
2024	6,340	*115*	(395)	*(277)*	5,945	11 %
2025	4,535	*150*	(260)	*(212)*	4,275	8 %
2026 and beyond	33,408	*1,149*	(3,716)	*(2,456)*	29,692	53 %
TOTAL	**60,203**	***1,615***	**(4,781)**	***(3,221)***	**55,422**	**100 %**

As of December 31, 2019 (M$)	**Non-current financial debt**	***of which hedging instruments of non-current financial debt (liabilities)***	**Non-current financial assets**	***of which hedging instruments of non-current financial debt (assets)***	**Non-current net financial debt and related financial instruments**	**%**
2021	5,716	*204*	(101)	*(9)*	5,615	12 %
2022	6,226	*433*	(148)	*(121)*	6,078	13 %
2023	5,230	*106*	(67)	*(18)*	5,163	11 %
2024	5,885	*139*	(87)	*(83)*	5,798	12 %
2025 and beyond	24,716	*812*	(509)	*(281)*	24,207	52 %
TOTAL	**47,773**	***1,694***	**(912)**	***(512)***	**46,861**	**100 %**

Analysis by currency and interest rate

These analyses take into account interest rate and foreign currency swaps to hedge non-current financial net debt.

As of December 31, (M$)	**2021**	**%**	**2020**	**%**	**2019**	**%**
U.S. Dollar	44,387	94 %	48,609	88 %	43,276	92 %
Euro	1,708	4 %	3,144	6 %	2,639	6 %
Norwegian krone	67	0 %	72	0 %	81	0 %
Other currencies	946	2 %	3,597	6 %	865	2 %
TOTAL	**47,108**	**100 %**	**55,422**	**100 %**	**46,861**	**100 %**

As of December 31, (M$)	**2021**	**%**	**2020**	**%**	**2019**	**%**
Fixed rate	34,353	73 %	34,870	63 %	26,985	58 %
Floating rate	12,755	27 %	20,552	37 %	19,876	42 %
TOTAL	**47,108**	**100 %**	**55,422**	**100 %**	**46,861**	**100 %**

B) Current financial assets and liabilities

Current borrowings consist mainly of drawings on commercial papers or treasury bills and of bank loans. These instruments bear interest at rates that are close to market rates. Current deposits beyond three months include initial margins held as part of the Company's activities on organized markets.

As of December 31, (M$) **(Assets) / Liabilities**	**2021**	**2020**	**2019**
Current financial debt(a)	8,846	11,305	8,710
Current lease obligations	1,390	1,206	1,202
Current portion of non-current financial debt	4,799	4,588	4,907
Current borrowings *(note 14)*	**15,035**	**17,099**	**14,819**
Current portion of hedging instruments of debt (liabilities)	316	104	424
Other current financial instruments (liabilities)	56	99	63
Other current financial liabilities *(note 14)*	**372**	**203**	**487**
Current deposits beyond three months	(11,868)	(4,436)	(3,611)
Non-traded marketable securities	(195)	–	(114)
Financial receivables on sub-lease, current	(132)	(111)	(145)
Current portion of hedging instruments of debt (assets)	(42)	(18)	–
Other current financial instruments (assets)	(78)	(65)	(122)
Current financial assets *(note 14)*	**(12,315)**	**(4,630)**	**(3,992)**
NET CURRENT BORROWINGS	**3,092**	**12,672**	**11,314**

(a) As of December 31, 2021, December 31, 2020 and December 31, 2019, the current financial debt includes a commercial paper program in TotalEnergies Capital and TotalEnergies Capital Canada Ltd. TotalEnergies Capital and TotalEnergies Capital Canada Ltd. are wholly-owned subsidiaries of TotalEnergies SE. They act as financing vehicles for the activities of TotalEnergies. Their debt securities are fully and unconditionally guaranteed by TotalEnergies SE as to payment of principal, premium, if any, interest and any other amounts due.

C) Cash flow from (used in) financing activities

The variations of financial debt are detailed as follows:

			Non-cash changes					
(M$)	As of January 1, 2021	**Cash changes**	Change in scope, including IFRS 5 reclassification	Foreign currency	Changes in fair value	Reclassification Non-current / Current	Other	**As of December 31, 2021**
Non-current financial instruments - assets(a) and non-current financial assets	(4,781)	(290)	1	64	2,432	188	(18)	(2,404)
Non-current financial debt	60,203	(359)	(58)	(183)	(2,377)	(9,254)	1,540	49,512
Non-current financial debt and related financial instruments	**55,422**	**(649)**	**(57)**	**(119)**	**55**	**(9,066)**	**1,522**	**47,108**
Current financial instruments - assets(a)	(194)	191	-	8	(45)	(188)	(24)	(252)
Current borrowings	17,099	(11,047)	15	(283)	(158)	9,254	155	15,035
Current financial instruments - liabilities(a)	203	-	1	(11)	179	-	-	372
Current financial debt and related financial instruments	**17,108**	**(10,856)**	**16**	**(286)**	**(24)**	**9,066**	**131**	**15,155**
Financial debt and financial assets classified as held for sale	313	-	(306)	(11)	-	-	-	(4)
NET FINANCIAL DEBT	**72,843**	**(11,505)**	**(347)**	**(416)**	**31**	**-**	**1,653**	**62,259**

(a) Fair value or cash flow hedge instruments and other non-hedge debt-related derivative instruments.

			Non-cash changes					
(M$)	As of January 1, 2020	**Cash changes**	Change in scope, including IFRS 5 reclassification	Foreign currency	Changes in fair value	Reclassification Non-current / Current	Other	**As of December 31, 2020**
Non-current financial instruments - assets(a) and non-current financial assets	(912)	(228)	3	(59)	(2,729)	118	(974)	(4,781)
Non-current financial debt	47,773	15,800	(456)	192	2,973	(8,711)	2,632	60,203
Non-current financial debt and related financial instruments	**46,861**	**15,572**	**(453)**	**133**	**244**	**(8,593)**	**1,658**	**55,422**
Current financial instruments - assets(a)	(268)	178	–	(6)	46	(118)	(26)	(194)
Current borrowings	14,819	(6,679)	6	(132)	188	8,711	186	17,099
Current financial instruments - liabilities(a)	487	–	(5)	8	(287)	–	–	203
Current financial debt and related financial instruments	**15,038**	**(6,501)**	**1**	**(130)**	**(53)**	**8,593**	**160**	**17,108**
Financial debt and financial assets classified as held for sale	301	–	(10)	22	–	–	–	313
NET FINANCIAL DEBT	**62,200**	**9,071**	**(462)**	**25**	**191**	**–**	**1,818**	**72,843**

(a) Fair value or cash flow hedge instruments and other non-hedge debt-related derivative instruments.

			Non-cash changes						
(M$)	As of January 1, 2019	**Cash changes**	Change in scope, including IFRS 5 reclassification	First application IFRS 16	Foreign currency	Changes in fair value	Reclassification Non-current / Current	Other	**As of December 31, 2019**
Non-current financial instruments - assets(a) and non-current financial assets	(680)	21	12	(50)	4	(71)	144	(292)	(912)
Non-current financial debt	40,129	8,110	(731)	4,805	(48)	484	(6,661)	1,685	47,773
Non-current financial debt and related financial instruments	**39,449**	**8,131**	**(719)**	**4,755**	**(44)**	**413**	**(6,517)**	**1,393**	**46,861**
Current financial instruments - assets(a)	(118)	125	–	–	2	(32)	(144)	(101)	(268)
Current borrowings	13,306	(5,954)	(35)	750	184	(26)	6,661	(67)	14,819
Current financial instruments - liabilities(a)	478	–	–	–	(6)	15	–	–	487
Current financial debt and related financial instruments	**13,666**	**(5,829)**	**(35)**	**750**	**180**	**(43)**	**6,517**	**(168)**	**15,038**
Financial debt and financial assets classified as held for sale	–	–	301	–	–	–	–	–	301
NET FINANCIAL DEBT	**53,115**	**2,302**	**(453)**	**5,505**	**136**	**370**	**–**	**1,225**	**62,200**

(a) Fair value or cash flow hedge instruments and other non-hedge debt-related derivative instruments.

Monetary changes in non-current financial debt are detailed as follows:

For the year ended December 31,

(M$)	**2021**	**2020**	**2019**
Issuance of non-current debt	808	16,075	8,668
Repayment of non-current debt	(1,167)	(275)	(538)
NET AMOUNT	**(359)**	**15,800**	**8,131**

D) Cash and cash equivalents

Accounting principles

Cash and cash equivalents are composed of cash on hand and highly liquid short-term investments that are easily convertible into known amounts of cash and are subject to insignificant risks of changes in value.

Investments with maturity greater than three months and less than twelve months are shown under “Current financial assets”.

Changes in current financial assets and liabilities are included in the financing activities section of the Consolidated Statement of Cash Flows.

Cash and cash equivalents are detailed as follows:

For the year ended December 31,

(M$)	**2021**	**2020**	**2019**
Cash	13,544	14,518	16,456
Cash equivalents	7,798	16,750	10,896
TOTAL	**21,342**	**31,268**	**27,352**

Cash equivalents are mainly composed of deposits with a maturity of less than three months, deposited in government institutions or deposit banks selected in accordance with strict criteria.

As of December 31, 2021, the cash and cash equivalents include $3,097 million subject to restrictions, notably due to regulatory framework or to the fact they are owned by affiliates located in countries with exchange controls.

E) Net-debt-to-capital ratio

For its internal and external communication needs, TotalEnergies calculates a debt ratio by dividing its net financial debt excluding leases by its capital.

The ratio is calculated as follows: *Net debt excluding leases / (Equity + Net debt excluding leases)*

As of December 31,

(M$)

(Assets) / Liabilities	**2021**	**2020**	**2019**
Current borrowings(a)	13,645	15,893	13,617
Other current financial liabilities	372	203	487
Current financial assets(a)	(12,183)	(4,519)	(3,847)
Net financial assets and liabilities held for sale or exchange	(4)	313	301
Non-current financial debt(a)	41,868	52,467	41,510
Non-current financial assets(a)	(1,557)	(3,762)	(748)
Cash and cash equivalents	(21,342)	(31,268)	(27,352)
Net financial debt	**20,799**	**29,327**	**23,968**
Shareholders’ equity – TotalEnergies share	111,736	103,702	116,778
Distribution of the income based on existing shares at the closing date	3,263	2,383	2,527
Shareholders’ equity	**114,999**	**106,085**	**119,305**
NET-DEBT-TO-CAPITAL RATIO EXCLUDING LEASES	**15.3 %**	**21.7 %**	**16.7 %**

(a) Excluding lease receivables & lease debts.

15.2 FAIR VALUE OF FINANCIAL INSTRUMENTS (EXCLUDING COMMODITY CONTRACTS)

Accounting principles

TotalEnergies uses derivative instruments to manage its exposure to risks of changes in interest rates, foreign exchange rates and commodity prices. These financial instruments are accounted for in accordance with IFRS 9, changes in fair value of derivative instruments are recognized in the income statement or in other comprehensive income and are recognized in the balance sheet in the accounts corresponding to their nature, according to the risk management strategy. The derivative instruments used by TotalEnergies are the following:

- Cash management

Financial instruments used for cash management purposes are part of a hedging strategy of currency and interest rate risks within global limits set by TotalEnergies and are considered to be held for trading. Changes in fair value are systematically recorded in the income statement. The balance sheet value of those instruments is included in “Current financial assets” or “Other current financial liabilities”.

- Long-term financing

When an external long-term financing is set up, specifically to finance subsidiaries, and when this financing involves currency and interest rate derivatives, these instruments are qualified as:

1) Fair value hedge of the interest rate and currency risks on the external debt financing the loans to subsidiaries. Changes in fair value of derivatives are recognized in the income statement, as are changes in fair value of underlying financial debts and loans to subsidiaries.

   The fair value of those hedging instruments of long-term financing is included in assets under “Non-current financial assets” or in liabilities under “Non-current financial debt” for the non-current portion. The current portion (less than one year) is accounted for in “Current financial assets” or “Other current financial liabilities”.

   In case of the anticipated termination of derivative instruments accounted for as fair value hedges, the amount paid or received is recognized in the income statement and:

   - If this termination is due to an early cancellation of the hedged items, the adjustment previously recorded as revaluation of those hedged items is also recognized in the income statement;
   - If the hedged items remain in the balance sheet, the adjustment previously recorded as a revaluation of those hedged items is amortized over the remaining life of those items.

   In case of a change in the strategy of the hedge (fair value hedge to cash flow hedge), if the components of the initial aggregated exposure had already been designated in a hedging relationship (FVH), TotalEnergies designates the new instrument as a hedging instrument of an aggregated position (CFH) without having to end the initial hedging relationship.

2) Cash flow hedge when TotalEnergies implements a strategy of fixing interest rate and/or currency rate on the external debt. Changes in fair value are recorded in other comprehensive income for the effective portion of the hedging and in the income statement for the ineffective portion of the hedging. When the hedged transaction affects profit or loss, the fair value variations of the hedging instrument recorded in equity are also symmetrically recycled to the income statement.

   The fair value of those hedging instruments of long-term financing is included in assets under “Non-current financial assets” or in liabilities under “Non-current financial debt” for the non-current portion. The current portion (less than one year) is accounted for in “Current financial assets” or “Other current financial liabilities”.

   If the hedging instrument expires, is sold or terminated by anticipation, gains or losses previously recognized in equity remain in equity. Amounts are recycled to the income statement only when the hedged transaction affects profit or loss.

3) In compliance with IFRS 9, TotalEnergies has decided to recognize in a separate component of the comprehensive income the variation of foreign currency basis spread (Cross Currency Swaps) identified in the hedging relationships qualified as fair value hedges and cash flow hedges.

- Foreign subsidiaries’ equity hedge

Certain financial instruments hedge against risks related to the equity of foreign subsidiaries whose functional currency is not the euro (mainly the dollar). These instruments qualify as “net investment hedges” and changes in fair value are recorded in other comprehensive income under "Currency translation" for the effective portion of the hedging and in the income statement for the ineffective portion of the hedging. Gains or losses on hedging instruments previously recorded in equity, are reclassified to the income statement in the same period as the total or partial disposal of the foreign activity.

The fair value of these instruments is recorded under “Current financial assets” and ”Other current financial liabilities”.

- Commitments to purchase shares held by non-controlling interests (put options written on minority interests)

Put options granted to non-controlling-interest shareholders are initially recognized as financial liabilities at the present value of the exercise price of the options with a corresponding reduction in shareholders’ equity - TotalEnergies share. The financial liability is subsequently measured at fair value at each balance sheet date in accordance with contractual clauses and any variation is recorded in the income statement (cost of debt).

A) Impact on the income statement per nature of financial instruments

Assets and liabilities from financing activities

The impact on the income statement of financing assets and liabilities mainly includes:

- Financial income on cash, cash equivalents, and current financial assets (notably current deposits beyond three months) classified as “Loans and receivables”;
- Financial expense of long-term subsidiaries financing, associated hedging instruments (excluding ineffective portion of the hedge detailed below) and financial expense of short-term financing classified as “Financing liabilities and associated hedging instruments”;
- Ineffective portion of bond hedging;

- Financial income and financial expense on lease contracts and,
- Financial income, financial expense and fair value of derivative instruments used for cash management purposes classified as “Assets and liabilities held for trading”.

Financial derivative instruments used for cash management purposes (interest rate and foreign exchange) are considered to be held for trading. Based on practical documentation issues, TotalEnergies did not elect to set up hedge accounting for such instruments. The impact on income statement of the derivatives is offset by the impact of loans and current liabilities they are related to. Therefore these transactions taken as a whole do not have a significant impact on the Consolidated Financial Statements.

For the year ended December 31,

(M$)	**2021**	**2020**	**2019**
Loans and receivables	188	154	200
Financing liabilities and associated hedging instruments	(1,373)	(1,660)	(1,897)
Fair value hedge (ineffective portion)	(10)	12	(1)
Lease assets and obligations	(413)	(422)	(417)
Assets and liabilities held for trading	83	(194)	(237)
IMPACT ON THE COST OF NET DEBT	**(1,525)**	**(2,110)**	**(2,352)**

B) Impact of the hedging strategies

Fair value hedge instruments

The impact on the income statement of the bond hedging instruments which is recorded in the item “Financial interest on debt” in the Consolidated Statement of Income is detailed as follows:

For the year ended December 31,

(M$)	**2021**	**2020**	**2019**
Revaluation impact at market value of bonds	3,199	(4,004)	(762)
Swaps hedging bonds	(3,209)	4,016	761
INEFFECTIVE PORTION OF THE FAIR VALUE HEDGE	**(10)**	**12**	**(1)**

The ineffective portion is not representative of TotalEnergies’ performance considering its objective to hold swaps to maturity. The current portion of the swaps valuation is not subject to active management.

Net investment hedge

As of December 31, 2021, 2020 and 2019 TotalEnergies had no open forward contracts held in respect of net investment hedge strategies.

Cash flow hedge

The impact on the income statement and other comprehensive income of the bonds hedging instruments qualified as cash flow hedges is detailed as follows:

For the year ended December 31,

(M$)	**2021**	**2020**	**2019**
Profit (Loss) recorded in other comprehensive income of the period	(167)	(327)	(585)
Recycled amount from other comprehensive income to the income statement of the period	(113)	139	47

As of December 31, 2021, 2020 and 2019, the ineffective portion of these financial instruments is nil.

Hedging instruments and hedged items by strategy

Fair Value Hedge

The following charts regarding Fair Value Hedge, disclose by nature of hedging instruments (Interest Rate Swaps and Cross Currency Swaps):

- The nominal amounts and carrying amounts of hedging instruments ;
- The carrying amounts of hedged items and cumulative FVH adjustments included in the carrying amounts of the hedged items;
- The hedged items that have ceased to be adjusted for hedging gains and losses.

For the year ended December 31, 2021
(M$)

			Carrying amount of hedging instruments		**Carrying amount of hedged items**		**Cumulative FVH adjustments included in the carrying amount of the hedged items**		
Hedged items	**Hedging instruments**	**Nominal amount of hedging instruments**	Assets	Liabilities	Assets	Liabilities	Assets	Liabilities	**Line items in the statement of financial position**
Bonds	Interest Rate Swaps	6,767	303	(36)	–	(7,037)	–	(837)	*Financial debt / Financial assets*
Bonds	Cross Currency Swaps	9,566	154	(382)	–	(8,865)	–	701	*Financial debt / Financial assets*
End of hedging (before 2018)		–	–	–	–	–	–	(27)	

For the year ended December 31 2020
(M$)

Hedged items	Hedging instruments	Nominal amount of hedging instruments	Carrying amount of hedging instruments		Carrying amount of hedged items		Cumulative FVH adjustments included in the carrying amount of the hedged items		Line items in the statement of financial position
			Assets	Liabilities	Assets	Liabilities	Assets	Liabilities	
Bonds	Interest Rate Swaps	8,063	527	(15)	–	(8,586)	–	(1,136)	*Financial debt / Financial assets*
Bonds	Cross Currency Swaps	11,011	836	(211)	–	(11,109)	–	(98)	*Financial debt / Financial assets*
End of hedging (before 2018)		–	–	–	–	–	–	(47)	

For the year ended December 31, 2019
(M$)

Hedged items	Hedging instruments	Nominal amount of hedging instruments	Carrying amount of hedging instruments		Carrying amount of hedged items		Cumulative FVH adjustments included in the carrying amount of the hedged items		Line item in the statement of financial position
			Assets	Liabilities	Assets	Liabilities	Assets	Liabilities	
Bonds	Interest Rate Swaps	8,012	270	(75)	–	(7,450)	–	(795)	*Financial debt / Financial assets*
Bonds	Cross Currency Swaps	14,357	124	(1,011)	–	(14,357)	–	1,290	*Financial debt / Financial assets*
End of hedging (before 2018)		–	–	–	–	–	–	(71)	

Cash Flow Hedge

The following charts regarding Cash Flow Hedge disclose the nominal amounts and carrying amounts by nature of hedging instruments (Interest Rate Swaps and Cross Currency Swaps).

According to IFRS 9, there is no accounting entry related to Cash Flow Hedge on hedged items.

For the year ended December 31, 2021 (M$)	Nature of hedging instruments	Nominal amount of hedging instruments	Carrying amount of hedging instruments		Line items in the statement of financial position
			Assets	Liabilities	
Bonds	Interest Rate Swaps	12,782	–	(736)	*Financial debt / Financial assets*
Bonds	Cross Currency Swaps	17,511	372	(660)	*Financial debt / Financial assets*

For the year ended December 31, 2020 (M$)	Nature of hedging instruments	Nominal amount of hedging instruments	Carrying amount of hedging instruments		Line items in the statement of financial position
			Assets	Liabilities	
Bonds	Interest Rate Swaps	12,781	–	(1,441)	*Financial debt / Financial assets*
Bonds	Cross Currency Swaps	17,511	1,856	(32)	*Financial debt / Financial assets*

For the year ended December 31, 2019 (M$)	Nature of hedging instruments	Nominal amount of hedging instruments	Carrying amount of hedging instruments		Line items in the statement of financial position
			Assets	Liabilities	
Bonds	Interest Rate Swaps	12,782	25	(527)	*Financial debt / Financial assets*
Bonds	Cross Currency Swaps	12,604	19	(431)	*Financial debt / Financial assets*

C) Maturity of derivative instruments

The maturity of the notional amounts of derivative instruments, excluding the commodity contracts, is detailed in the following table:

For the year ended December 31, 2021		Notional		Notional value schedule					
(M$)	Fair	value	Fair	2023					2027
Assets / (Liabilities)	**value**	**2022**	**value**	**and beyond**	**2023**	**2024**	**2025**	**2026**	**and beyond**
Fair value hedge									
Swaps hedging bonds (assets)	42	566	415	9,659					
Swaps hedging bonds (liabilities)	(316)	3,737	(102)	2,371					
Total swaps hedging bonds - fair value hedge	**(274)**	**4,303**	**313**	**12,030**	**3,858**	**2,087**	**1,630**	**202**	**4,253**
Cash flow hedge									
Swaps hedging bonds (assets)	–	–	372	7,149					
Swaps hedging bonds (liabilities)	–	–	(1,396)	23,144					
Total swaps hedging bonds - cash flow hedge	**–**	**–**	**(1,024)**	**30,293**	**1,000**	**3,659**	**4,459**	**4,068**	**17,107**
Forward exchange contracts related to operating activities (assets)	–	36	–	–					
Forward exchange contracts related to operating activities (liabilities)	(8)	283	(14)	366					
Total forward exchange contracts related to operating activities	**(8)**	**319**	**(14)**	**366**	**171**	**195**	**–**	**–**	**–**
Held for trading									
Other interest rate swaps (assets)	13	20,876	78	5,170					
Other interest rate swaps (liabilities)	(19)	6,470	(41)	2,561					
Total other interest rate swaps	**(6)**	**27,346**	**37**	**7,731**	**1,708**	**2,856**	**2,111**	**751**	**305**
Currency swaps and forward exchange contracts (assets)	65	9,769	17	367					
Currency swaps and forward exchange contracts (liabilities)	(37)	5,065	–	(16)					
Total currency swaps and forward exchange contracts	**28**	**14,834**	**17**	**351**	**265**	**86**	**–**	**–**	**–**

Notional amounts set the levels of commitment and are indicative nor of a contingent gain or loss neither of a related debt.

For the year ended December 31, 2020		Notional		Notional value schedule					
(M$)	Fair	value	Fair	2022					2026
Assets / (Liabilities)	**value**	**2021**	**value**	**and beyond**	**2022**	**2023**	**2024**	**2025**	**and beyond**
Fair value hedge									
Swaps hedging bonds (assets)	18	1,250	1,365	12,642					
Swaps hedging bonds (liabilities)	(104)	1,445	(142)	3,737					
Total swaps hedging bonds - fair value hedge	**(86)**	**2,695**	**1,223**	**16,379**	**4,350**	**3,858**	**2,087**	**1,630**	**4,454**
Cash flow hedge									
Swaps hedging bonds (assets)	–	–	1,856	16,259					
Swaps hedging bonds (liabilities)	–	–	(1,473)	14,033					
Total swaps hedging bonds - cash flow hedge	**–**	**–**	**383**	**30,292**	**–**	**1,000**	**3,659**	**4,459**	**21,174**
Forward exchange contracts related to operating activities (assets)	16	262	20	394					
Forward exchange contracts related to operating activities (liabilities)	–	–	–	–					
Total forward exchange contracts related to operating activities	**16**	**262**	**20**	**394**	**276**	**118**	**–**	**–**	**–**
Held for trading									
Other interest rate swaps (assets)	10	22,011	84	3,214					
Other interest rate swaps (liabilities)	(51)	7,693	(116)	3,695					
Total other interest rate swaps	**(41)**	**29,704**	**(32)**	**6,909**	**2,067**	**764**	**2,004**	**1,937**	**137**
Currency swaps and forward exchange contracts (assets)	39	3,323	5	344					
Currency swaps and forward exchange contracts (liabilities)	(48)	2,580	(2)	54					
Total currency swaps and forward exchange contracts	**(9)**	**5,903**	**3**	**398**	**189**	**145**	**64**	**–**	**–**

Notional amounts set the levels of commitment and are indicative nor of a contingent gain or loss neither of a related debt.

For the year ended December 31, 2019		Notional			Notional value schedule				
(M$)	Fair	value	Fair	2021					2025
Assets / (Liabilities)	value	2020	value	and beyond	2021	2022	2023	2024	and beyond
Fair value hedge									
Swaps hedging bonds (assets)	–	–	469	10,896					
Swaps hedging bonds (liabilities)	(423)	3,346	(736)	8,127					
Total swaps hedging bonds - fair value hedge	**(423)**	**3,346**	**(267)**	**19,023**	**2,695**	**4,298**	**3,858**	**2,337**	**5,835**
Cash flow hedge									
Swaps hedging bonds (assets)	–	–	43	4,062					
Swaps hedging bonds (liabilities)	–	–	(958)	21,324					
Total swaps hedging bonds - cash flow hedge	**–**	**–**	**(915)**	**25,386**	**–**	**–**	**1,000**	**3,659**	**20,727**
Forward exchange contracts related to operating activities (assets)	1	29	–	–					
Forward exchange contracts related to operating activities (liabilities)	–	–	–	–					
Total forward exchange contracts related to operating activities	**1**	**29**	**–**	**–**	**–**	**–**	**–**	**–**	**–**
Held for trading									
Other interest rate swaps (assets)	11	23,522	50	2,225					
Other interest rate swaps (liabilities)	(24)	16,007	(44)	3,475					
Total other interest rate swaps	**(13)**	**39,529**	**6**	**5,700**	**2,217**	**1,463**	**18**	**1,820**	**182**
Currency swaps and forward exchange contracts (assets)	111	6,446	17	431					
Currency swaps and forward exchange contracts (liabilities)	(39)	4,455	–	131					
Total currency swaps and forward exchange contracts	**72**	**10,901**	**17**	**562**	**529**	**33**	**–**	**–**	**–**

Notional amounts set the levels of commitment and are indicative nor of a contingent gain or loss neither of a related debt.

D) Fair value hierarchy

Accounting principles

According to IFRS 13, fair values are estimated for the majority of TotalEnergies' financial instruments, with the exception of publicly traded equity securities and marketable securities for which the market price is used.

Estimations of fair value, which are based on principles such as discounting future cash flows to present value, must be weighted by the fact that the value of a financial instrument at a given time may be influenced by the market environment (liquidity especially), and also the fact that subsequent changes in interest rates and exchange rates are not taken into account.

As a consequence, the use of different estimates, methodologies and assumptions could have a material effect on the estimated fair value amounts.

The methods used are as follows:

- Financial debts, swaps

The market value of swaps and of bonds that are hedged by those swaps has been determined on an individual basis by discounting future cash flows with the market curves existing at year-end.

- Other financial instruments

The fair value of interest rate swaps and of FRA's (Forward Rate Agreements) is calculated by discounting future cash flows on the basis of market curves existing at year-end after adjustment for interest accrued but unpaid. Forward exchange contracts and currency swaps are valued on the basis of a comparison of the negotiated forward rates with the rates in effect on the financial markets at year-end for similar maturities.

Exchange options are valued based on models commonly used by the market.

The fair value hierarchy for financial instruments, excluding commodity contracts, is as follows:

As of December 31, 2021 (M$)	**Quoted prices in active markets for identical assets (level 1)**	**Prices based on observable data (level 2)**	**Prices based on non observable data (level 3)**	**Total**
Fair value hedge instruments	–	39	–	39
Cash flow hedge instruments	–	(1,052)	–	(1,052)
Assets and liabilities held for trading	–	82	–	82
Equity instruments	501	–	–	501
TOTAL	**501**	**(931)**	**–**	**(430)**

As of December 31, 2020 (M$)	**Quoted prices in active markets for identical assets (level 1)**	**Prices based on observable data (level 2)**	**Prices based on non observable data (level 3)**	**Total**
Fair value hedge instruments	–	1,137	–	1,137
Cash flow hedge instruments	–	408	–	408
Assets and liabilities held for trading	–	(68)	–	(68)
Equity instruments	706	–	–	706
TOTAL	**706**	**1,477**	**–**	**2,183**

As of December 31, 2019 (M$)	**Quoted prices in active markets for identical assets (level 1)**	**Prices based on observable data (level 2)**	**Prices based on non observable data (level 3)**	**Total**
Fair value hedge instruments	–	(690)	–	(690)
Cash flow hedge instruments	–	(915)	–	(915)
Assets and liabilities held for trading	–	82	–	82
Equity instruments	240	–	–	240
TOTAL	**240**	**(1,523)**	**–**	**(1,283)**

15.3 FINANCIAL RISKS MANAGEMENT

Financial markets related risks

As part of its financing and cash management activities, TotalEnergies uses derivative instruments to manage its exposure to changes in interest rates and foreign exchange rates. These instruments are mainly interest rate and currency swaps. TotalEnergies may also occasionally use futures contracts and options. These operations and their accounting treatment are detailed in Notes 14, 15.1 and 15.2 to the Consolidated Financial Statements.

Risks relative to cash management operations and to interest rate and foreign exchange financial instruments are managed according to rules set by TotalEnergies' General Management, which provide for regular pooling of available cash balances, open positions and management of the financial instruments by the Treasury Department. Excess cash of TotalEnergies is deposited mainly in government institutions, deposit banks, or major companies through deposits, reverse repurchase agreements and purchase of commercial paper. Liquidity positions and the management of financial instruments are centralized by the Treasury Department, where they are managed by a team specialized in foreign exchange and interest rate market transactions.

The Cash Monitoring-Management Unit within the Treasury Department monitors limits and positions per bank on a daily basis and results of the Front Office. This unit also prepares marked-to-market valuations of used financial instruments and, when necessary, performs sensitivity analyses.

Counterparty risk

TotalEnergies has established standards for market transactions under which any banking counterparty must be approved in advance, based on an assessment of the counterparty’s financial solidity (multi-criteria analysis including notably a review of its Credit Default Swap (CDS) level, credit ratings from Standard & Poor’s and Moody’s, which must be of high standing, and general financial situation).

An overall credit limit is set for each authorised financial counterparty and is allocated amongst the affiliates and TotalEnergies' central treasury entities, according to TotalEnergies' financial needs.

To reduce the market valuation risk on its commitments, in particular relating to derivative instruments, the Treasury Department has entered into margin call agreements with its counterparties, in compliance with applicable regulations. Moreover, since December 21, 2018 and pursuant to Regulation (EU) No. 648/2012 on OTC derivatives, central counterparties and trade repositories (EMIR), any new interest rate hedging swap (excluding cross currency swaps) entered into by a TotalEnergies' entity is now subject to central clearing.

Since September 1, 2021, Totalenergies applies the delegated Regulation (EU) No. 2016/2251 (supplementing Regulation (EU) No 648/2012), regarding initial margin calls on certain OTC derivative contracts not cleared by central counterparty.

Short-term interest rate exposure and cash

Cash balances, primarily composed of euros and dollars, are managed according to the guidelines established by TotalEnergies’ General Management (to maintain an adequate level of liquidity, optimize revenue from investments considering existing interest rate yield curves, and minimize the cost of borrowing) based on a daily interest rate benchmark, primarily through short-term interest rate swaps and short-term currency swaps.

As part of the reform of interest rate benchmarks, and following the end of publication of the EONIA rate, TotalEnergies transited to the ESTR for the concerned swaps.

Interest rate risk on non-current debt

TotalEnergies’ policy consists in incurring long-term debt at a floating or fixed rate, depending on TotalEnergies’ general corporate needs and the interest rate environment at the time of issuance, mainly in dollars or euros. Long-term interest rate and currency swaps may be entered into for the purpose of hedging bonds at the time of issuance, synthetically resulting in the incurrence of variable or fixed rate debt. In order to partially alter the interest rate exposure of its long-term indebtedness, TotalEnergies may also enter into long-term interest rate swaps on an *ad-hoc* basis.

Currency exposure

TotalEnergies generally seeks to minimize the currency exposure of each entity to its functional currency (primarily the dollar, the euro, the pound sterling and the Norwegian krone).

For currency exposure generated by commercial activity, the hedging of revenues and costs in foreign currencies is typically performed using currency operations on the spot market and, in some cases, on the forward market. TotalEnergies rarely hedges future cash flows, although it may use options to do so.

With respect to currency exposure linked to non-current assets, TotalEnergies has a hedging policy of financing these assets in their functional currency.

Net short-term currency exposure is periodically monitored against limits set by TotalEnergies' General Management.

The non-current debt described in Note 15.1 to the Consolidated Financial Statements is generally raised by the corporate treasury entities either directly in dollars or in euros, or in other currencies which are then exchanged for dollars or euros through swap issuances to appropriately match general corporate needs. The proceeds from these debt issuances are loaned to affiliates whose accounts are kept in dollars or in euros. Thus, the net sensitivity of these positions to currency exposure is not significant.

TotalEnergies' short-term currency swaps, the notional value of which appears in Note 15.2 to the Consolidated Financial Statements, are used to attempt to optimize the centralized cash management of TotalEnergies. Thus, the sensitivity to currency fluctuations which may be induced is likewise considered negligible.

Sensitivity analysis on interest rate and foreign exchange risk

The tables below present the potential impact of an increase or decrease of 10 basis points on the interest rate yield curves for each of the currencies on the fair value of the current financial instruments as of December 31, 2021, 2020 and 2019.

			Change in fair value due to a change in interest rate by	
Assets / (Liabilities) (M$)	**Carrying amount**	**Estimated fair value**	**+ 10 basis points**	**- 10 basis points**
As of December 31, 2021				
Bonds (non-current portion, before swaps)	(39,256)	(42,888)	*349*	*(349)*
Swaps hedging bonds (liabilities)	*(1,498)*	*(1,498)*	–	–
Swaps hedging bonds (assets)	*787*	*787*	–	–
Total swaps hedging bonds (assets and liabilities)	(711)	(711)	(34)	34
Current portion of non-current debt after swaps (excluding lease obligations)	(5,073)	(5,077)	5	(5)
Other interest rates swaps	31	31	16	(16)
Currency swaps and forward exchange contracts	45	45	–	–
As of December 31, 2020				
Bonds (non-current portion, before swaps)	(46,239)	(52,246)	440	(440)
Swaps hedging bonds (liabilities)	*(1,615)*	*(1,615)*	–	–
Swaps hedging bonds (assets)	*3,221*	*3,221*	–	–
Total swaps hedging bonds (assets and liabilities)	1,606	1,606	(70)	70
Current portion of non-current debt after swaps (excluding lease obligations)	(4,674)	(4,696)	2	(2)
Other interest rates swaps	(73)	(73)	18	(18)
Currency swaps and forward exchange contracts	(6)	(6)	–	–
As of December 31, 2019				
Bonds (non-current portion, before swaps)	(38,657)	(41,805)	247	(247)
Swaps hedging bonds (liabilities)	*(1,694)*	*(1,694)*	–	–
Swaps hedging bonds (assets)	*512*	*512*	–	–
Total swaps hedging bonds (assets and liabilities)	(1,182)	(1,182)	(44)	44
Current portion of non-current debt after swaps (excluding lease obligations)	(5,331)	(5,332)	1	(1)
Other interest rates swaps	(7)	(7)	18	(18)
Currency swaps and forward exchange contracts	89	89	–	–

The impact of changes in interest rates on the cost of debt before tax is as follows:

For the year ended December 31, (M$)	**2021**	**2020**	**2019**
Cost of net debt	(1,525)	(2,110)	(2,352)
Interest rate translation of :			
+ 10 basis points	47	29	27
-10 basis points	(47)	(29)	(27)

As a result of the policy for the management of currency exposure previously described, TotalEnergies' sensitivity to currency exposure is primarily influenced by the net equity of the subsidiaries whose functional currency is the euro and the ruble, and to a lesser extent, the pound sterling and the Norwegian krone.

This sensitivity is reflected in the historical evolution of the currency translation adjustment recorded in the statement of changes in consolidated shareholders' equity which, over the course of the last three years, is essentially related to the fluctuation of the euro, the ruble and the pound sterling and is set forth in the table below:

	Dollar / Euro exchange rates	**Dollar / Pound sterling exchange rates**	**Dollar / Ruble exchange rates**
December 31, 2021	**0.88**	**0.74**	**75.31**
December 31, 2020	0.81	0.73	74.54
December 31, 2019	0.89	0.76	62.27

As of December 31, 2021 (M$)	**Total**	**Euro**	**Dollar**	**Pound sterling**	**Ruble**	**Other currencies**
Shareholders' equity at historical exchange rate	**124,407**	24,617	70,030	6,064	10,596	13,100
Currency translation adjustment before net investment hedge	**(12,666)**	(4,239)	–	(1,902)	(4,281)	(2,244)
Net investment hedge – open instruments	**(5)**	(5)	–	–	–	–
Shareholders' equity at exchange rate as of December 31, 2021	**111,736**	20,373	70,030	4,162	6,315	10,856

As of December 31, 2020 (M$)	**Total**	**Euro**	**Dollar**	**Pound sterling**	**Ruble**	**Other currencies**
Shareholders' equity at historical exchange rate	**113,958**	28,893	60,613	4,494	9,913	10,045
Currency translation adjustment before net investment hedge	**(10,279)**	(2,448)	–	(1,726)	(4,253)	(1,852)
Net investment hedge – open instruments	**23**	23	–	–	–	–
Shareholders' equity at exchange rate as of December 31, 2020	**103,702**	26,468	60,613	2,768	5,660	8,193

As of December 31, 2019 (M$)	**Total**	**Euro**	**Dollar**	**Pound sterling**	**Ruble**	**Other currencies**
Shareholders' equity at historical exchange rate	**128,281**	37,687	66,005	5,635	9,900	9,054
Currency translation adjustment before net investment hedge	**(11,501)**	(4,443)	–	(1,830)	(3,355)	(1,873)
Net investment hedge – open instruments	**(2)**	(2)	–	–	–	–
Shareholders' equity at exchange rate as of December 31, 2019	**116,778**	33,241	66,005	3,805	6,545	7,182

Based on the 2021 financial statements, a conversion using rates different from + or - 10% for each of the currencies below would have the following impact on shareholders equity and net income (TotalEnergies share):

As of December 31, 2021 (M$)	**Euro**	**Pound sterling**	**Ruble**
Impact of an increase of 10% of exchange rates on:			
– shareholders equity	**2,037**	**416**	**631**
– net income (TotalEnergies share)	**72**	**176**	**109**
Impact of a decrease of (10)% of exchange rates on :			
– shareholders equity	**(2,037)**	**(416)**	**(631)**
– net income (TotalEnergies share)	**(72)**	**(176)**	**(109)**

Stock market risk

TotalEnergies holds interests in a number of publicly-traded companies (see Note 8 to the Consolidated Financial Statements). The market value of these holdings fluctuates due to various factors, including stock market trends, valuations of the sectors in which the companies operate, and the economic and financial condition of each individual company.

Liquidity risk

TotalEnergies SE has committed credit facilities granted by international banks allowing it to benefit from significant liquidity reserves.

As of December 31, 2021, these credit facilities amounted to $10,679 million and were entirely unutilized. The agreements underpinning credit facilities granted to TotalEnergies SE do not contain conditions related to TotalEnergies' financial ratios, to its credit ratings from specialized agencies, or to the occurrence of events that could have a material adverse effect on its financial position.

As of December 31, 2021, the aggregated amount of the main committed credit facilities granted by international banks to the TotalEnergies' companies, including TotalEnergies SE, was $12,314 million, of which $11,591 million were unutilized. Credit facilities granted to the TotalEnergies' companies other than TotalEnergies SE are not intended to fund TotalEnergies' general corporate purposes; they are intended to fund either general corporate purposes of the borrowing affiliate, or a specific project.

The following tables show the maturity of the financial assets and liabilities of TotalEnergies as of December 31, 2021, 2020 and 2019 (see Note 15.1 to the Consolidated Financial Statements).

As of December 31, 2021 **Assets/(Liabilities)** (M$)	**Less than one year**	**1-2 years**	**2-3 years**	**3-4 years**	**4-5 years**	**More than 5 years**	**Total**
Non-current financial debt (notional value excluding interests)	–	(6,073)	(6,328)	(4,420)	(3,314)	(28,495)	(48,630)
Non-current financial assets excluding derivative financial instruments	–	41	41	38	37	1,365	1,522
Current borrowings	(15,035)	–	–	–	–	–	(15,035)
Other current financial liabilities	(372)	–	–	–	–	–	(372)
Current financial assets	12,315	–	–	–	–	–	12,315
Assets and liabilities available for sale or exchange	4	–	–	–	–	–	4
Cash and cash equivalents	21,342	–	–	–	–	–	21,342
Net amount before financial expense	**18,254**	**(6,032)**	**(6,287)**	**(4,382)**	**(3,277)**	**(27,130)**	**(28,854)**
Financial expense on non-current financial debt	(821)	(786)	(664)	(576)	(506)	(5,197)	(8,550)
Interest differential on swaps	(217)	(235)	(232)	(229)	(221)	(836)	(1,970)
NET AMOUNT	**17,216**	**(7,053)**	**(7,183)**	**(5,187)**	**(4,004)**	**(33,163)**	**(39,374)**

As of December 31, 2020

Assets/(Liabilities) (M$)	**Less than one year**	**1-2 years**	**2-3 years**	**3-4 years**	**4-5 years**	**More than 5 years**	**Total**
Non-current financial debt (notional value excluding interests)	–	(9,849)	(5,762)	(5,990)	(4,321)	(30,951)	(56,873)
Non-current financial assets excluding derivative financial instruments	–	59	42	45	46	1,259	1,451
Current borrowings	(17,099)	–	–	–	–	–	(17,099)
Other current financial liabilities	(203)	–	–	–	–	–	(203)
Current financial assets	4,630	–	–	–	–	–	4,630
Assets and liabilities available for sale or exchange	(313)	–	–	–	–	–	(313)
Cash and cash equivalents	31,268	–	–	–	–	–	31,268
Net amount before financial expense	**18,283**	**(9,790)**	**(5,720)**	**(5,945)**	**(4,275)**	**(29,692)**	**(37,139)**
Financial expense on non-current financial debt	(930)	(888)	(825)	(696)	(603)	(5,833)	(9,775)
Interest differential on swaps	(163)	(149)	(158)	(173)	(196)	(930)	(1,769)
NET AMOUNT	**17,190**	**(10,827)**	**(6,703)**	**(6,814)**	**(5,074)**	**(36,455)**	**(48,683)**

As of December 31, 2019

Assets/(Liabilities) (M$)	**Less than one year**	**1-2 years**	**2-3 years**	**3-4 years**	**4-5 years**	**More than 5 years**	**Total**
Non-current financial debt (notional value excluding interests)	–	(5,683)	(6,102)	(5,172)	(5,802)	(24,435)	(47,194)
Non-current financial assets excluding derivative financial instruments	–	68	24	9	4	228	333
Current borrowings	(14,819)	–	–	–	–	–	(14,819)
Other current financial liabilities	(487)	–	–	–	–	–	(487)
Current financial assets	3,992	–	–	–	–	–	3,992
Assets and liabilities available for sale or exchange	(301)	–	–	–	–	–	(301)
Cash and cash equivalents	27,352	–	–	–	–	–	27,352
Net amount before financial expense	**15,737**	**(5,615)**	**(6,078)**	**(5,163)**	**(5,798)**	**(24,207)**	**(31,124)**
Financial expense on non-current financial debt	(807)	(724)	(650)	(594)	(482)	(2,215)	(5,472)
Interest differential on swaps	(350)	(325)	(297)	(255)	(224)	(1,046)	(2,497)
NET AMOUNT	**14,580**	**(6,664)**	**(7,025)**	**(6,012)**	**(6,504)**	**(27,468)**	**(39,093)**

The following table sets forth financial assets and liabilities related to operating activities as of December 31, 2021, 2020 and 2019 (see Note 14 of the Notes to the Consolidated Financial Statements).

As of December 31, **Assets/(Liabilities)** (M$)	**2021**	**2020**	**2019**
Accounts payable	(36,837)	(23,574)	(28,394)
Other operating liabilities	(27,294)	(14,302)	(16,262)
including derivative financial instruments related to commodity contracts (liabilities)	*(16,166)*	*(3,666)*	*(5,333)*
Accounts receivable, net	21,983	14,068	18,488
Other operating receivables	29,553	8,043	11,506
including derivative financial instruments related to commodity contracts (assets)	*22,412*	*1,428*	*4,791*
TOTAL	**(12,595)**	**(15,765)**	**(14,662)**

These financial assets and liabilities mainly have a maturity date below one year.

Credit risk

Credit risk is defined as the risk of the counterparty to a contract failing to perform or pay the amounts due.

TotalEnergies is exposed to credit risks in its operating and financing activities. TotalEnergies' maximum exposure to credit risk is partially related to financial assets recorded on its balance sheet, including energy derivative instruments that have a positive market value.

The following table presents TotalEnergies' maximum credit risk exposure:

As of December 31, **Assets/(Liabilities)** (M$)	**2021**	**2020**	**2019**
Loans to equity affiliates *(note 8)*	4,532	5,129	3,999
Loans and advances *(note 6)*	2,107	2,458	1,982
Other non-current financial assets related to operational activities *(note 6)*	312	287	332
Non-current financial assets *(note 15.1)*	2,404	4,781	912
Accounts receivable *(note 5)*	21,983	14,068	18,488
Other operating receivables *(note 5)*	29,553	8,043	11,506
Current financial assets *(note 15.1)*	12,315	4,630	3,992
Cash and cash equivalents *(note 15.1)*	21,342	31,268	27,352
TOTAL	**94,548**	**70,664**	**68,563**

The valuation allowance on accounts receivable, other operating receivables and on loans and advances is detailed in Notes 5 and 6 to the Consolidated Financial Statements.

As part of its credit risk management related to operating and financing activities, TotalEnergies has developed margining agreements with certain counterparties. As of December 31, 2021, the net margin call paid amounted to $7,299 million (against $(1,556) million paid as of December 31, 2020 and $2,486 million paid as of December 31, 2019).

TotalEnergies has established a number of programs for the sale of receivables, without recourse, with various banks, primarily to reduce its exposure to such receivables. As a result of these programs TotalEnergies retains no risk of payment default after the sale, but may continue to service the customer accounts as part of a service arrangement on behalf of the buyer and is required to pay to the buyer payments it receives from the customers relating to the receivables sold. As of December 31, 2021, the net value of receivables sold amounted to $8,347 million. TotalEnergies has substantially transferred all the risks and rewards related to receivables. No financial asset or liability remains recognized in the consolidated balance sheet after the date of sale.

Furthermore, in 2021, TotalEnergies conducted several operations of reverse factoring. The value of factored payables outstanding at year-end is $383 million.

Credit risk is managed by TotalEnergies' business segments as follows:

- Integrated Gas, Renewables & Power segment

- Gas & Power activities

Trading of gas & power activities deal with counterparties in the energy, industrial and financial sectors throughout the world. Financial institutions providing credit risk coverage are highly rated international banks and insurance groups.

Potential counterparties are subject to credit assessment and approval before concluding transactions and are thereafter subject to regular review, including re-appraisal and approval of the limits previously granted.

The creditworthiness of counterparties is assessed based on an analysis of quantitative and qualitative data regarding financial standing and business risks, together with the review of any relevant third party and market information, such as data published by rating agencies. On this basis, credit limits are defined for each potential counterparty and, where appropriate, transactions are subject to specific authorizations.

Credit exposure, which is essentially an economic exposure or an expected future physical exposure, is permanently monitored and subject to sensitivity measures.

Credit risk is mitigated by the systematic use of industry standard contractual frameworks that permit netting, enable requiring added security in case of adverse change in the counterparty risk, and allow for termination of the contract upon occurrence of certain events of default.

About the professionals and retail gas and power sales activities, credit risk management policy is adapted to the type of customer either through the use of procedures of prepayments and appropriate collection, especially for mass customers or through credit insurances and sureties/guarantees obtaining. For the Professionals segment, the segregation of duties between the commercial and financial teams allows an “a priori” control of risks.

- Other activities

Internal procedures include rules on credit risk management. Procedures to monitor customer risk are defined at the local level, especially for SunPower, Saft Groupe and Greenflex (rules for the approval of credit limits, use of guarantees, monitoring and assessment of the receivables portfolio,...).

- Exploration & Production segment

Risks arising under contracts with government authorities or other oil companies or under long-term supply contracts necessary for the development of projects are evaluated during the project approval process. The long-term aspect of these contracts and the high-quality of the other parties lead to a low level of credit risk.

Risks related to commercial operations, other than those described above (which are, in practice, directly monitored by subsidiaries), are subject to procedures for establishing credit limits and reviewing outstanding balances.

- Refining & Chemicals segment

- Refining & Chemicals activities

Credit risk is primarily related to commercial receivables. Internal procedures of Refining & Chemicals include rules for the management of credit describing the fundamentals of internal control in this domain. Each Business Unit implements the procedures of the activity for managing and provisioning credit risk according to the size of the subsidiary and the market in which it operates. The principal elements of these procedures are:

- implementation of credit limits with different authorization schemes;
- use of insurance policies or specific guarantees (letters of credit);
- regular monitoring and assessment of overdue accounts (aging balance), including dunning procedures.

Counterparties are subject to credit assessment and approval prior to any transaction being concluded. Regular reviews are made for all active counterparties including a re-appraisal and renewing of the granted credit limits. The limits of the counterparties are assessed based on quantitative and qualitative data regarding financial standing, together with the review of any relevant third party and market information, such as that provided by rating agencies and insurance companies.

- Trading & Shipping activities

Trading & Shipping deals with commercial counterparties and financial institutions located throughout the world. Counterparties to physical and derivative transactions are primarily entities involved in the oil and gas industry or in the trading of energy commodities, or financial institutions. Credit risk coverage is arranged with financial institutions, international banks and insurance groups selected in accordance with strict criteria.

The Trading & Shipping division applies a strict policy of internal delegation of authority in order to set up credit limits by country and counterparty and approval processes for specific transactions. Credit exposures contracted under these limits and approvals are monitored on a daily basis.

Potential counterparties are subject to credit assessment and approval prior to any transaction being concluded and all active counterparties are subject to regular reviews, including re-appraisal and approval of granted limits. The creditworthiness of counterparties is assessed based on an analysis of quantitative and qualitative data regarding financial standing and business risks, together with the review of any relevant third party and market information, such as ratings published by Standard & Poor's, Moody's Investors Service and other agencies.

Contractual arrangements are structured so as to maximize the risk mitigation benefits of netting between transactions wherever possible and additional protective terms providing for the provision of security in the event of financial deterioration and the termination of transactions on the occurrence of defined default events are used to the greatest permitted extent.

Credit risks in excess of approved levels are secured by means of letters of credit and other guarantees, cash deposits and insurance arrangements. In respect of derivative transactions, risks are secured by margin call contracts wherever possible.

- Marketing & Services segment

Internal procedures for the Marketing & Services division include rules on credit risk that describe the basis of internal control in this domain, including the segregation of duties between commercial and financial operations.

Credit policies are defined at the local level and procedures to monitor customer risk are implemented (credit committees at the subsidiary level, the creation of credit limits for corporate customers, etc.). Each entity also implements monitoring of its outstanding receivables. Risks related to credit may be mitigated or limited by subscription of credit insurance and/or requiring security or guarantees.

Note 16 Financial instruments related to commodity contracts

16.1 FINANCIAL INSTRUMENTS RELATED TO COMMODITY CONTRACTS

Accounting principles

Financial instruments related to commodity contracts, including crude oil, petroleum products, gas, and power purchase/sales contracts within the trading activities, together with the commodity contract derivative instruments and freight rate swaps, are used to adjust TotalEnergies' exposure to price fluctuations within global trading limits. According to the industry practice, these instruments are considered as held for trading. Changes in fair value are recorded in the income statement. The fair value of these instruments is recorded in "Other current assets" or "Other creditors and accrued liabilities" depending on whether they are assets or liabilities.

The valuation methodology is to mark-to-market all open positions for both physical and paper transactions. The valuations are determined on a daily basis using observable market data based on organized and over the counter (OTC) markets. In specific cases when market data is not directly available, the valuations are derived from observable data such as arbitrages, freight or spreads and market corroboration. For valuation of risks which are the result of a calculation, such as options for example, commonly known models are used to compute the fair value.

As of December 31, 2021 (M$)	Gross value before offsetting		Amounts offset		Net balance sheet value presented		Other amounts not offset	Net carrying amount	Fair value[b]
Assets / (Liabilities)	**assets**	**liabilities**	**assets[c]**	**liabilities[c]**	**assets**	**liabilities**			
Integrated Gas, Renewables & Power activities									
Swaps	92	(385)	(35)	35	57	(350)	–	(293)	(293)
Forwards[a]	21,752	(16,954)	(2,120)	2,120	19,632	(14,834)	–	4,798	4,798
Options	1,953	(63)	(3)	3	1,950	(60)	–	1,890	1,890
Futures	418	(430)	(183)	183	235	(247)	–	(12)	(12)
Other/Collateral	–	–	–	–	–	–	382	382	382
Total Integrated Gas, Renewables & Power	**24,215**	**(17,832)**	**(2,341)**	**2,341**	**21,874**	**(15,491)**	**382**	**6,765**	**6,765**
Crude oil, petroleum products and freight rates activities									
Petroleum products, crude oil and freight rate swaps	245	(289)	(166)	166	79	(123)	–	(44)	(44)
Forwards[a]	411	(444)	(88)	88	323	(356)	–	(33)	(33)
Options	68	(236)	(40)	40	28	(196)	–	(168)	(168)
Futures	–	–	–	–	–	–	–	–	–
Options on futures	186	(78)	(78)	78	108	–	–	108	108
Other/Collateral	–	–	–	–	–	–	344	344	344
Total crude oil, petroleum products and freight rates	**910**	**(1,047)**	**(372)**	**372**	**538**	**(675)**	**344**	**207**	**207**
TOTAL	**25,125**	**(18,879)**	**(2,713)**	**2,713**	**22,412**	**(16,166)**	**726**	**6,972**	**6,972**
Total of fair value non recognized in the balance sheet									

(a) Forwards: contracts resulting in physical delivery are accounted for as derivative commodity contracts and included in the amounts shown.
(b) When the fair value of derivatives listed on an organized exchange market (futures, options on futures and swaps) is offset with the margin call received or paid in the balance sheet, this fair value is set to zero.
(c) Amounts offset in accordance with IAS 32.

As of December 31, 2020 (M$)	Gross value before offsetting		Amounts offset		Net balance sheet value presented		Other amounts not offset	Net carrying amount	Fair value[b]
Assets / (Liabilities)	**assets**	**liabilities**	**assets[c]**	**liabilities[c]**	**assets**	**liabilities**			
Integrated Gas, Renewables & Power activities									
Swaps	10	(71)	–	–	10	(71)	–	(61)	(61)
Forwards[a]	1,372	(3,113)	(186)	186	1,186	(2,927)	–	(1,741)	(1,741)
Options	(61)	(75)	(13)	13	(74)	(62)	–	(136)	(136)
Futures	42	(32)	(21)	21	21	(11)	–	10	10
Other/Collateral	–	–	–	–	–	–	22	22	22
Total Integrated Gas, Renewables & Power	**1,363**	**(3,291)**	**(220)**	**220**	**1,143**	**(3,071)**	**22**	**(1,906)**	**(1,906)**
Crude oil, petroleum products and freight rates activities									
Petroleum products, crude oil and freight rate swaps	302	(443)	(207)	207	95	(236)	–	(141)	(141)
Forwards[a]	158	(297)	(13)	13	145	(284)	–	(139)	(139)
Options	113	(125)	(68)	68	45	(57)	–	(12)	(12)
Futures	–	–	–	–	–	–	–	–	–
Options on futures	117	(135)	(117)	117	–	(18)	–	(18)	(18)
Other/Collateral	–	–	–	–	–	–	43	43	43
Total crude oil, petroleum products and freight rates	**690**	**(1,000)**	**(405)**	**405**	**285**	**(595)**	**43**	**(267)**	**(267)**
TOTAL	**2,053**	**(4,291)**	**(625)**	**625**	**1,428**	**(3,666)**	**65**	**(2,173)**	**(2,173)**
Total of fair value non recognized in the balance sheet									

(a) Forwards: contracts resulting in physical delivery are accounted for as derivative commodity contracts and included in the amounts shown.
(b) When the fair value of derivatives listed on an organized exchange market (futures, options on futures and swaps) is offset with the margin call received or paid in the balance sheet, this fair value is set to zero.
(c) Amounts offset in accordance with IAS 32.

As of December 31, 2019 (M$)	Gross value before offsetting		Amounts offset		Net balance sheet value presented		Other amounts not offset	Net carrying amount	Fair value[b]
Assets / (Liabilities)	**assets**	**liabilities**	**assets[c]**	**liabilities[c]**	**assets**	**liabilities**			
Integrated Gas, Renewables & Power activities									
Swaps	469	9	39	(39)	508	(30)	–	478	478
Forwards[a]	4,080	(4,831)	(296)	296	3,784	(4,535)	–	(751)	(751)
Options	76	(37)	(28)	28	48	(9)	–	39	39
Futures	17	(43)	(15)	15	2	(28)	–	(26)	(26)
Other/Collateral	–	–	–	–	–	–	(772)	(772)	(772)
Total Integrated Gas, Renewables & Power	**4,642**	**(4,902)**	**(300)**	**300**	**4,342**	**(4,602)**	**(772)**	**(1,032)**	**(1,032)**
Crude oil, petroleum products and freight rates activities									
Petroleum products, crude oil and freight rate swaps	152	(244)	(73)	73	79	(171)	–	(92)	(92)
Forwards[a]	300	(297)	(3)	3	297	(294)	–	3	3
Options	73	(106)	–	–	73	(106)	–	(33)	(33)
Futures	–	–	–	–	–	–	–	–	–
Options on futures	–	(160)	–	–	–	(160)	–	(160)	(160)
Other/Collateral	–	–	–	–	–	–	147	147	147
Total crude oil, petroleum products and freight rates	**525**	**(807)**	**(76)**	**76**	**449**	**(731)**	**147**	**(135)**	**(135)**
TOTAL	**5,167**	**(5,709)**	**(376)**	**376**	**4,791**	**(5,333)**	**(625)**	**(1,167)**	**(1,167)**
Total of fair value non recognized in the balance sheet									

(a) Forwards: contracts resulting in physical delivery are accounted for as derivative commodity contracts and included in the amounts shown.
(b) When the fair value of derivatives listed on an organized exchange market (futures, options on futures and swaps) is offset with the margin call received or paid in the balance sheet, this fair value is set to zero.
(c) Amounts offset in accordance with IAS 32.

Commitments on crude oil and refined products have, for the most part, a short-term maturity (less than one year).

The changes in fair value of financial instruments related to commodity contracts are detailed as follows:

For the year ended December 31, (M$)	**Fair value as of January 1,**	**Impact on income**	**Settled contracts**	**Other**	**Fair value as of December 31,**
Integrated Gas, Renewables & Power activities					
2021	**(1,928)**	**6,817**	**1,408**	**86**	**6,383**
2020	(260)	676	(2,348)	4	(1,928)
2019	(415)	1,588	(686)	(747)	(260)
Crude oil, petroleum products and freight rates activities					
2021	**(310)**	**3,950**	**(3,777)**	**–**	**(137)**
2020	(282)	3,813	(3,841)	–	(310)
2019	(283)	4,189	(4,188)	–	(282)

In 2019, the Other column mainly included the acquisition of Toshiba's LNG portfolio, for which financial instruments related to commodity contracts had been recognized for the amount of treasury received.

The fair value hierarchy for financial instruments related to commodity contracts is as follows:

As of December 31, 2021 (M$)	**Quoted prices in active markets for identical assets (level 1)**	**Prices based on observable data (level 2)**	**Prices based on non observable data (level 3)**	**Total**
Integrated Gas, Renewables & Power activities	3,716	(3,563)	6,230	6,383
Crude oil, petroleum products and freight rates activities	134	(271)	–	(137)
TOTAL	**3,850**	**(3,834)**	**6,230**	**6,246**

As of December 31, 2020 (M$)	**Quoted prices in active markets for identical assets (level 1)**	**Prices based on observable data (level 2)**	**Prices based on non observable data (level 3)**	**Total**
Integrated Gas, Renewables & Power activities	(159)	(361)	(1,408)	(1,928)
Crude oil, petroleum products and freight rates activities	10	(320)	–	(310)
TOTAL	**(149)**	**(681)**	**(1,408)**	**(2,238)**

As of December 31, 2019 (M$)	**Quoted prices in active markets for identical assets (level 1)**	**Prices based on observable data (level 2)**	**Prices based on non observable data (level 3)**	**Total**
Integrated Gas, Renewables & Power activities	392	2,054	(2,706)	(260)
Crude oil, petroleum products and freight rates activities	(182)	(172)	72	(282)
TOTAL	**210**	**1,882**	**(2,634)**	**(542)**

Financial instruments classified as level 3 are mainly composed of long-term liquefied natural gas purchase and sale contracts which relate to the trading activity.

For the purpose of valuation and accounting of LNG contracts, TotalEnergies refers to a 12 months horizon in 2021 (same as in 2020 and 2019), which includes the full annual delivery program of LNG cargos for the following year. The management of positions being carried out on a net value of LNG purchase and sale commitments, the applied valuation method is the contractual portfolio method based mostly on observable market data such as the prices of energy commodities forward contracts.

Concerning the period beyond the management horizon, a sensitivity analysis is carried out to verify that no liability should be recognized. The assumptions used are based on internal assumptions such as the oil and gas price long-term trajectories adopted by TotalEnergies, prices renegotiation clauses included in long-term contracts, uncertainties related to contracts execution and flexibilities included in LNG contracts.

The valuation method of the LNG contracts is sensitive to market risks, and more specifically to the price risk resulting from the volatility of oil and natural gas prices on North American, Asian, and European markets, and to the valuation of flexibilities.

The description of each fair value level is presented in Note 15 to the Consolidated Financial Statements.

Cash Flow hedge

The impact on the income statement and other comprehensive income of the hedging instruments related to commodity contracts and qualified as cash flow hedges is detailed as follows:

As of December 31

(M$)	**2021**	**2020**	**2019**
Profit (Loss) recorded in other comprehensive income of the period	445	14	(14)
Recycled amount from other comprehensive income to the income statement of the period	(56)	(1)	–

These financial instruments are mainly one year term Henry Hub derivatives and European gas, power and CO_2 emission rights derivatives.

As of December 31, 2021, the ineffective portion of these financial instruments is nil (in 2020 and in 2019 the ineffective portion of these financial instruments was nil).

16.2 OIL, GAS AND POWER MARKETS RELATED RISKS MANAGEMENT

Due to the nature of its business, TotalEnergies has significant oil and gas trading activities as part of its day-to-day operations in order to optimize revenues from its oil and gas production and to obtain favorable pricing to supply its refineries.

In its international oil trading business, TotalEnergies usually follows a policy of not selling its future production. However, in connection with this trading business, TotalEnergies, like most other oil companies, uses energy derivative instruments to adjust its exposure to price fluctuations of crude oil, refined products, natural gas, and power. TotalEnergies also uses freight rate derivative contracts in its shipping business to adjust its exposure to freight-rate fluctuations. To hedge against this risk, TotalEnergies uses various instruments such as futures, forwards, swaps and options on organized markets or over-the-counter markets. The list of the different derivatives held by TotalEnergies in these markets is detailed in Note 16.1 to the Consolidated Financial Statements.

As part of its gas and power trading activity, TotalEnergies also uses derivative instruments such as futures, forwards, swaps and options in both organized and over-the-counter markets. In general, the transactions are settled at maturity date through physical delivery. TotalEnergies measures its market risk exposure, *i.e.* potential loss in fair values, on its trading business using a “value-at-risk” technique. This technique is based on a historical model and makes an assessment of the market risk arising from possible future changes in market values over a one-day period. The calculation of the range of potential changes in fair values takes into account a snapshot of the end-of-day exposures and the set of historical price movements for the past two years for all instruments and maturities in the global trading business.

Integrated Gas, Renewables & Power division trading: "value-at-risk" with a 97.5% probability

As of December 31,

(M$)	**High**	**Low**	**Average**	**Year end**
2021	**80**	**9**	**28**	**30**
2020	51	6	21	27
2019	83	10	20	64

The Trading & Shipping division measures its market risk exposure, *i.e.* potential loss in fair values, on its crude oil, refined products and freight rates trading activities using a “value-at-risk” technique. This technique is based on a historical model and makes an assessment of the market risk arising from possible future changes in market values over a 24-hour period. The calculation of the range of potential changes in fair values is based on the end-of-day exposures and historical price movements of the last 400 business days for all traded instruments and maturities. Options are systematically re-evaluated using appropriate models.

The “value-at-risk” represents the most unfavorable movement in fair value obtained with a 97.5% confidence level. This means that TotalEnergies’ portfolio result is likely to exceed the value-at-risk loss measure once over 40 business days if the portfolio exposures were left unchanged.

Trading & Shipping: "value-at-risk with" a 97.5% probability

As of December 31,

(M$)	**High**	**Low**	**Average**	**Year end**
2021	**36**	**9**	**18**	**12**
2020	30	6	15	19
2019	28	9	17	21

TotalEnergies has implemented strict policies and procedures to manage and monitor these market risks. These are based on the separation of control and front-office functions and on an integrated information system that enables real-time monitoring of trading activities.

Limits on trading positions are approved by TotalEnergies’ Executive Committee and are monitored daily. To increase flexibility and encourage liquidity, hedging operations are performed with numerous independent operators, including other oil companies, major energy producers or consumers and financial institutions. TotalEnergies has established counterparty limits and monitors outstanding amounts with each counterparty on an ongoing basis.

Note 17 Post closing events

Myanmar

In January 2022, TotalEnergies has decided to initiate the contractual process of withdrawing from the Yadana field and from MGTC in Myanmar, both as operator and as shareholder, without any financial compensation for TotalEnergies. This withdrawal has been notified to TotalEnergies' partners in Yadana and MGTC and will be effective at the latest at the expiry of the 6-month contractual period.

As a result, TotalEnergies registered an impairment of assets of $(201) million in operational result and of $(305) million in TotalEnergies’ share net result.

North Platte

In February 2022, TotalEnergies announced its decision not to sanction and so to withdraw from the North Platte deepwater project in the US Gulf of Mexico.

The decision not to continue with the project was taken as TotalEnergies has better opportunities of allocation of its capital within its global portfolio.

An impairment of the project's assets will be recorded in the consolidated financial statements of the first quarter of 2022, for an estimated amount of $(0.9) billion in net income, TotalEnergies' share.

Russian-Ukrainian conflict

Since the month of February 2022, Russia's invasion of Ukraine led European and American authorities to adopt several sets of sanctions measures targeting Russian and Belarusian persons and entities, as well as the financial sector.

TotalEnergies holds investments in this country in major LNG projects (Yamal LNG and Arctic LNG 2) both directly and through its holding in the company PAO Novatek, whose production and sale of LNG are not materially impacted by the sanctions adopted as of the date hereof.

Depending on the developments of the Russian-Ukrainian conflict and the measures that the European and American authorities could be required to take, the activities of TotalEnergies in Russia could be affected in the future.

TotalEnergies announced on March 1, 2022 that it condemned Russia's military aggression against Ukraine, supported the scope and strength of the sanctions put in place by Europe that will be implemented by the Company regardless of the consequences on its activities, and that it will no longer provide capital for new projects in Russia.

This context has led the Corporation to exclude as of December 31, 2021 the resources associated with the Arctic LNG 2 project from its proved reserves.

Note 18 Consolidation scope

As of December 31, 2021, 1 140 entities are consolidated of which 160 are accounted for under the equity method (E).

The table below presents a comprehensive list of the consolidated entities:

Business segment	Statutory corporate name	% Company interest	Method	Country of incorporation	Country of operations
Exploration & Production					
	Abu Dhabi Gas Industries Limited	15.00 %	E	United Arab Emirates	United Arab Emirates
	Angola Block 14 B.V.	50.01 %		Netherlands	Angola
	Angola LNG Supply Services, LLC	13.60 %	E	United States	United States
	Bonny Gas Transport Limited	15.00 %	E	Bermuda	Nigeria
	Brass Holdings B.V.	100.00 %		Netherlands	Nigeria
	Brass LNG Limited	20.48 %	E	Nigeria	Nigeria
	Congo Forest Company (CFC)	100.00 %		Congo	Congo
	Deer Creek Pipelines Limited	75.00 %		Canada	Canada
	Dolphin Energy Limited	24.50 %	E	United Arab Emirates	United Arab Emirates
	E.F. Oil And Gas Limited	100.00 %		United Kingdom	United Kingdom
	Elf E&P	100.00 %		France	France
	Elf Exploration UK Limited	100.00 %		United Kingdom	United Kingdom
	Elf Petroleum Iran	100.00 %		France	Iran
	Elf Petroleum UK Limited	100.00 %		United Kingdom	United Kingdom
	Gas Investment and Services Company Limited	10.00 %	E	Bermuda	Oman
	Mabruk Oil Operations	49.02 %		France	Libya
	Moattama Gas Transportation Company Limited	31.24 %	E	Bermuda	Myanmar
	Norpipe Oil A/S	34.93 %	E	Norway	Norway
	Norpipe Petroleum UK Limited	45.22 %	E	United Kingdom	Norway
	Norpipe Terminal Holdco Limited	45.22 %	E	United Kingdom	Norway
	Norsea Pipeline Limited	45.22 %	E	United Kingdom	Norway
	North Oil Company	30.00 %	E	Qatar	Qatar
	Novatek	19.40 %	E	Russia	Russia
	Pars LNG Limited	40.00 %	E	Bermuda	Iran
	Private Oil Holdings Oman Limited	10.00 %	E	United Kingdom	Oman
	Stogg Eagle Funding B.V.	100.00 %		Netherlands	Nigeria
	Tepkri Sarsang A/S	100.00 %		Denmark	Iraq
	Terneftegaz JSC [(a)]	58.89 %	E	Russia	Russia
	TOQAP Guyana B.V.	60.00 %		Netherlands	Guyana
	Total (BTC) B.V.	100.00 %		Netherlands	Azerbaijan
	Total Abu Al Bu Khoosh	100.00 %		France	United Arab Emirates
	Total Austral	100.00 %		France	Argentina
	Total Denmark ASW Pipeline ApS	100.00 %		Denmark	Denmark
	Total Dolphin Midstream	100.00 %		France	France
	Total E&P Absheron B.V.	100.00 %		Netherlands	Azerbaijan
	Total E&P Al Shaheen A/S	100.00 %		Denmark	Qatar

Total E&P Algerie	100.00 %	France	Algeria
Total E&P Americas, LLC	100.00 %	United States	United States
Total E&P Anchor, LLC	100.00 %	United States	United States
Total E&P Angola Block 15/06	100.00 %	France	Angola
Total E&P Angola Block 16	100.00 %	France	Angola
Total E&P Angola Block 16 Holdings	100.00 %	France	Angola
Total E&P Angola Block 29	100.00 %	France	Angola
Total E&P Angola Block 33	100.00 %	France	Angola
Total E&P Angola Block 39	100.00 %	France	Angola
Total E&P Azerbaijan B.V.	100.00 %	Netherlands	Azerbaijan
Total E&P Bolivie	100.00 %	France	Bolivia
Total E&P Canada Limited	100.00 %	Canada	Canada
Total E&P Chine	100.00 %	France	China
Total E&P Chissonga	100.00 %	France	Angola
Total E&P Colombie	100.00 %	France	Colombia
Total E&P Congo	85.00 %	Congo	Congo
Total E&P Cote d'Ivoire CI - 514	100.00 %	France	Côte d'Ivoire
Total E&P Cyprus B.V.	100.00 %	Netherlands	Cyprus
Total E&P Dolphin Upstream	100.00 %	France	Qatar
Total E&P Dunga GmbH	100.00 %	Germany	Kazakhstan
Total E&P East El Burullus Offshore B.V.	100.00 %	Netherlands	Egypt
Total E&P Egypt Block 2 B.V.	100.00 %	Netherlands	Egypt
Total E&P Egypt Offshore Western Desert B.V.	100.00 %	Netherlands	Egypt
Total E&P Egypte	100.00 %	France	Egypt
Total E&P Golfe Limited	100.00 %	France	Qatar
Total E&P Guyane Francaise	100.00 %	France	France
Total E&P Holdings UAE B.V.	100.00 %	Netherlands	United Arab Emirates
Total E&P Jack LLC	100.00 %	United States	United States
Total E&P Jutland Denmark B.V.	100.00 %	Netherlands	Denmark
Total E&P Kurdistan Region of Iraq (Harir) B.V.	100.00 %	Netherlands	Iraq
Total E&P Kurdistan Region of Iraq (Safen) B.V.	100.00 %	Netherlands	Iraq
Total E&P Kurdistan Region of Iraq (Taza) B.V.	100.00 %	Netherlands	Iraq
Total E&P Kurdistan Region of Iraq B.V.	100.00 %	Netherlands	Iraq
Total E&P Liban S.A.L.	100.00 %	Lebanon	Lebanon
Total E&P Libye	100.00 %	France	Libya
Total E&P Lower Zakum B.V.	100.00 %	Netherlands	United Arab Emirates
Total E&P M2 Holdings Limited	100.00 %	South Africa	South Africa
Total E&P Mauritania Block C18 B.V.	100.00 %	Netherlands	Mauritania
Total E&P Mauritania Block C9 B.V.	100.00 %	Netherlands	Mauritania
Total E&P Mauritania Blocks DW B.V.	100.00 %	Netherlands	Mauritania
Total E&P Mauritanie	100.00 %	France	Mauritania
Total E&P Mozambique B.V.	100.00 %	Netherlands	Mozambique
Total E&P Myanmar	100.00 %	France	Myanmar
Total E&P New Ventures Inc.	100.00 %	United States	United States
Total E&P Participations Petrolieres Congo	100.00 %	Congo	Congo
Total E&P Philippines B.V.	100.00 %	Netherlands	Philippines
Total E&P Qatar	100.00 %	France	Qatar
Total E&P RDC	100.00 %	Democratic Republic of Congo	Democratic Republic of Congo
Total E&P Research & Technology USA LLC	100.00 %	United States	United States
Total E&P Services China Company Limited	100.00 %	China	China
Total E&P South Pars	100.00 %	France	Iran
Total E&P South Sudan	100.00 %	France	Republic of South Sudan
Total E&P Syrie	100.00 %	France	Syrian Arab Republic
Total E&P Tajikistan B.V.	100.00 %	Netherlands	Tajikistan
Total E&P Thailand	100.00 %	France	Thailand
Total E&P Timan-Pechora LLC	100.00 %	Russia	Russia
Total E&P UAE Unconventional Gas B.V.	100.00 %	Netherlands	United Arab Emirates
Total E&P Uganda B.V.	100.00 %	Netherlands	Uganda
Total E&P Umm Shaif Nasr B.V.	100.00 %	Netherlands	United Arab Emirates
Total E&P US Well Containment, LLC	100.00 %	United States	United States
Total E&P USA Inc.	100.00 %	United States	United States
Total E&P USA Oil Shale, LLC	100.00 %	United States	United States
Total E&P Waha Limited	100.00 %	Cayman Islands	Libya
Total East Africa Midstream B.V.	100.00 %	Netherlands	Uganda
Total Gabon	58.28 %	Gabon	Gabon
Total Gass Handel Norge AS	100.00 %	Norway	Norway

Total Holding Dolphin Amont	100.00 %	France	France
Total Oil and Gas South America	100.00 %	France	France
Total Pars LNG	100.00 %	France	France
Total South Pars	100.00 %	France	Iran
Total Venezuela	100.00 %	France	France
TotalEnergies Denmark ASW Inc.	100.00 %	United States	Denmark
TotalEnergies E&P North Sea UK Ltd	100.00 %	United Kingdom	United Kingdom
TotalEnergies E&P UK Ltd	100.00 %	United Kingdom	United Kingdom
TotalEnergies EP (Brunei) B.V.	100.00 %	Netherlands	Brunei
TotalEnergies EP Algerie Berkine A/S	100.00 %	Denmark	Algeria
TotalEnergies EP Angola	100.00 %	France	Angola
TotalEnergies EP Angola Block 17.06	100.00 %	France	Angola
TotalEnergies EP Angola Block 25	100.00 %	France	Angola
TotalEnergies EP Angola Block 32	100.00 %	France	Angola
TotalEnergies EP Angola Block 40	100.00 %	France	Angola
TotalEnergies EP Angola Block 48 B.V.	100.00 %	Netherlands	Angola
TotalEnergies EP Angola Blocks 20-21	100.00 %	France	Angola
TotalEnergies EP Asia Pacific Pte. Ltd	100.00 %	Singapore	Singapore
TotalEnergies EP Brasil Ltda	100.00 %	Brazil	Brazil
TotalEnergies EP Bulgaria B.V.	100.00 %	Netherlands	Bulgaria
TotalEnergies EP Cambodge	100.00 %	France	Cambodia
TotalEnergies EP Company UK Ltd	100.00 %	United Kingdom	United Kingdom
TotalEnergies EP Côte d'Ivoire B.V.	100.00 %	Netherlands	Côte d'Ivoire
TotalEnergies EP Côte d'Ivoire S.A.S.	100.00 %	France	Côte d'Ivoire
TotalEnergies EP Danmark A/S	100.00 %	Denmark	Denmark
TotalEnergies EP Danmark A/S - CPH	100.00 %	Denmark	Denmark
TotalEnergies EP Europe Continentale Asie	100.00 %	United Kingdom	United Kingdom
TotalEnergies EP France	100.00 %	France	France
TotalEnergies EP Gastransport Nederland B.V.	100.00 %	Netherlands	Netherlands
TotalEnergies EP Greece B.V.	100.00 %	Netherlands	Greece
TotalEnergies EP Guyana B.V.	100.00 %	Netherlands	Guyana
TotalEnergies EP Holdings Russia	100.00 %	France	France
TotalEnergies EP International K1 Ltd	100.00 %	United Kingdom	Kenya
TotalEnergies EP International K2 Ltd	100.00 %	United Kingdom	Kenya
TotalEnergies EP International K3 Ltd	100.00 %	United Kingdom	Kenya
TotalEnergies EP International Ltd	100.00 %	United Kingdom	Kenya
TotalEnergies EP Iran B.V.	100.00 %	Netherlands	Iran
TotalEnergies EP Iraq	100.00 %	France	Iraq
TotalEnergies EP Italia S.p.A.	100.00 %	Italy	Italy
TotalEnergies EP Kazakhstan	100.00 %	France	Kazakhstan
TotalEnergies EP Kenya B.V.	100.00 %	Netherlands	Kenya
TotalEnergies EP Malaysia	100.00 %	France	Malaysia
TotalEnergies EP M'Bridge B.V.	100.00 %	Netherlands	Angola
TotalEnergies EP Mexico S.A. de C.V.	100.00 %	Mexico	Mexico
TotalEnergies EP Namibia B.V.	100.00 %	Netherlands	Namibia
TotalEnergies EP Nederland B.V.	100.00 %	Netherlands	Netherlands
TotalEnergies EP Nigeria Deepwater A Ltd	100.00 %	Nigeria	Nigeria
TotalEnergies EP Nigeria Deepwater B Ltd	100.00 %	Nigeria	Nigeria
TotalEnergies EP Nigeria Deepwater C Ltd	100.00 %	Nigeria	Nigeria
TotalEnergies EP Nigeria Deepwater D Ltd	100.00 %	Nigeria	Nigeria
TotalEnergies EP Nigeria Deepwater E Ltd	100.00 %	Nigeria	Nigeria
TotalEnergies EP Nigeria Deepwater F Ltd	100.00 %	Nigeria	Nigeria
TotalEnergies EP Nigeria Deepwater G Ltd	100.00 %	Nigeria	Nigeria
TotalEnergies EP Nigeria Deepwater H Ltd	100.00 %	Nigeria	Nigeria
TotalEnergies EP Nigeria Ltd	100.00 %	Nigeria	Nigeria
TotalEnergies EP Nigeria S.A.S.	100.00 %	France	France
TotalEnergies EP Norge AS	100.00 %	Norway	Norway
TotalEnergies EP Oman S.A.S.	100.00 %	France	Oman
TotalEnergies EP Petroleum Angola	100.00 %	France	Angola
TotalEnergies EP Pipelines Danmark A/S	100.00 %	Denmark	Denmark
TotalEnergies EP Profils Petroliers	100.00 %	France	France
TotalEnergies EP Qatar	100.00 %	France	Qatar
TotalEnergies EP Ratawi Hub	100.00 %	France	Iraq
TotalEnergies EP Russie	100.00 %	France	Russia
TotalEnergies EP Sao Tome and Principe B.V.	100.00 %	Netherlands	Angola
TotalEnergies EP Senegal	100.00 %	France	Senegal

	TotalEnergies EP Services Brazil B.V.	100.00 %		Netherlands	Netherlands
	TotalEnergies EP South Africa B.V.	100.00 %		Netherlands	South Africa
	TotalEnergies EP South Africa Block 567 (Pty) Ltd	100.00 %		South Africa	South Africa
	TotalEnergies EP Suriname B.V.	100.00 %		Netherlands	Suriname
	TotalEnergies EP Venezuela B.V.	100.00 %		Netherlands	Venezuela
	TotalEnergies EP Well Response	100.00 %		France	France
	TotalEnergies EP Yemen	100.00 %		France	Yemen
	TotalEnergies EP Yemen Block 3 B.V.	100.00 %		Netherlands	Yemen
	TotalEnergies Holdings Nederland B.V.	100.00 %		Netherlands	Netherlands
	TotalEnergies LNG Supply Services USA	100.00 %		United States	United States
	TotalEnergies Nature Based Solutions	100.00 %		France	France
	TotalEnergies Nature Based Solutions II	100.00 %		France	France
	TotalEnergies Nederland Facilities Management B.V.	100.00 %		Netherlands	Netherlands
	TotalEnergies Offshore GB Ltd	100.00 %		United Kingdom	United Kingdom
	TotalEnergies Offshore UK Ltd	100.00 %		United Kingdom	United Kingdom
	TotalEnergies Petróleo & Gás Brasil Ltda	100.00 %		Brazil	Brazil
	TotalEnergies Shipping Brazil B.V.	100.00 %		Netherlands	Brazil
	TotalEnergies Termokarstovoye S.A.S.	100.00 %		France	France
	TotalEnergies Upstream Danmark A/S	100.00 %		Denmark	Denmark
	TotalEnergies Upstream Nigeria	100.00 %		Nigeria	Nigeria
	TotalEnergies Upstream UK Ltd	100.00 %		United Kingdom	United Kingdom
	Uintah Colorado Resources, LLC	66.67 %		United States	United States
	Unitah Colorado Resources II, LLC	100.00 %		United States	United States
	Ypergas S.A.	37.33 %		Venezuela	Venezuela

Business segment	Statutory corporate name	% Company interest	Method	Country of incorporation	Country of operations
Integrated Gas, Renewables & Power					
	Abarloar Solar S.L.U.	100.00 %		Spain	Spain
	Abu Dhabi Gas Liquefaction Company Limited	5.00 %	E	United Arab Emirates	United Arab Emirates
	Adani Gas Limited AGL	37.40 %	E	India	India
	Adani Green Energy Ltd	20.00 %	E	India	India
	Adani Green Energy Twenty Three Limited	50.00 %	E	India	India
	Adani Total Private Limited [(f)]	50.00 %	E	India	India
	Advanced Thermal Batteries Inc.	50.00 %	E	United States	United States
	Aerospatiale Batteries (ASB)	50.00 %	E	France	France
	Aerowatt Energies	65.00 %	E	France	France
	Aerowatt Energies 2	51.00 %	E	France	France
	Al Kharsaa Solar Holdings B.V.	49.00 %	E	Netherlands	Netherlands
	Alamo Solarbay S.L.U.	100.00 %		Spain	Spain
	Albatross Software, LLC	50.83 %		United States	United States
	Alcad AB	100.00 %		Sweden	Sweden
	Alicante	50.00 %	E	France	France
	Alicante 2	50.00 %	E	France	France
	Altergie Territoires 3	50.00 %	E	France	France
	Amber Solar Power Cinco, S.L.	65.00 %	E	Spain	Spain
	Amber Solar Power Cuatro, S.L.	65.00 %	E	Spain	Spain
	Amber Solar Power Dieciseis, S.L.	65.00 %	E	Spain	Spain
	Amber Solar Power Diez, S.L.	65.00 %	E	Spain	Spain
	Amber Solar Power Nueve, S.L.	65.00 %	E	Spain	Spain
	Amber Solar Power Quince, S.L.	65.00 %	E	Spain	Spain
	Amber Solar Power Tres, S.L.	65.00 %	E	Spain	Spain
	Amber Solar Power Uno, S.L.	65.00 %	E	Spain	Spain
	Amura Solar, S.L.U.	100.00 %		Spain	Spain
	Anayet Solar, S.L.U.	100.00 %		Spain	Spain
	Anclote Solar, S.L.U.	100.00 %		Spain	Spain
	Ancora Solar, S.L.U.	100.00 %		Spain	Spain
	Andromeda Solarbay HP S.L.	100.00 %		Spain	Spain
	Arbotante Solar, S.L.U.	100.00 %		Spain	Spain
	Arctic LNG 2 LLC [(b)]	21.64 %	E	Russia	Russia
	Arctic Transshipment LLC [(b)]	27.46 %	E	Russia	Russia
	Armada Solar, S.L.U.	100.00 %		Spain	Spain
	ATJV Offshore	50.00 %	E	Singapore	Singapore
	Atolón Solar, S.L.U.	100.00 %		Spain	Spain
	Auriga Generacion S.L.	100.00 %		Spain	Spain
	Automotive Cells Company, S.E.	50.00 %	E	France	France

Baser Comercializadora de Referencia	100.00 %		Spain	Spain
Bassin Du Capiscol	100.00 %		France	France
Beauce Oratorienne	100.00 %		France	France
BioBearn S.A.S.	100.00 %		France	France
BioDeac S.A.S.	65.00 %	E	France	France
BioGasconha S.A.S.	100.00 %		France	France
Biogaz Breuil	100.00 %		France	France
Biogaz Chatillon	100.00 %		France	France
Biogaz Corcelles	100.00 %		France	France
Biogaz Epinay	100.00 %		France	France
Biogaz Libron	100.00 %		France	France
Biogaz Milhac	100.00 %		France	France
Biogaz Soignolles	100.00 %		France	France
Biogaz Torcy	100.00 %		France	France
Biogaz Vert Le Grand	100.00 %		France	France
Biogaz Viriat	100.00 %		France	France
BioLoie S.A.S.	55.00 %	E	France	France
BioPommeria S.A.S.	100.00 %		France	France
BioQuercy S.A.S.	66.00 %	E	France	France
Bioroussillon S.A.S.	100.00 %		France	France
Biovilleneuvois S.A.S.	100.00 %		France	France
Blue Gem Wind Limited	80.00 %	E	United Kingdom	United Kingdom
Blue Raven Solar Holdings, LLC	50.83 %		United States	United States
Blue Raven Solar, LLC	50.83 %		United States	United States
BRS Field Ops Nevada, LLC	50.83 %		United States	United States
BRS Field Ops, LLC	50.83 %		United States	United States
BRS Setter, LLC	50.83 %		United States	United States
BSP Class B Member HoldCo, LLC	50.83 %		United States	United States
BSP Holding Company, LLC	50.83 %		United States	United States
BSP II Parent, LLC	50.83 %		United States	United States
Cameron LNG Holdings LLC	16.60 %	E	United States	United States
Castille	50.00 %	E	France	France
Cefeo Solar S.L.	100.00 %		Spain	Spain
Centaurus Environment S.L.U.	100.00 %		Spain	Spain
Centrale Eolienne De La Vallee Gentillesse	74.80 %		France	France
Centrale Eolienne Ploumoguer	100.00 %		France	France
Centrale Eolienne Rembercourt	100.00 %		France	France
Centrale Hydrolique Alas	100.00 %		France	France
Centrale Hydrolique Ardon	90.00 %		France	France
Centrale Hydrolique Arvan	100.00 %		France	France
Centrale Hydrolique Barbaira	100.00 %		France	France
Centrale Hydrolique Bonnant	100.00 %		France	France
Centrale Hydrolique Gavet	100.00 %		France	France
Centrale Hydrolique La Buissiere	100.00 %		France	France
Centrale Hydrolique Miage	100.00 %		France	France
Centrale Hydrolique Previnquieres	100.00 %		France	France
Centrale Photovoltaique De Merle Sud	40.58 %	E	France	France
Centrale Solaire 2	100.00 %		France	France
Centrale Solaire APV R&D	100.00 %		France	France
Centrale Solaire Autoprod	100.00 %		France	France
Centrale Solaire Beauce Val de Loire	60.00 %		France	France
Centrale Solaire Borde Blanche	100.00 %		France	France
Centrale Solaire Briffaut	100.00 %		France	France
Centrale Solaire Cet d'Al Gouty	100.00 %		France	France
Centrale Solaire Chemin De Melette	51.00 %	E	France	France
Centrale Solaire De Cazedarnes	75.00 %		France	France
Centrale Solaire Dom	100.00 %		France	France
Centrale Solaire Du Centre Ouest	100.00 %		France	France
Centrale Solaire Du Lavoir	60.00 %		France	France
Centrale Solaire Estarac	35.00 %	E	France	France
Centrale Solaire Estarac 2	100.00 %		France	France
Centrale Solaire Forum Laudun	100.00 %		France	France
Centrale Solaire Gatilles	100.00 %		France	France
Centrale Solaire Golbey	100.00 %		France	France
Centrale Solaire Guinots	60.00 %	E	France	France
Centrale Solaire Heliovale	59.63 %	E	France	France

Centrale Solaire La Potence	100.00 %		France	France
Centrale Solaire La Roquette	100.00 %		France	France
Centrale Solaire La Tastere	60.00 %	E	France	France
Centrale Solaire Larampeau	100.00 %		France	France
Centrale Solaire Les Cordeliers	83.98 %		France	France
Centrale Solaire Les Cordeliers 2	100.00 %		France	France
Centrale Solaire Lodes	50.00 %	E	France	France
Centrale Solaire Lot 1	100.00 %		France	France
Centrale Solaire Mazeran Lr	50.00 %	E	France	France
Centrale Solaire Merle Sud 2	60.00 %	E	France	France
Centrale Solaire Olinoca	10.00 %	E	France	France
Centrale Solaire Ombrieres Cap Agathois	83.98 %		France	France
Centrale Solaire Ombrieres De Blyes	100.00 %		France	France
Centrale Solaire Plateau De Pouls	51.00 %		France	France
Centrale Solaire Pouy Negue 2	100.00 %		France	France
Centrale Solaire Quinipily 2	100.00 %		France	France
Centrale Solaire Terre du Roi	100.00 %		France	France
Centrale Solaire Toiture Josse	60.00 %	E	France	France
Centrale Solaire TQ 2	100.00 %		France	France
Centrale Solaire TQ1	100.00 %		France	France
Centrale Solaire Vauvoix	100.00 %		France	France
Centrale Solaire Zabo 2	100.00 %		France	France
Cerezo Solar, S.L.U.	100.00 %		Spain	Spain
Cidra Solar, S.L.U.	100.00 %		Spain	Spain
Circinus Energy S.L.	100.00 %		Spain	Spain
Cogenra Solar, Inc.	50.83 %		United States	United States
Colón LNG Marketing S. de R. L.	50.00 %	E	Panama	Panama
Columba Renovables S.L.U.	100.00 %		Spain	Spain
Cote d'Ivoire GNL	34.00 %	E	Côte d'Ivoire	Côte d'Ivoire
Cygnus Environment S.L.	100.00 %		Spain	Spain
DAJA 154	100.00 %		France	France
DAJA 160	100.00 %		France	France
Danish Fields Solar, LLC	100.00 %		United States	United States
ECA LNG Holdings B.V.	16.60 %	E	Netherlands	Netherlands
Eclipse Solar SPA	100.00 %		Chile	Chile
Edelweis Solar, S.L.U.	100.00 %		Spain	Spain
Energie Developpement	50.00 %	E	France	France
Eole Boin	100.00 %		France	France
Eole Champagne Conlinoise	66.00 %	E	France	France
Eole Dadoud	100.00 %		France	France
Eole Fonds Caraibes	100.00 %		France	France
Eole Grand Maison	100.00 %		France	France
Eole La Montagne	87.60 %		France	France
Eole La Perriere S.A.R.L.	100.00 %		France	France
Eole Morne Carriere	100.00 %		France	France
Eole Morne Constant	100.00 %		France	France
Eole Yate	100.00 %		France	France
Eolmed	20.00 %	E	France	France
Falcon Acquisition Holdco, Inc.	50.83 %		United States	United States
Falla Solar, S.L.U.	100.00 %		Spain	Spain
Farm	100.00 %		France	France
Fast Jung KB	100.00 %		Sweden	Sweden
Fluxsol	100.00 %		France	France
Fonroche Energies Renouvelables S.A.S.	100.00 %		France	France
Frieman & Wolf Batterietechnick GmbH	100.00 %		Germany	Germany
G.K. Succeed Tsu Haze	90.00 %		Japan	Japan
Garonne-et-Canal Energies	100.00 %		France	France
Gas Del Litoral SRLCV	25.00 %	E	Mexico	Mexico
Gfs I Holding Company, LLC	50.83 %		United States	United States
Glaciere De Palisse	100.00 %		France	France
Global LNG Armateur S.A.S.	100.00 %		France	France
Global LNG Downstream S.A.S.	100.00 %		France	France
Global LNG North America Corporation	100.00 %		United States	United States
Global LNG S.A.S.	100.00 %		France	France
Go Electric	100.00 %		United States	United States
Golden Fields Solar I, LLC	50.83 %		United States	United States

Goodfellow Solar Construction, LLC	50.83 %		United States	United States
Goodfellow Solar III, LLC	50.83 %		United States	United States
Gray Whale Offshore Wind Power No.1 Co., Ltd	50.00 %	E	South Korea	South Korea
Gray Whale Offshore Wind Power No.2 Co., Ltd	50.00 %	E	South Korea	South Korea
Greenflex Actirent Group, S.L.	100.00 %		Spain	Spain
Greenflex S.A.S.	100.00 %		France	France
GridVault DR1, LLC	50.83 %		United States	United States
Grillete Solar, S.L.U.	100.00 %		Spain	Spain
GT R4 Holding Limited	50.00 %	E	United Kingdom	United Kingdom
Gulf Total Tractebel Power Company PSJC	20.00 %	E	United Arab Emirates	United Arab Emirates
Hanwha Total Solar II, LLC	50.00 %	E	United States	United States
Hanwha Total Solar, LLC	50.00 %	E	United States	United States
Helio 100 Kw	100.00 %		France	France
Helio 971	100.00 %		France	France
Helio 974 Sol 1	100.00 %		France	France
Helio 974 Toiture 2	100.00 %		France	France
Helio Fonds Caraibes	100.00 %		France	France
Helio L'R	100.00 %		France	France
Helio Moindah	100.00 %		France	France
Helio Plaine des Gaiacs	100.00 %		France	France
Helio Saint Benoit	100.00 %		France	France
Helio Tontouta	100.00 %		France	France
Helio Wabealo	100.00 %		France	France
Helix Project III, LLC	50.83 %		United States	United States
Helix Project V, LLC	50.83 %		United States	United States
HETTY	100.00 %		France	France
Hydro Tinee	50.00 %	E	France	France
Hydromons	100.00 %		France	France
Ichthys LNG PTY Limited	26.00 %	E	Australia	Australia
Institut Photovoltaique D'Ile De France (IPVF)	43.00 %		France	France
Ise Total Nanao Power Plant G.K.	50.00 %	E	Japan	Japan
JDA Overseas Holdings, LLC	50.83 %		United States	United States
Jingdan New Energy investment (Shanghai) Co. Ltd	50.00 %	E	China	China
Jmcp	50.05 %		France	France
JOBS Tugboat, LLC	50.83 %		United States	United States
Komundo Offshore Wind Power Co., Ltd	50.00 %	E	South Korea	South Korea
LA Basin Solar I, LLC	50.83 %		United States	United States
La Compagnie Electrique de Bretagne	100.00 %		France	France
La Metairie Neuve	25.00 %	E	France	France
La Seauve	40.00 %	E	France	France
Lampiris S.A.	100.00 %		Belgium	Belgium
Lanuza Solar, S.L.U.	100.00 %		Spain	Spain
Lemoore Stratford Land Holdings IV, LLC	50.83 %		United States	United States
Les Vents de la Moivre 2	100.00 %		France	France
Les Vents de la Moivre 3	100.00 %		France	France
Les Vents de la Moivre 4	100.00 %		France	France
Les Vents de la Moivre 5	100.00 %		France	France
Les Vents De Nivillac	100.00 %		France	France
Leuret	50.00 %	E	France	France
Lincoln Solar Star, LLC	50.83 %		United States	United States
Lorca	100.00 %		France	France
Luce Solar SPA	100.00 %		Chile	Chile
Luminora Solar 5	65.00 %	E	Spain	Spain
Luminora Solar cuatro, S.L.	65.00 %	E	Spain	Spain
Luminora Solar Dos, S.L.	65.00 %	E	Spain	Spain
Luminora Solar Tres, S.L.	65.00 %	E	Spain	Spain
Maenggoldo Offshore Wind Power Co., Ltd	50.00 %	E	South Korea	South Korea
Margeriaz Energie	100.00 %		France	France
Martianez Solar, S.L.U.	100.00 %		Spain	Spain
Marysville Unified School District Solar, LLC	50.83 %		United States	United States
Mauricio Solar, S.L.U.	100.00 %		Spain	Spain
Maxeon Solar Technologies, Pte. Ltd.	27.45 %	E	Singapore	Singapore
Methanergy	100.00 %		France	France
Missiles & Space Batteries Limited	50.00 %	E	United Kingdom	United Kingdom
Miyagi Osato Solar Park G.K.	45.00 %	E	Japan	Japan

Miyako Kuzakai Solarpark G.K.	50.00 %	E	Japan	Japan
Moz LNG1 Co-Financing Company	26.50 %		Mozambique	Mozambique
Moz LNG1 Financing Company Ltd	26.50 %		United Arab Emirates	United Arab Emirates
Moz LNG1 Holding Company Ltd	26.50 %		United Arab Emirates	United Arab Emirates
Mozambique LNG Marine Terminal Company S.A.	26.50 %		Mozambique	Mozambique
Mozambique MOF Company S.A.	26.50 %		Mozambique	Mozambique
Mulilo Prieska PV (RF) Proprietary Limited	27.00 %	E	South Africa	South Africa
Myrtle Solar, LLC	100.00 %		United States	United States
National Gas Shipping Company Limited	5.00 %	E	United Arab Emirates	United Arab Emirates
NEM Solar Targetco, LLC	50.83 %		United States	United States
Nigeria LNG Limited	15.00 %	E	Nigeria	Nigeria
Northern Lights JV DA	33.33 %	E	Norway	Norway
NorthStar Energy Management Nevada, LLC	50.83 %		United States	United States
NorthStar Energy Management, LLC	50.83 %		United States	United States
Nouvelle Centrale Eolienne de Lastours	50.00 %	E	France	France
Nuza Solar, S.L.U.	100.00 %		Spain	Spain
Nyk Armateur S.A.S.	50.00 %	E	France	France
Oman LNG, LLC	5.54 %	E	Oman	Oman
Parc Eolien De Coupru	50.00 %	E	France	France
Parc Eolien Des Monts Jumeaux	50.00 %	E	France	France
Parc Eolien du Vilipon	50.00 %	E	France	France
Parque Fotovoltaico Alicahue Solar SPA	100.00 %		Chile	Chile
Parque Fotovoltaico Santa Adriana Solar SPA	100.00 %		Chile	Chile
Pilastra Solar, S.L.U.	100.00 %		Spain	Spain
Planta solar OPDE Andalucía 3, S.L.U.	100.00 %		Spain	Spain
Portalon Solar, S.L.U.	100.00 %		Spain	Spain
Pos Production Ii	60.00 %		France	France
Pos Production Iii	70.00 %		France	France
Pos Production Iv	70.00 %		France	France
Pos Production V	70.00 %		France	France
Postigo Solar, S.L.U.	100.00 %		Spain	Spain
Qatar Liquefied Gas Company Limited	10.00 %	E	Qatar	Qatar
Qatar Liquefied Gas Company Limited (II)	16.70 %	E	Qatar	Qatar
Quadrica	51.00 %	E	France	France
Quilla Solar, S.L.U.	100.00 %		Spain	Spain
Rabiza Solar, S.L.U.	100.00 %		Spain	Spain
Recova Solar, S.L.U.	100.00 %		Spain	Spain
Regata Solar, S.L.U.	100.00 %		Spain	Spain
RLA Solar SPA	100.00 %		Chile	Chile
Rosamond Raven Holdings, LLC	50.83 %		United States	United States
Saft (Zhuhai FTZ) Batteries Company Limited	100.00 %		China	China
Saft (Zhuhai) Energy Storage Co	100.00 %		China	China
Saft AB	100.00 %		Sweden	Sweden
Saft Acquisition S.A.S.	100.00 %		France	France
Saft America Inc.	100.00 %		United States	United States
Saft AS	100.00 %		Norway	Norway
Saft Australia PTY Limited	100.00 %		Australia	Australia
Saft Batterias SL	100.00 %		Spain	Spain
Saft Batterie Italia S.R.L.	100.00 %		Italy	Italy
Saft Batterien GmbH	100.00 %		Germany	Germany
Saft Batteries Pte Limited	100.00 %		Singapore	Singapore
Saft Batteries PTY Limited	100.00 %		Australia	Australia
Saft Batterijen B.V.	100.00 %		Netherlands	Netherlands
Saft Do Brasil Ltda	100.00 %		Brazil	Brazil
Saft EV S.A.S.	100.00 %		France	France
Saft Ferak AS	100.00 %		Czech Republic	Czech Republic
Saft Groupe S.A.S.	100.00 %		France	France
Saft Hong Kong Limited	100.00 %		Hong Kong	Hong Kong
Saft India Private Limited	100.00 %		India	India
Saft Japan KK	100.00 %		Japan	Japan
Saft Limited	100.00 %		United Kingdom	United Kingdom
Saft LLC	100.00 %		Russia	Russia
Saft Nife ME Limited	100.00 %		Cyprus	Cyprus
Saft S.A.S.	100.00 %		France	France
Seagreen HoldCo 1 Limited	51.00 %	E	United Kingdom	United Kingdom
SGS Antelope Valley Development, LLC	50.83 %		United States	United States

Shams Power Company PJSC	20.00 %	E	United Arab Emirates	United Arab Emirates
Shop Renewable Energy, LLC	50.83 %		United States	United States
Societe Champenoise d'Energie	16.00 %	E	France	France
Societe d'exploitation de centrales photovoltaiques 1	25.47 %		France	France
Societe Economie Mixte Production Energetique Renouvelable	35.92 %	E	France	France
Solar Carport NJ, LLC	50.83 %		United States	United States
Solar Energies	65.00 %	E	France	France
Solar Sail Commercial DevCo I, LLC	50.83 %		United States	United States
Solar Sail Commercial Holdings, LLC	50.83 %		United States	United States
Solar Sail Commercial MPW DevCo, LLC	50.83 %		United States	United States
Solar Sail Generate Devco I, LLC	50.83 %		United States	United States
Solar Sail, LLC	50.83 %	E	United States	United States
Solar Star Academia 1, LLC	50.83 %		United States	United States
Solar Star Always Low Prices Ct, LLC	50.83 %		United States	United States
Solar Star Always Low Prices Hi, LLC	50.83 %		United States	United States
Solar Star Arizona HMR-I, LLC	50.83 %		United States	United States
Solar Star Arizona VII, LLC	50.83 %		United States	United States
Solar Star Baltimore Carney, LLC	50.83 %		United States	United States
Solar Star Baltimore Roofs, LLC	50.83 %		United States	United States
Solar Star Bay City 2, LLC	50.83 %		United States	United States
Solar Star Bear Creek, LLC	50.83 %		United States	United States
Solar Star Big Apple BTM, LLC	50.83 %		United States	United States
Solar Star Big Apple CDG, LLC	50.83 %		United States	United States
Solar Star Buchanan 2, LLC	50.83 %		United States	United States
Solar Star California I, LLC	50.83 %		United States	United States
Solar Star California LXXV, LLC	50.83 %		United States	United States
Solar Star California LXXVI, LLC	50.83 %		United States	United States
Solar Star California XXXV, LLC	50.83 %		United States	United States
Solar Star California XXXVI, LLC	50.83 %		United States	United States
Solar Star California XXXVIII, LLC	50.83 %		United States	United States
Solar Star Carbondale 1, LLC	50.83 %		United States	United States
Solar Star Charlotte 1, LLC	50.83 %		United States	United States
Solar Star Clovis Curry North, LLC	50.83 %		United States	United States
Solar Star Co Co 1, LC	50.83 %		United States	United States
Solar Star Co Co 2, LLC	50.83 %		United States	United States
Solar Star Co Co 2500, LLC	50.83 %		United States	United States
Solar Star Coastal Pirate, LLC	50.83 %		United States	United States
Solar Star Colorado II, LLC	50.83 %		United States	United States
Solar Star CRC Kern Front, LLC	50.83 %		United States	United States
Solar Star CRC Mt. Poso, LLC	50.83 %		United States	United States
Solar Star CRC North Shafter, LLC	50.83 %		United States	United States
Solar Star CRC Pier A West, LLC	50.83 %		United States	United States
Solar Star CRC Yowlumne 1 North, LLC	50.83 %		United States	United States
Solar Star CRC Yowlumne 2 South, LLC	50.83 %		United States	United States
Solar Star Deer Island, LLC	50.83 %		United States	United States
Solar Star Energy Center, LLC	50.83 %		United States	United States
Solar Star George Gift, LLC	50.83 %		United States	United States
Solar Star Golden Empire, LLC	50.83 %		United States	United States
Solar Star Harbor, LLC	50.83 %		United States	United States
Solar Star HD Maryland, LLC	50.83 %		United States	United States
Solar Star HD New Jersey, LLC	50.83 %		United States	United States
Solar Star HD New York, LLC	50.83 %		United States	United States
Solar Star Healthy 1, LLC	50.83 %		United States	United States
Solar Star Healthy Lake, LLC	50.83 %		United States	United States
Solar Star Herald Square 1, LLC	50.83 %		United States	United States
Solar Star Hernwood, LLC	50.83 %		United States	United States
Solar Star Irondale, LLC	50.83 %		United States	United States
Solar Star Kale 1, LLC	50.83 %		United States	United States
Solar Star Khsd, LLC	50.83 %		United States	United States
Solar Star LA County High Desert, LLC	50.83 %		United States	United States
Solar Star LCR Culver City, LLC	50.83 %		United States	United States
Solar Star LCR Irvine, LLC	50.83 %		United States	United States
Solar Star LCR LA 1, LLC	50.83 %		United States	United States
Solar Star LCR LA 2, LLC	50.83 %		United States	United States
Solar Star LCR Split 1, LLC	50.83 %		United States	United States

Solar Star LCR Split 2, LLC	50.83 %		United States	United States
Solar Star Lincoln School, LLC	50.83 %		United States	United States
Solar Star Los Lunas, LLC	50.83 %		United States	United States
Solar Star MA - Tewksbury, LLC	50.83 %		United States	United States
Solar Star Massachusetts II, LLC	50.83 %		United States	United States
Solar Star Massachusetts III, LLC	50.83 %		United States	United States
Solar Star Maxx 1, LLC	50.83 %		United States	United States
Solar Star Maynard 1, LLC	50.83 %		United States	United States
Solar Star Meridian Park West, LLC	50.83 %		United States	United States
Solar Star Mount Crawford 1, LLC	50.83 %		United States	United States
Solar Star Parent CRC Kern Front, LLC	50.83 %		United States	United States
Solar Star Parent CRC Mt. Poso, LLC	50.83 %		United States	United States
Solar Star Parent CRC North Shafter, LLC	50.83 %		United States	United States
Solar Star Parent CRC Pier A West, LLC	50.83 %		United States	United States
Solar Star Parent CRC Yowlumne 1 North, LLC	50.83 %		United States	United States
Solar Star Parent CRC Yowlumne 2 South, LLC	50.83 %		United States	United States
Solar Star Parkton, LLC	50.83 %		United States	United States
Solar Star Pennsauken, LLC	50.83 %		United States	United States
Solar Star Petersburg 1, LLC	50.83 %		United States	United States
Solar Star Philipsburg 1, LLC	50.83 %		United States	United States
Solar Star Prairie Holding, LLC	50.83 %		United States	United States
Solar Star Prime 2, LLC	50.83 %		United States	United States
Solar Star Prime 3, LLC	50.83 %		United States	United States
Solar Star Prime 4, LLC	50.83 %		United States	United States
Solar Star Prime SCK3, LLC	50.83 %		United States	United States
Solar Star PTC 1, LLC	50.83 %		United States	United States
Solar Star PTC 2, LLC	50.83 %		United States	United States
Solar Star Rancho CWD I, LLC	50.83 %		United States	United States
Solar Star River, LLC	50.83 %		United States	United States
Solar Star Serving Science, LLC	50.83 %		United States	United States
Solar Star South Deering, LLC	50.83 %		United States	United States
Solar Star Storage Texas, LLC	50.83 %		United States	United States
Solar Star Track Cheverly, LLC	50.83 %		United States	United States
Solar Star Track Southern Ave 1, LLC	50.83 %		United States	United States
Solar Star Track Southern Ave 2, LLC	50.83 %		United States	United States
Solar Star Tranquility, LLC	50.83 %		United States	United States
Solar Star Unkety Brook, LLC	50.83 %		United States	United States
Solar Star Urbana Landfill Central, LLC	50.83 %		United States	United States
Solar Star Urbana Landfill East, LLC	50.83 %		United States	United States
Solar Star Virginia Holdco, LLC	50.83 %		United States	United States
Solar Star Wholesome Portland, LLC	50.83 %		United States	United States
Solar Star Woodlands St Cr, LLC	50.83 %		United States	United States
SolarBridge Technologies Inc.	50.83 %		United States	United States
Solarstar Ma I, LLC	50.83 %		United States	United States
Solarstar Prime I, LLC	50.83 %		United States	United States
SolarStorage Fund A, LLC	50.83 %		United States	United States
SolarStorage Fund B, LLC	50.83 %		United States	United States
SolarStorage Fund C, LLC	50.83 %		United States	United States
SolarStorage Fund D, LLC	50.83 %		United States	United States
South Hook LNG Terminal Company Limited	8.35 %	E	United Kingdom	United Kingdom
Spinnaker Solar, S.L.U.	100.00 %		Spain	Spain
SPWR SS 1, LLC	50.83 %		United States	United States
SPWR SunStrong Holdings, LLC	50.83 %		United States	United States
SunPower AssetCo, LLC	50.83 %		United States	United States
SunPower Bobcat Solar, LLC	50.83 %		United States	United States
SunPower Capital Services, LLC	50.83 %		United States	United States
SunPower Capital, LLC	50.83 %		United States	United States
SunPower Commercial FTB Construction, LLC	50.83 %		United States	United States
SunPower Commercial Holding Company FTB SLB Parent, LLC	50.83 %		United States	United States
SunPower Commercial Holding Company FTB SLB, LLC	50.83 %		United States	United States
SunPower Corporation	50.83 %		United States	United States
SunPower Corporation, Systems	50.83 %		United States	United States
SunPower DevCo, LLC	50.83 %		United States	United States
SunPower Electrical of New York, LLC	50.83 %		United States	United States
SunPower Energia SPA	50.83 %		Chile	Chile

SunPower Energy Systems Canada Corporation	50.83 %		Canada	Canada
SunPower Equity Holdings, LLC	50.83 %		United States	United States
SunPower Foundation	50.83 %		United States	United States
SunPower Helix I, LLC	50.83 %		United States	United States
SunPower HoldCo, LLC	50.83 %		United States	United States
SunPower Manufacturing Oregon, LLC	50.83 %		United States	United States
SunPower North America, LLC	50.83 %		United States	United States
SunPower NY CDG 1, LLC	50.83 %		United States	United States
SunPower Philippines Limited - Regional Operating Headquarters	50.83 %		Cayman Islands	Cayman Islands
SunPower Residential V, LLC	50.83 %		United States	United States
SunPower Residential VI, LLC	50.83 %		United States	United States
Sunpower Residential VII, LLC	50.83 %		United States	United States
SunPower Revolver HoldCo I Parent, LLC	50.83 %		United States	United States
SunPower Revolver HoldCo I, LLC	50.83 %		United States	United States
SunPower Systems Mexico S. de R.L. de C.V.	50.83 %		Mexico	Mexico
SunPower Technologies Assetco Holdings, LLC	50.83 %		United States	United States
Sunstrong Capital Holdings, LLC	50.83 %	E	United States	United States
SunStrong Partners, LLC	50.83 %	E	United States	United States
Sunzil	50.00 %	E	France	France
Swingletree Operations, LLC	50.83 %		United States	United States
Tadiran Batteries GmbH	100.00 %		Germany	Germany
Tadiran Batteries Limited	100.00 %		Israel	Israel
Temasol	50.83 %		Morocco	Morocco
Tianneng Saft Energy Joint Stock Company	40.00 %	E	China	China
TIEA Energie	100.00 %		France	France
Total Direct Energie Belgium	100.00 %		Belgium	Belgium
Total E&P Indonesia Mentawai B.V.	100.00 %		Netherlands	Indonesia
Total E&P Indonesie	100.00 %		France	Indonesia
Total E&P Mauritius Holding Limited	100.00 %		Mauritius Island	Mauritius Island
Total E&P PNG 2 B.V.	100.00 %		Netherlands	Papua New Guinea
Total E&P Sebuku	100.00 %		France	Indonesia
Total Energies Biogaz France	100.00 %		France	France
Total Energy Investments Tianjin	100.00 %		China	China
Total Eren (c)	29.60 %	E	France	France
Total Eren Holding	33.86 %	E	France	France
Total Gas & Power Actifs Industriels	100.00 %		France	France
Total Gas & Power Chartering Limited	100.00 %		United Kingdom	United Kingdom
Total Gas & Power Services Limited	100.00 %		United Kingdom	United Kingdom
Total Indian Ocean Renewables	100.00 %		Mauritius Island	Mauritius Island
Total Indian Ocean Solar Wind	100.00 %		Mauritius Island	Mauritius Island
Total Investment Management Tianjin	100.00 %		China	China
Total Midstream Holdings UK Limited	100.00 %		United Kingdom	United Kingdom
Total Shenergy LNG (Shanghai) Co., Ltd.	49.00 %	E	China	China
Total Solar Singapore Pte Ltd	100.00 %		Singapore	Singapore
Total Strong, LLC	50.00 %	E	United States	United States
Total SunPower Energia S.A.	50.83 %		Chile	Chile
Total Tengah	100.00 %		France	Indonesia
Total Tractebel Emirates O & M Company	50.00 %	E	France	United Arab Emirates
Total Tractebel Emirates Power Company	50.00 %	E	France	United Arab Emirates
Total USA International, LLC	100.00 %		United States	United States
Total Yemen LNG Company Limited	100.00 %		Bermuda	Bermuda
TotalEnergies - Centrale Electrique Bayet	100.00 %		France	France
TotalEnergies - Centrale Electrique Marchienne-au-Pont	100.00 %		Belgium	Belgium
TotalEnergies - Centrale Electrique Pont-sur-Sambre	100.00 %		France	France
TotalEnergies - Centrale Electrique Saint-Avold	100.00 %		France	France
TotalEnergies - Centrale Electrique Toul	100.00 %		France	France
TotalEnergies Australia Unit Trust (e)	0.00 %		Australia	Australia
TotalEnergies Carbon Solutions	100.00 %		France	France
TotalEnergies Clientes	100.00 %		Spain	Spain
TotalEnergies DF Solar, LLC	100.00 %		United States	United States
TotalEnergies E&P Yamal	100.00 %		France	France
TotalEnergies Electricidad y Gas España	100.00 %		Spain	Spain
TotalEnergies Electricité et Gaz France	100.00 %		France	France
TotalEnergies EP Angola Développement Gaz	100.00 %		France	Angola

TotalEnergies EP Australia	100.00 %		France	Australia
TotalEnergies EP Australia II	100.00 %		France	Australia
TotalEnergies EP Australia III	100.00 %		France	Australia
TotalEnergies EP Barnett USA	100.00 %		United States	United States
TotalEnergies EP Holdings Australia Pty Ltd	100.00 %		Australia	Australia
TotalEnergies EP Ichthys B.V.	100.00 %		Netherlands	Australia
TotalEnergies EP Ichthys Holdings	100.00 %		France	France
TotalEnergies EP Mozambique Area1, Ltda	100.00 %		Mozambique	Mozambique
TotalEnergies EP Oman Block 12 B.V.	100.00 %		Netherlands	Oman
TotalEnergies EP Oman Development B.V.	100.00 %		Netherlands	Oman
TotalEnergies EP PNG Ltd	100.00 %		Papua New Guinea	Papua New Guinea
TotalEnergies EP Salmanov	100.00 %		France	France
TotalEnergies EP Singapore Pte. Ltd.	100.00 %		Singapore	Singapore
TotalEnergies EP Transshipment S.A.S.	100.00 %		France	Russia
TotalEnergies ESS Flandres	100.00 %		France	France
TotalEnergies Exploration Australia Pty Ltd	100.00 %		Australia	Australia
TotalEnergies Gas & Power Asia Private Limited	100.00 %		Singapore	Singapore
TotalEnergies Gas & Power Brazil	100.00 %		France	France
TotalEnergies Gas & Power Ltd	100.00 %		United Kingdom	United Kingdom
TotalEnergies Gas & Power Ltd, London, Meyrin - Geneva branch	100.00 %		United Kingdom	Switzerland
TotalEnergies Gas & Power North America, Inc.	100.00 %		United States	United States
TotalEnergies Gas Holdings Andes	100.00 %		France	France
TotalEnergies Gas Pipeline USA, Inc.	100.00 %		United States	United States
TotalEnergies Gas y Electricidad Argentina S.A.	100.00 %		Argentina	Argentina
TotalEnergies Gaz & Electricité Holdings	100.00 %		France	France
TotalEnergies GLNG Australia	100.00 %		France	Australia
TotalEnergies GLNG Holdings Australia S.A.S.	100.00 %		France	Australia
TotalEnergies H Solar, LLC	100.00 %		United States	United States
TotalEnergies LNG Angola Ltd	13.60 %	E	Bermuda	Angola
TotalEnergies LNG Angola	100.00 %		France	France
TotalEnergies M Solar, LLC	100.00 %		United States	United States
TotalEnergies Mercado España	100.00 %		Spain	Spain
TotalEnergies New Ventures USA, Inc.	100.00 %		United States	United States
TotalEnergies Offshore Wind Holdings UK Ltd	100.00 %		United Kingdom	United Kingdom
TotalEnergies Offshore Wind Korea	100.00 %		France	France
TotalEnergies Power Generation France	100.00 %		France	France
TotalEnergies Renewables	100.00 %		France	France
TotalEnergies Renewables Asia	100.00 %		Singapore	Singapore
TotalEnergies Renewables DG Holdings Asia PTE Ltd	100.00 %		Singapore	Singapore
TotalEnergies Renewables DG MEA - Assets 1 FZE	100.00 %		United Arab Emirates	United Arab Emirates
TotalEnergies Renewables DG MEA FZE	100.00 %		United Arab Emirates	United Arab Emirates
TotalEnergies Renewables Iberica, S.L.U	100.00 %		Spain	Spain
TotalEnergies Renewables International	100.00 %		France	France
TotalEnergies Renewables Latin America	100.00 %		Chile	Chile
TotalEnergies Renewables Projects Vietnam	100.00 %		Singapore	Singapore
Totalenergies Renewables R4 Holdco Ltd	100.00 %		United Kingdom	United Kingdom
Totalenergies Renewables Seagreen Holdco Ltd	100.00 %		United Kingdom	United Kingdom
TotalEnergies Renewables Thailand	100.00 %		Thailand	Thailand
TotalEnergies Renewables USA, LLC	100.00 %		United States	United States
TotalEnergies Renouvelables Antilles Guyane	100.00 %		France	France
TotalEnergies Renouvelables Danemark ApS	100.00 %		Denmark	Denmark
TotalEnergies Renouvelables France	100.00 %		France	France
TotalEnergies Renouvelables Nogara	50.00 %	E	France	France
TotalEnergies Renouvelables Pacific	100.00 %		France	France
TotalEnergies Solar France	100.00 %		France	France
TotalEnergies Solar Intl	100.00 %		France	France
TotalEnergies Sviluppo Italia S.R.L.	100.00 %		Italy	Italy
TotalEnergies Ventures Emerging Markets	100.00 %		France	France
TotalEnergies Ventures Europe	100.00 %		France	France
TotalEnergies Ventures International	100.00 %		France	France
TotalEnergies Wire 3, LLC	100.00 %		United States	United States
TQN Hydro	100.00 %		France	France
TQN Solar	100.00 %		France	France
TQN Solar Nogara	50.00 %	E	France	France

	TQN Wind	100.00 %		France	France
	Transportadora de Gas del Mercosur S.A.	32.68 %	E	Argentina	Argentina
	Trofeo Solar, S.L.U.	100.00 %		Spain	Spain
	TSDG Asia Assets PTE. Ltd.	100.00 %		Singapore	Singapore
	TSGF SpA	50.00 %	E	Chile	Chile
	Tugboat Commercial Pledgor, LLC	50.83 %		United States	United States
	TW2 Tugboat, LLC	50.83 %		United States	United States
	TW3 Tugboat, LLC	50.83 %		United States	United States
	Ulsan Floating Offshore Wind Power Co., Ltd	50.00 %	E	South Korea	South Korea
	Valorene	66.00 %		France	France
	Vega Solar 1 S.A.P.I. de C.V.	50.83 %		Mexico	Mexico
	Vega Solar 2 S.A.P.I. de C.V.	50.83 %		Mexico	Mexico
	Vents D'Oc Centrale D'Energie Renouvelable 17	100.00 %		France	France
	Vents D'Oc Centrale D'Energie Renouvelable 18	100.00 %		France	France
	Vertigo	25.00 %	E	France	France
	Winche Solar, S.L.U.	100.00 %		Spain	Spain
	Wind 1029 GmbH	100.00 %		Germany	Germany
	Winergy	100.00 %		France	France
	WP France 21	100.00 %		France	France
	WP France 25	100.00 %		France	France
	WP France 27	100.00 %		France	France
	Yamal LNG (d)	29.73 %	E	Russia	Russia
	Yemen LNG Company Limited	39.62 %	E	Bermuda	Yemen
	Yunlin Holding Gmbh	23.00 %	E	Germany	Germany
	Zeeland Solar B.V.	100.00 %		Netherlands	Netherlands

Business segment	Statutory corporate name	% Company interest	Method	Country of incorporation	Country of operations
Refining & Chemicals					
	Appryl S.N.C	50.00 %		France	France
	Atlantic Trading and Marketing Financial Inc.	100.00 %		United States	United States
	Atlantic Trading and Marketing Inc.	100.00 %		United States	United States
	Balzatex S.A.S.	100.00 %		France	France
	Barry Controls Aerospace S.N.C.	100.00 %		France	France
	BASF Total Petrochemicals LLC	40.00 %		United States	United States
	Bay Junction Inc.	100.00 %		United States	United States
	Bayport Polymers LLC	50.00 %	E	United States	United States
	Borrachas Portalegre Ltda	100.00 %		Portugal	Portugal
	BOU Verwaltungs GmbH	100.00 %		Germany	Germany
	Buckeye Products Pileline LP	14.66 %	E	United States	United States
	Catelsa-Caceres S.A.U.	100.00 %		Spain	Spain
	Cie Tunisienne du Caoutchouc S.A.R.L.	100.00 %		Tunisia	Tunisia
	Composite Industrie Maroc S.A.R.L.	100.00 %		Morocco	Morocco
	Composite Industrie S.A.	100.00 %		France	France
	Cosden, LLC	100.00 %		United States	United States
	COS-MAR Company	50.00 %		United States	United States
	Cray Valley (Guangzhou) Chemical Company, Limited	100.00 %		China	China
	Cray Valley Czech	100.00 %		Czech Republic	Czech Republic
	Cray Valley HSC Asia Limited	100.00 %		China	Hong Kong
	Cray Valley Italia S.R.L.	100.00 %		Italy	Italy
	Cray Valley S.A.	100.00 %		France	France
	CSSA - Chartering and Shipping Services S.A.	100.00 %		Switzerland	Switzerland
	Espa S.A.R.L.	100.00 %		France	France
	Ethylene Est	99.98 %		France	France
	Feluy Immobati	100.00 %		Belgium	Belgium
	Fina Pipeline Co	100.00 %		United States	United States
	FINA Technology, Inc.	100.00 %		United States	United States
	Gasket (Suzhou) Valve Components Company, Limited	100.00 %		China	China
	Gasket International S.R.L.	100.00 %		Italy	Italy
	Grande Paroisse S.A.	100.00 %		France	France
	Gulf Coast Pipeline LP	14.66 %	E	United States	United States
	Hanwha Total Petrochemical Co. Limited	50.00 %	E	South Korea	South Korea
	HBA Hutchinson Brasil Automotive Ltda	100.00 %		Brazil	Brazil
	Hutchinson (UK) Limited	100.00 %		United Kingdom	United Kingdom

Hutchinson (Wuhan) Automotive Rubber Products Company Limited	100.00 %		China	China
Hutchinson Aeronautique & Industrie Limited	100.00 %		Canada	Canada
Hutchinson Aerospace & Industry Inc.	100.00 %		United States	United States
Hutchinson Aerospace GmbH	100.00 %		Germany	Germany
Hutchinson Aftermarket USA Inc.	100.00 %		United States	United States
Hutchinson Antivibration Systems Inc.	100.00 %		United States	United States
Hutchinson Automotive Systems Company, Limited	100.00 %		China	China
Hutchinson Autopartes Mexico S.A. de C.V.	100.00 %		Mexico	Mexico
Hutchinson Borrachas de Portugal Ltda	100.00 %		Portugal	Portugal
Hutchinson Corporation	100.00 %		United States	United States
Hutchinson d.o.o Ruma	100.00 %		Serbia	Serbia
Hutchinson Do Brasil S.A.	100.00 %		Brazil	Brazil
Hutchinson Fluid Management Systems Inc.	100.00 %		United States	United States
Hutchinson GmbH	100.00 %		Germany	Germany
Hutchinson Holding GmbH	100.00 %		Germany	Germany
Hutchinson Holdings UK Limited	100.00 %		United Kingdom	United Kingdom
Hutchinson Iberia S.A.	100.00 %		Spain	Spain
Hutchinson Industrial Rubber Products (Suzhou) Company, Limited	100.00 %		China	China
Hutchinson Industrias Del Caucho SAU	100.00 %		Spain	Spain
Hutchinson Industries Inc.	100.00 %		United States	United States
Hutchinson Japan Company Limited	100.00 %		Japan	Japan
Hutchinson Korea Limited	100.00 %		South Korea	South Korea
Hutchinson Maroc S.A.R.L. AU	100.00 %		Morocco	Morocco
Hutchinson Poland SP ZO.O.	100.00 %		Poland	Poland
Hutchinson Polymers S.N.C.	100.00 %		France	France
Hutchinson Porto	100.00 %		Portugal	Portugal
Hutchinson Precision Sealing Systems Inc.	100.00 %		United States	United States
Hutchinson Research & Innovation Singapore PTE. Limited	100.00 %		Singapore	Singapore
Hutchinson Rubber Products Private Limited Inde	100.00 %		India	India
Hutchinson S.A.	100.00 %		France	France
Hutchinson S.N.C.	100.00 %		France	France
Hutchinson S.R.L. (Italie)	100.00 %		Italy	Italy
Hutchinson S.R.L. (Roumanie)	100.00 %		Romania	Romania
Hutchinson Sales Corporation	100.00 %		United States	United States
Hutchinson Seal De Mexico S.A. de CV.	100.00 %		Mexico	Mexico
Hutchinson Sealing Systems Inc.	100.00 %		United States	United States
Hutchinson SRO	100.00 %		Czech Republic	Czech Republic
Hutchinson Stop - Choc GmbH & CO. KG	100.00 %		Germany	Germany
Hutchinson Suisse S.A.	100.00 %		Switzerland	Switzerland
Hutchinson Transferencia de Fluidos S.A. de C.V.	100.00 %		Mexico	Mexico
Hutchinson Tunisie S.A.R.L.	100.00 %		Tunisia	Tunisia
Hutchinson Vietnam Company Limited	100.00 %		Vietnam	Vietnam
Industrias Tecnicas De La Espuma SL	100.00 %		Spain	Spain
Industrielle Desmarquoy S.N.C.	100.00 %		France	France
Jehier S.A.S.	99.89 %		France	France
Joint Precision Rubber	100.00 %		France	France
KTN Kunststofftechnik Nobitz GmbH	100.00 %		Germany	Germany
Laffan Refinery Company Limited	10.00 %	E	Qatar	Qatar
Laffan Refinery Company Limited 2	10.00 %	E	Qatar	Qatar
LaPorte Pipeline Company LP	19.96 %	E	United States	United States
LaPorte Pipeline GP LLC	19.96 %	E	United States	United States
Le Joint Francais S.N.C.	100.00 %		France	France
Legacy Site Services Funding Inc.	100.00 %		United States	United States
Legacy Site Services LLC	100.00 %		United States	United States
Les Stratifies S.A.S.	100.00 %		France	France
Lone Wolf Land Company	100.00 %		United States	United States
Machen Land Limited	100.00 %		United Kingdom	United Kingdom
Mide Technology Corporation	100.00 %		United States	United States
Naphtachimie	50.00 %		France	France
Olutex Oberlausitzer Luftfahrttextilien GmbH	100.00 %		Germany	Germany
Pamargan (Malta) Products Limited	100.00 %		Malta	Malta
Pamargan Products Limited	100.00 %		United Kingdom	United Kingdom
Paulstra S.N.C.	100.00 %		France	France
PFW Aerospace GmbH	100.00 %		Germany	Germany

PFW Havacilik Sanayi ve Dis Ticaret Limited Sirtketi	100.00 %		Turkey	Turkey
PFW Uk Machining Ltd.	100.00 %		United Kingdom	United Kingdom
Polyblend GmbH	100.00 %		Germany	Germany
Qatar Petrochemical Company Q.S.C. (QAPCO)	20.00 %	E	Qatar	Qatar
Qatofin Company Limited	49.09 %	E	Qatar	Qatar
Resilium	100.00 %		Belgium	Belgium
Retia	100.00 %		France	France
Retia USA LLC	100.00 %		United States	United States
San Jacinto Rail Limited	17.00 %	E	United States	United States
Saudi Aramco Total Refining & Petrochemical Company	37.50 %	E	Saoudia Arabia	Saoudia Arabia
Societe Bearnaise De Gestion Industrielle	100.00 %		France	France
Societe du Pipeline Sud-Europeen	35.14 %	E	France	France
Southeast Texas Pipelines LLC	40.00 %		United States	United States
SPA Sonatrach Total Entreprise de Polymères	49.00 %	E	Algeria	Algeria
Stillman Seal Corporation	100.00 %		United States	United States
Stop-Choc (UK) Limited	100.00 %		United Kingdom	United Kingdom
Synova	100.00 %		France	France
Techlam S.A.S.	100.00 %		France	France
Thermal Control Systems Automotive Sasu	100.00 %		France	France
Total Activites Maritimes	100.00 %		France	France
Total Atlantic Trading Mexico SA De CV	100.00 %		Mexico	Mexico
Total Corbion PLA B.V.	50.00 %	E	Netherlands	Netherlands
Total Energy Marketing A/S	100.00 %		Denmark	Denmark
Total Opslag En Pijpleiding Nederland NV	55.00 %		Netherlands	Netherlands
Total Petrochemicals (Shangai) Limited	100.00 %		China	China
TotalEnergies Belgium Services	100.00 %		Belgium	Belgium
TotalEnergies Laffan Refinery Holdco	100.00 %		France	France
TotalEnergies Laffan Refinery Holdco II B.V.	100.00 %		Netherlands	Netherlands
TotalEnergies Marketing Deutschland GmbH Refining (f)	100.00 %		Germany	Germany
TotalEnergies Olefins Antwerp	100.00 %		Belgium	Belgium
TotalEnergies One Tech Belgium	100.00 %		Belgium	Belgium
TotalEnergies Petrochemicals Development Feluy	100.00 %		Belgium	Belgium
TotalEnergies Petrochemicals Ecaussinnes	100.00 %		Belgium	Belgium
TotalEnergies Petrochemicals Feluy	100.00 %		Belgium	Belgium
TotalEnergies Petrochemicals France	100.00 %		France	France
TotalEnergies Petrochemicals Hong Kong Ltd	100.00 %		Hong Kong	Hong Kong
TotalEnergies Petrochemicals Iberica	100.00 %		Spain	Spain
TotalEnergies Petrochemicals UK Ltd	100.00 %		United Kingdom	United Kingdom
TotalEnergies Pipeline USA, Inc.	100.00 %		United States	United States
TotalEnergies Polymers Antwerp	100.00 %		Belgium	Belgium
TotalEnergies Raffinage Chimie	100.00 %		France	France
TotalEnergies Raffinage France	100.00 %		France	France
TotalEnergies Raffinerie Mitteldeutschland GmbH	100.00 %		Germany	Germany
TotalEnergies Refinery Antwerp	100.00 %		Belgium	Belgium
TotalEnergies Refinery Port Arthur, LLC	100.00 %		United States	United States
TotalEnergies Refining & Chemicals Saudi Arabia	100.00 %		France	France
TotalEnergies Renewable Fuels USA	100.00 %		United States	United States
TotalEnergies Splitter USA, Inc.	100.00 %		United States	United States
TotalEnergies Trading Asia Pte. Ltd	100.00 %		Singapore	Singapore
TotalEnergies Trading Canada LP	100.00 %		Canada	Canada
TotalEnergies Trading Europe	100.00 %		France	France
TotalEnergies Trading Holdings Canada Ltd	100.00 %		Canada	Canada
TotalEnergies Trading Products S.A.	100.00 %		Switzerland	Switzerland
TotalEnergies Trading Storage S.A.	100.00 %		Switzerland	Switzerland
TOTSA TotalEnergies Trading S.A.	100.00 %		Switzerland	Switzerland
Totseanergy	49.00 %	E	Belgium	Belgium
Transalpes S.N.C.	67.00 %		France	France
Trans-Ethylene	99.98 %		France	France
Vibrachoc S.A.U.	100.00 %		Spain	Spain
Zeeland Refinery NV	55.00 %		Netherlands	Netherlands

Business segment	Statutory corporate name	% Company interest	Method	Country of incorporation	Country of operations
Marketing & Services					
	Alvea	100.00 %		France	France
	Antilles Gaz	100.00 %		France	France
	Argedis	100.00 %		France	France
	Aristea	51.00 %	E	Belgium	Belgium
	Arteco	49.99 %	E	Belgium	Belgium
	AS 24	100.00 %		France	France
	AS24 Belgie N.V.	100.00 %		Belgium	Belgium
	AS24 Espanola S.A.	100.00 %		Spain	Spain
	AS24 Fuel Cards Limited	100.00 %		United Kingdom	United Kingdom
	AS24 Lithuanie	100.00 %		Lithunia	Lithunia
	AS24 Polska SP ZO.O.	100.00 %		Poland	Poland
	AS24 Tankservice GmbH	100.00 %		Germany	Germany
	Charvet La Mure Bianco	100.00 %		France	France
	Clean Energy	19.09 %	E	United States	United States
	Compagnie Petroliere de l'Ouest - CPO	100.00 %		France	France
	Cristal Marketing Egypt	84.62 %		Egypt	Egypt
	Elf Oil UK Aviation Limited	100.00 %		United Kingdom	United Kingdom
	Elf Oil UK Properties Limited	100.00 %		United Kingdom	United Kingdom
	Fioulmarket.fr	100.00 %		France	France
	Gapco Kenya Limited	100.00 %		Kenya	Kenya
	Gapco Tanzania Limited	100.00 %		Tanzania	Tanzania
	Guangzhou Elf Lubricants Company Limited	77.00 %		China	China
	Gulf Africa Petroleum Corporation	100.00 %		France	France
	Lubricants Vietnam Holding Limited	100.00 %		Hong Kong	Hong Kong
	National Petroleum Refiners Of South Africa (PTY) Limited	18.22 %	E	South Africa	South Africa
	Progeres S.A.S.	100.00 %		France	France
	Quimica Vasca S.A.U.	100.00 %		Spain	Spain
	Saudi Total Petroleum Products	51.00 %	E	Saoudia Arabia	Saoudia Arabia
	Servauto Nederland B.V.	100.00 %		Netherlands	Netherlands
	Societe d'exploitation de l'usine de Rouen	98.98 %		France	France
	Societe mahoraise de stockage de produits petroliers	100.00 %		France	France
	Societe Urbaine des Petroles	100.00 %		France	France
	S-Oil Total Lubricants Company Limited	50.00 %	E	South Korea	South Korea
	Source London Mobility Solutions Limited	100.00 %		United Kingdom	United Kingdom
	South Asia LPG Private Limited	50.00 %	E	India	India
	Stedis	100.00 %		France	France
	Tas'Helat Marketing Company	50.00 %	E	Saoudia Arabia	Saoudia Arabia
	Total (Fiji) Limited	100.00 %		Fiji Islands	Fiji Islands
	Total Additifs et Carburants Speciaux	100.00 %		France	France
	Total Bitumen UK Limited	100.00 %		United Kingdom	United Kingdom
	Total Botswana (PTY) Limited	50.10 %		Botswana	Botswana
	Total Brasil Distribuidora Ltda	100.00 %		Brazil	Brazil
	Total Cambodge	100.00 %		Cambodia	Cambodia
	Total Ceska Republika S.R.O.	100.00 %		Czech Republic	Czech Republic
	Total China Investment Company Limited	100.00 %		China	China
	Total Corse	100.00 %		France	France
	Total Egypt	84.62 %		Egypt	Egypt
	Total Especialidades Argentina	100.00 %		Argentina	Argentina
	Total Fluides	100.00 %		France	France
	Total Freeport Corporation	51.00 %	E	Philippines	Philippines
	Total Glass Lubricants Europe GmbH	100.00 %		Germany	Germany
	Total Jamaica Limited	100.00 %		Jamaica	Jamaica
	Total Jordan PSC	100.00 %		Jordan	Jordan
	Total Liban	100.00 %		Lebanon	Lebanon
	Total Lubricants (China) Company Limited	77.00 %		China	China
	Total Lubricants Taiwan Limited	63.00 %		Taiwan	Taiwan
	Total Lubrifiants	99.98 %		France	France
	Total Lubrifiants Service Automobile	99.98 %		France	France
	Total Luxembourg S.A.	100.00 %		Luxembourg	Luxembourg
	Total Marketing Egypt	84.62 %		Egypt	Egypt
	Total Marketing Gabon	90.00 %		Gabon	Gabon
	Total Marketing Middle East Free Zone	100.00 %		United Arab Emirates	United Arab Emirates

Total Marketing Tchad	100.00 %		Chad	Chad
Total Marketing Uganda	100.00 %		Uganda	Uganda
Total Mexico S.A. de C.V.	100.00 %		Mexico	Mexico
Total Niger S.A.	100.00 %		Niger	Niger
Total Oil India Private Limited	100.00 %		India	India
Total Outre-Mer	100.00 %		France	France
Total Pacifique	100.00 %		France	New Caledonia
Total Parco Pakistan Limited	50.00 %	E	Pakistan	Pakistan
Total Petroleum (Shanghai) Company Limited	100.00 %		China	China
Total Petroleum Ghana PLC	76.74 %		Ghana	Ghana
Total Philippines Corporation	51.00 %	E	Philippines	Philippines
Total Polska	100.00 %		Poland	Poland
Total Polynesie	100.00 %		France	French Polynesia
Total Proxi Energies Nord Est	100.00 %		France	France
Total Sinochem Fuels Company Limited	49.00 %	E	China	China
Total Sinochem Oil Company Limited	49.00 %	E	China	China
Total Specialties USA Inc.	100.00 %		United States	United States
Total Swaziland (PTY) Limited	50.10 %		Swaziland	Swaziland
Total Tianjin Manufacturing Company Limited	77.00 %		China	China
Total Togo	76.72 %		Togo	Togo
Total Turkey Pazarlama	100.00 %		Turkey	Turkey
Total UAE LLC	100.00 %		United Arab Emirates	United Arab Emirates
Total Ukraine LLC	100.00 %		Ukraine	Ukraine
Total Vietnam Limited	100.00 %		Vietnam	Vietnam
Total Vostok	100.00 %		Russia	Russia
TotalEnergies Aviation	100.00 %		France	France
TotalEnergies Aviation Suisse S.A.	100.00 %		Switzerland	Switzerland
TotalEnergies Aviation Zambia Ltd	100.00 %		Zambia	Zambia
TotalEnergies Bitumen Deutschland GmbH	100.00 %		Germany	Germany
TotalEnergies Diesel Comercio e Transportes Brasil Ltda	100.00 %		Brazil	Brazil
TotalEnergies Holdings Deutschland GmbH	100.00 %		Germany	Germany
TotalEnergies Lubrifiants Algérie SPA	78.90 %		Algeria	Algeria
TotalEnergies Marine Fuels Pte. Ltd	100.00 %		Singapore	Singapore
TotalEnergies Marketing & Services	100.00 %		France	France
TotalEnergies Marketing (Hubei) Co., Ltd	100.00 %		China	China
TotalEnergies Marketing African Holdings Ltd	100.00 %		United Kingdom	United Kingdom
TotalEnergies Marketing Angola S.A.	50.00 %	E	Angola	Angola
TotalEnergies Marketing Asia-Pacific Middle East Pte. Ltd	100.00 %		Singapore	Singapore
TotalEnergies Marketing Belgium	100.00 %		Belgium	Belgium
TotalEnergies Marketing Burkina	100.00 %		Burkina Faso	Burkina Faso
TotalEnergies Marketing Cameroun S.A.	67.01 %		Cameroon	Cameroon
TotalEnergies Marketing Caraibes	100.00 %		France	France
TotalEnergies Marketing Congo	100.00 %		Congo	Congo
TotalEnergies Marketing Côte d'Ivoire	72.99 %		Côte d'Ivoire	Côte d'Ivoire
TotalEnergies Marketing Denmark A/S	100.00 %		Denmark	Denmark
TotalEnergies Marketing España, S.A.U.	100.00 %		Spain	Spain
TotalEnergies Marketing Ethiopia Share Company	100.00 %		Ethiopia	Ethiopia
TotalEnergies Marketing France	100.00 %		France	France
TotalEnergies Marketing Guadeloupe	100.00 %		France	Guadeloupe
TotalEnergies Marketing Guinea Ecuatorial	70.00 %		Equatorial Guinea	Equatorial Guinea
TotalEnergies Marketing Guinée	100.00 %		Guinea	Guinea
TotalEnergies Marketing Holdings Africa	100.00 %		France	France
TotalEnergies Marketing Holdings Asia	100.00 %		France	France
TotalEnergies Marketing Holdings India	100.00 %		France	France
TotalEnergies Marketing Italia SpA	100.00 %		Italy	Italy
TotalEnergies Marketing Kenya PLC	93.96 %		Kenya	Kenya
TotalEnergies Marketing Madagasikara S.A.	79.44 %		Madagascar	Madagascar
TotalEnergies Marketing Malawi Ltd	100.00 %		Malawi	Malawi
TotalEnergies Marketing Mali	100.00 %		Mali	Mali
TotalEnergies Marketing Maroc	55.00 %		Morocco	Morocco
TotalEnergies Marketing Mauritius Ltd	55.00 %		Mauritius Island	Mauritius Island
TotalEnergies Marketing Mayotte	100.00 %		France	Mayotte
TotalEnergies Marketing Moçambique S.A.	100.00 %		Mozambique	Mozambique
TotalEnergies Marketing Namibia (Pty) Ltd	50.10 %		Namibia	Namibia

TotalEnergies Marketing Nederland NV	100.00 %		Netherlands	Netherlands
TotalEnergies Marketing Nigeria PLC	61.72 %		Nigeria	Nigeria
TotalEnergies Marketing Puerto Rico	100.00 %		Puerto Rico	Puerto Rico
TotalEnergies Marketing RDC	60.00 %		Democratic Republic of Congo	Democratic Republic of Congo
TotalEnergies Marketing Réunion	100.00 %		France	Reunion
TotalEnergies Marketing Romania S.A.	100.00 %		Romania	Romania
TotalEnergies Marketing Sénégal	69.14 %		Senegal	Senegal
TotalEnergies Marketing South Africa (Pty) Ltd	50.10 %		South Africa	South Africa
TotalEnergies Marketing Tanzania Ltd	100.00 %		Tanzania	Tanzania
TotalEnergies Marketing Tunisie	100.00 %		Tunisia	Tunisia
TotalEnergies Marketing Uganda Ltd	100.00 %		Uganda	Uganda
TotalEnergies Marketing UK Limited	100.00 %		United Kingdom	United Kingdom
TotalEnergies Marketing Zambia Ltd	100.00 %		Zambia	Zambia
TotalEnergies Marketing Zimbabwe (Private) Ltd	80.00 %		Zimbabwe	Zimbabwe
TotalEnergies Singapore Services Pte Ltd	100.00 %		Singapore	Singapore
TotalEnergies Supply Marketing Services S.A.	100.00 %		Switzerland	Switzerland
TotalEnergies Three Gorges Charging Services (Hubei) Co., Ltd	50.00 %	E	China	China
TotalEnergies Wärme&Kraftstoff Deutschland GmbH	100.00 %		Germany	Germany
Totalgaz Vietnam LLC	100.00 %		Vietnam	Vietnam
Trapil	5.50 %	E	France	France
Upbeatprops 100 PTY Limited	50.10 %		South Africa	South Africa
V Energy S.A.	100.00 %		Dominican Republic	Dominican Republic

Business segment	Statutory corporate name	% Company interest	Method	Country of incorporation	Country of operations
Corporate					
	Albatros	100.00 %		France	France
	Elf Aquitaine Fertilisants	100.00 %		France	France
	Elf Aquitaine Inc.	100.00 %		United States	United States
	Elf Forest Products LLC	100.00 %		United States	United States
	Omnium Reinsurance Company S.A.	100.00 %		Switzerland	Switzerland
	Pan Insurance Limited	100.00 %		Ireland	Ireland
	Septentrion Participations	100.00 %		France	France
	Socap S.A.S.	100.00 %		France	France
	Societe Civile Immobiliere CB2	100.00 %		France	France
	Sofax Banque	100.00 %		France	France
	Total Corporate Management (Beijing) Company Limited	100.00 %		China	China
	Total Digital Factory	100.00 %		France	France
	Total Facilities Management Services (TFMS)	100.00 %		France	France
	Total Global IT Services (TGITS)	100.00 %		France	France
	Total Global Procurement (TGP)	100.00 %		France	France
	Total Global Procurement Belgium S.A. (TGPB)	100.00 %		Belgium	Belgium
	Total Global Services Bucharest	99.01 %		Romania	Romania
	Total Global Services Philippines	100.00 %		Philippines	Philippines
	Total International NV	100.00 %		Netherlands	Netherlands
	Total Learning Solutions (TLS)	100.00 %		France	France
	Total Operations Canada Limited	100.00 %		Canada	Canada
	Total Overseas Holding (PTY) Limited	100.00 %		South Africa	Netherlands
	Total Resources (Canada) Limited	100.00 %		Canada	Canada
	TotalEnergies American Services, Inc.	100.00 %		United States	United States
	TotalEnergies Capital	100.00 %		France	France
	TotalEnergies Capital Canada Ltd	100.00 %		Canada	Canada
	TotalEnergies Capital International	100.00 %		France	
	TotalEnergies Consulting	100.00 %		France	France
	TotalEnergies Delaware, Inc.	100.00 %		United States	United States
	TotalEnergies Développement Régional S.A.S.	100.00 %		France	France
	TotalEnergies EP Gestion Filiales	100.00 %		France	France
	TotalEnergies Finance	100.00 %		France	France
	TotalEnergies Finance Corporate Services Ltd	100.00 %		United Kingdom	United Kingdom
	TotalEnergies Finance International B.V.	100.00 %		Netherlands	Netherlands
	TotalEnergies Finance USA, Inc.	100.00 %		United States	United States
	TotalEnergies Funding Nederland B.V.	100.00 %		Netherlands	Netherlands
	TotalEnergies Gestion USA	100.00 %		France	France
	TotalEnergies Global Financial Services	100.00 %		France	France
	TotalEnergies Global Human Resources Services	100.00 %		France	France
	TotalEnergies Global Information Technology Services Belgium	99.98 %		Belgium	Belgium
	TotalEnergies Holding Allemagne	100.00 %		France	France
	TotalEnergies Holdings	100.00 %		France	France
	TotalEnergies Holdings Europe	100.00 %		France	France
	TotalEnergies Holdings International B.V.	100.00 %		Netherlands	Netherlands
	TotalEnergies Holdings UK Ltd	100.00 %		United Kingdom	United Kingdom
	TotalEnergies Holdings USA, Inc.	100.00 %		United States	United States
	TotalEnergies Investments	100.00 %		France	France
	TotalEnergies Marketing Holding Nederland B.V.	100.00 %		Netherlands	Netherlands
	TotalEnergies One Tech	100.00 %		France	France
	TotalEnergies Participations	100.00 %		France	France
	TotalEnergies Petrochemicals & Refining (Holding)	100.00 %		Belgium	Belgium
	TotalEnergies Petrochemicals & Refining USA, Inc. (f)	100.00 %		United States	United States
	TotalEnergies SE	–		France	France
	TotalEnergies Security USA, Inc.	100.00 %		United States	United States
	TotalEnergies Treasury	100.00 %		France	France
	TotalEnergies Treasury Belgium	100.00 %		Belgium	Belgium
	TotalEnergies UK Finance Ltd	100.00 %		United Kingdom	United Kingdom

(a) % of control different from % of interest : 49%
(b) % of control different from % of interest : 10%
(c) % of control different from % of interest : 5.80%
(d) % of control different from % of interest : 20.02%
(e) % of control different from % of interest : 75.16%
(f) Multi-segment entities

Exhibit 15.1

Exhibit 15.1 contains the excerpts of the pages and section of TotalEnergies SE's Universal Registration Document 2021 that are incorporated by reference into the Annual Report on Form 20-F[1]. References in Exhibit 15.1 to TotalEnergies' Consolidated Financial Statements presented in chapter 8 are to TotalEnergies Consolidated Financial Statements presented beginning on page F-7 of this Annual Report.

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(1) Where information has been deleted from TotalEnergies SE's Universal Registration Document 2021, such deletion is indicated in this exhibit with a notation that such information has been redacted.

Contents

[REDACTED SECTION: CERTAIN TEXT HAS BEEN REDACTED.]

1

Presentation of the Company – Integrated report

1.1 TotalEnergies at a glance

1.1.1 A multi-energy company

TotalEnergies is a global multi-energy company that produces and markets energies: oil and biofuels, natural gas and green gases, renewables and electricity. Our 100,000 employees are committed to energy that is more affordable, cleaner, more reliable and accessible to as many people as possible. Active in more than 130 countries, TotalEnergies puts sustainable development in all its dimensions at the heart of its projects and operations to contribute to the well-being of people.

VALUES ANCHORED IN OUR DAILY ACTIVITIES

Safety, Respect for Each Other, Pioneer Spirit, Stand Together and Performance-Minded are what drive us. These values guide daily the actions and relations of the Company with its stakeholders.

These five strong values also require all of TotalEnergies' employees to behave in an exemplary manner. Priority is given to safety, security, health, the environment, integrity in all its forms (including the fight against corruption, fraud and anti-competitive practices) and human rights.

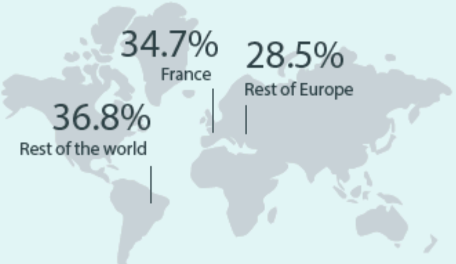
It is through the strict adherence of our employees to these values and to this course of action that our Company intends to build strong and sustainable growth for ourselves and for all of our stakeholders.

In this way, we deliver on our commitment to better energy.

OUR PROFILE

Our employees

Employees breakdown by geographical area



Workforce as of December 31, 2021: 101,309

Employees breakdown by gender

35.8%	64.2%
Women	Men

Proven expertise in 2021

- **101,309** employees
- Nearly **160 nationalities**
- More than **740 business-related competencies**
- **420,000 days** of training
- More than **400 talent developers** to help employees along their professional development path

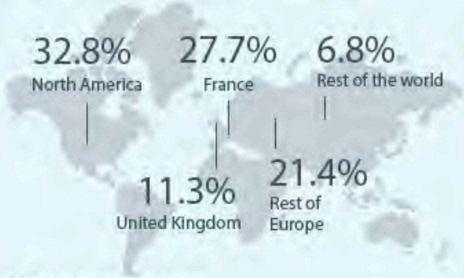
Employees in 2021

- **$9.2 billion** payroll (including social security charges)
- **€132 M** for training
- **92.8%** of employees on permanent contracts, and women account for **40.3%** of employees hired on permanent contracts
- **89.9%** of employees hired by the Company and **65.3%** of managers hired were non-French nationals

Our shareholders

Shareholding structure by geographical area⁽¹⁾

Estimate as of December 31, 2021, based on the request for the identification of shareholders made on that date, pursuant to Article L. 228-2 of the French Commercial code.



(1) Excluding treasury shares.

Shareholding structure by shareholder type

Estimate as of December 31, 2021, based on the request for the identification of shareholders made on that date, pursuant to Article L. 228-2 of the French Commercial code.

13.4%	6.8%	78.5%	1.3%
Individual shareholders	Company employees⁽²⁾	Institutional shareholders	Treasury shares

Approximately 1,300,000 Number of individual shareholders

(2) On the basis of employee shareholding as defined in Article L. 225-102 of the French Commercial Code and Article 11 paragraph 6 of the Articles of Association of the Company.

Our climate ambition: NET ZERO EMISSIONS BY 2050, together with society

KEY FIGURES

Financial indicators(1)

$18.1 billion
Adjusted net income (TotalEnergies share)

16.9%
Return on equity (ROE)

13.9%
Return on average capital employed (ROACE)

$30.7 billion
Operating cash flow before working capital changes w/o financial charges (DACF)

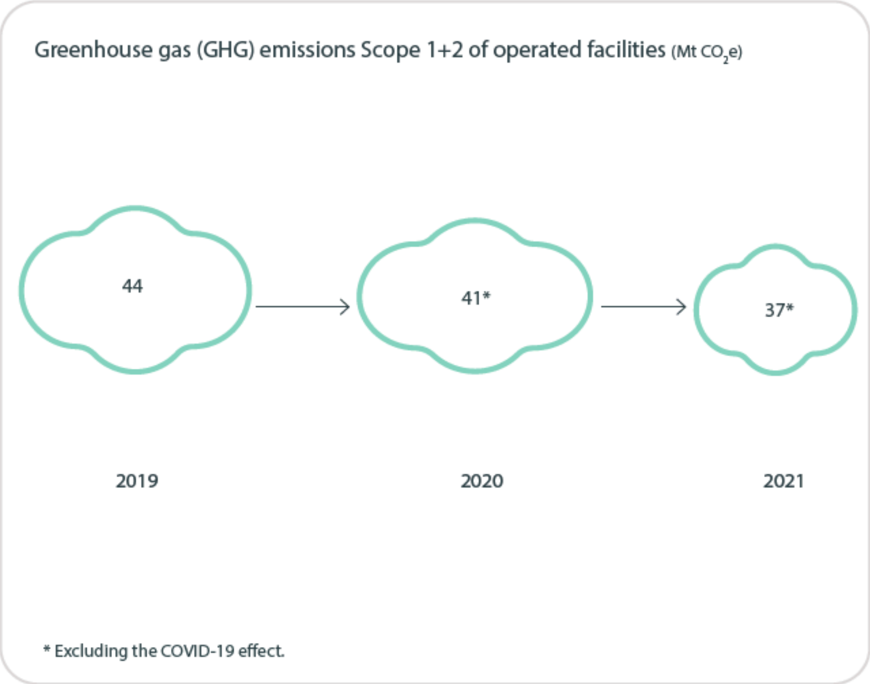
€2.64
Dividend per share for the fiscal year 2021(2)

15.3%
Gearing ratio(3)

$13.3 billion
Net investment including **25%** in Renewables & Electricity

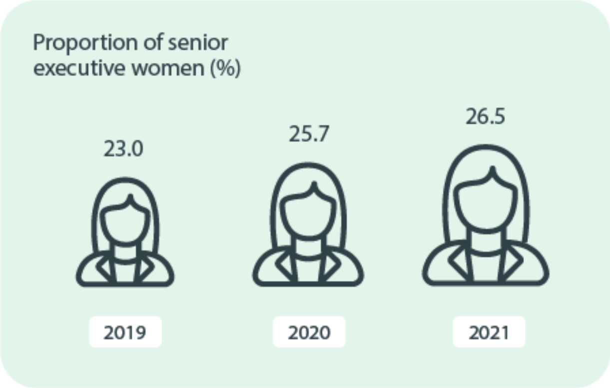
$23/boe
Pre-dividend organic cash breakeven

NON-FINANCIAL INDICATORS


Greenhouse gas (GHG) emissions Scope 1+2 of operated facilities (Mt CO_2e)

* Excluding the COVID-19 effect.


Total recordable injury rate


Proportion of senior executive women (%)


Percentage of local managers in Management Committees in subsidiaries (%)

---

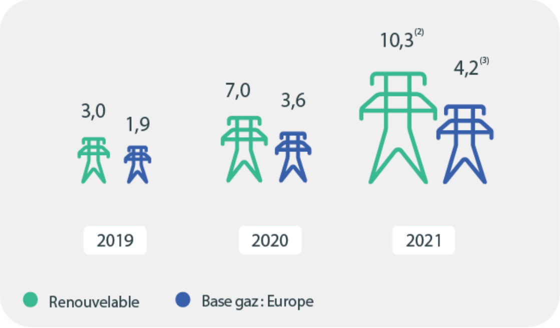
(1) For a definition of the alternative performance indicators, refer to point 1.10.1 of this chapter and to Note 3 to the Consolidated Financial Statements (point 8.7 of chapter 8).

(2) Subject to approval by the Shareholders' Meeting on May 25, 2022.

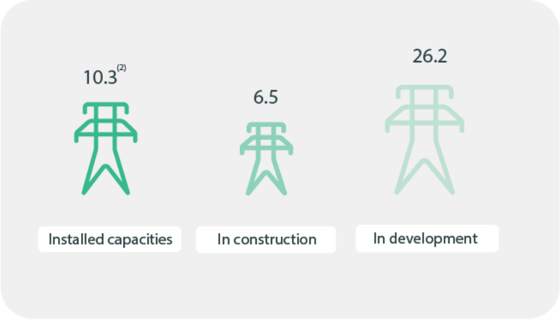
(3) Excluding leases; 20.1% including leases.

OUR OPERATIONAL PERFORMANCE

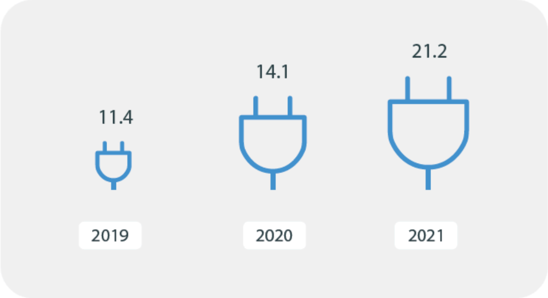
Gross installed power generation capacities(1) *(GW)*



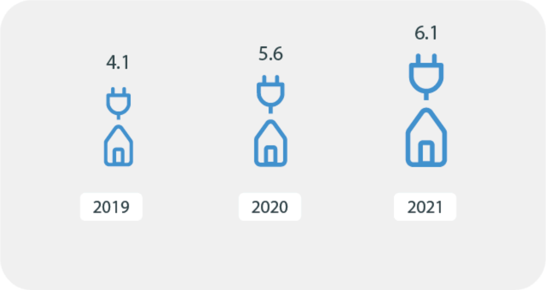
Portofolio of gross renewable power generation capacities in 2021 (GW)



Net power production(4) *(TWh)*

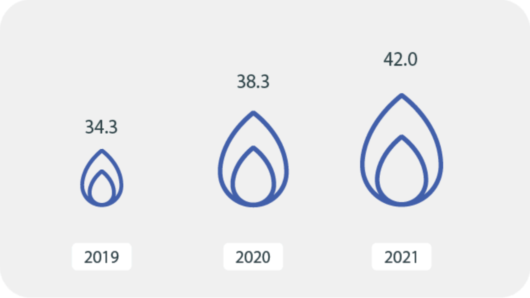


Power sales - number of BtB and BtC client sites *(millions)*



Gas sales - number of BtB and BtC client sites *(millions)*

LNG sales volumes *(Mt)*



LNG production *(Mt)*

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(1) Excluding combined-cycle gas plant in Taweelah, United Arab Emirates.

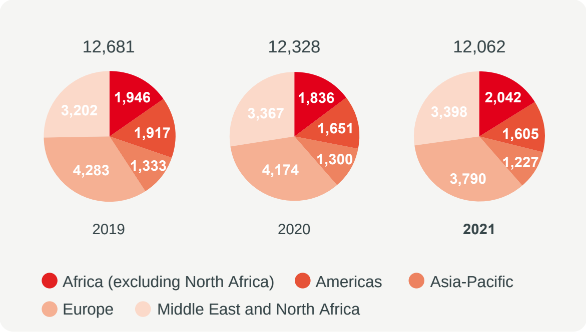
(2) Includes 20% of Adani Green Energy Ltd gross capacity effective first quarter 2021.

(3) Including the cogeneration units in the Normandy and Antwerp refineries.

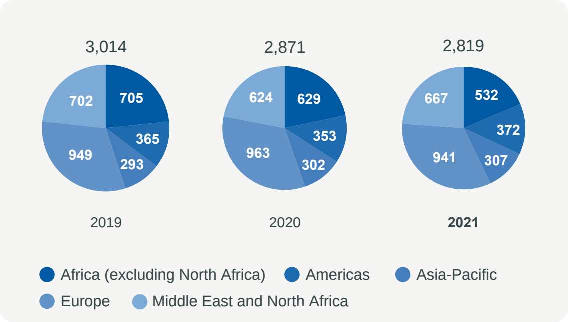
(4) Solar, wind, biogas, hydroelectric and combined-cycle gas turbine (CCGT) plants.

OUR OPERATIONAL PERFORMANCE

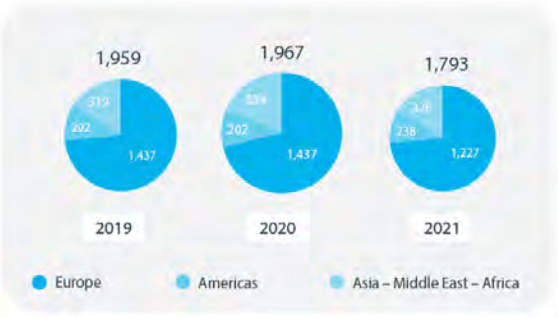
Hydrocarbon proved reserves(1) by geographic areas *(Mboe)*



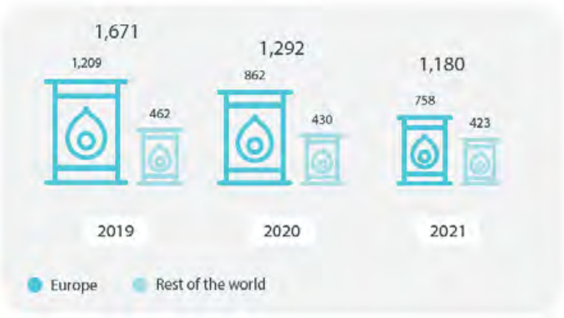
Hydrocarbon production by geographic area *(kboe/d)*



Crude oil refining capacity(2)



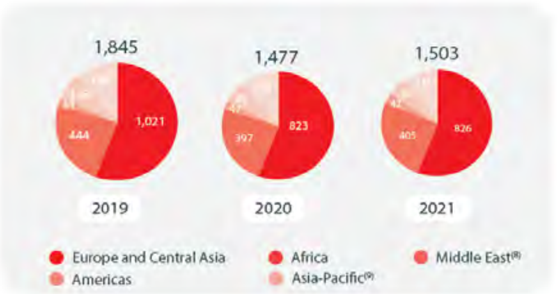
Refinery throughput(3) *(kb/d)*



Petrochemical production capacity by geographic area *(kt)*

Petrochemical products production volume *(kt)*

Marketing & Services(7) petroleum product sales by geographic area *(kb/d)*



Production of biofuels *(kt)*

(1) Based on SEC rules (Brent at $69.23/b in 2021, $41.32/b in 2020 and $62.74/b in 2019).
(2) Capacity data based on crude distillation unit stream-day capacities under normal operating conditions, less the average impact of shutdowns for regular repair and maintenance activities.
(3) Includes refineries in Africa that are reported in the Marketing & Services segment.
(4) Including 50% of the joint-venture between TotalEnergies and Borealis.
(5) Including interests in Qatar, 50% of the capacities of Hanwha Total Petrochemicals Co. Limited and 37.5% of SATORP in Saudi Arabia.
(6) Olefins.
(7) Excluding trading and bulk refining sales.
(8) Including Turkey.
(9) Including Indian Ocean islands.

1.1.2 Our history: an energy transition in progress

The Company was founded on March 28, 1924. Historic player in energy it discovered major fields worldwide and developed an ever-growing number of advanced products and services, created in its refineries and marketed through its retail network. The Company has gradually diversified its activities and broadened its presence around the world. We have positioned ourselves in the gas, refining, petrochemical and petroleum product distribution segments. We have begun a transition towards renewable energies: solar, sustainable biofuels and electricity, mostly from renewable sources.

Creation in Brussels of the Compagnie Financière belge des Pétroles, known as PetroFina.

1920

1924

Creation of the Compagnie française des Pétroles (CFP)
On September 20, 1923, the French President of the Council Raymond Poincaré entrusts an important mission to Ernest Mercier: create a "tool capable of carrying out a national oil policy". Six months later, the Compagnie française des Pétroles is born on March 28, 1924.

The IPC is awarded a 75-year concession on March 14.

1925

1927

Initial discovery at the Kirkuk field in Iraq
CFP makes its first discovery, under an agreement with the government of Iraq. Oil rises to the surface in Kirkuk, a field with considerable reserves. This marks the beginning of TOTAL's adventure in the Middle East.

CFP shares are **first traded on the Paris Stock Exchange.**

1929

Start of production of the Gonfreville refinery in Normandy (France), with an annual capacity of 900,000 tons of crude oil.

1933

1939

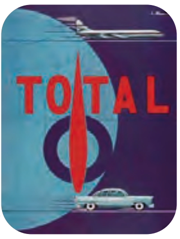
Discovery of the Saint-Marcet gas field, the first hydrocarbon reserves found in France
Creation of Régie Autonome des Pétroles (RAP), which later becomes the Elf Group, to explore a vast area around Saint Gaudens.

1941

Creation of Société nationale des pétroles d'Aquitaine (SNPA).

1951

SNPA discovers the Lacq gas field in France
The gas rises from a depth of 3,450 meters at extremely high pressure. The specialist crews take five days and four nights to harness the eruption. Lacq is later found to be a gigantic natural gas field containing some 262 billion cubic meters.



1954

Launch of the TOTAL brand by CFP
At the beginning of the 1950s, the leaders of CFP and CFR (Compagnie Française de Raffinage) decide to create their own distribution network, and a brand for it. The new TOTAL brand and logo are adopted in 1954.

Discovery of the Edjeleh, Hassi R'Mel (gas) and Hassi Messaoud (oil) fields in the Algerian Sahara
The exploration campaigns that SN Repal and CFP-A had initiated in 1946 result in the discovery, in 1956, of huge oil fields in Edjeleh and Hassi Messaoud and gas reserves in Hassi R'Mel.

1956

1958

First offshore well on Umm Shaif (Abu Dhabi).

1961

Discovery of the first offshore fields in Gabon
The Anguille field is the first one found.

Launch of the Elf brand
A countrywide campaign, "Red circles are coming" introduces France to the Elf brand starting on the night of April 27, 1967.

1967

1970

Elf takes control of Antar.

TOTAL takes a permit in Indonesia, and goes on to find the Bekapai field in 1972 and the gigantic Handil field in 1974.

1971

The Ekofisk field in the North Sea starts production.

1974

The Group acquires Hutchinson-Mapa, a specialist in rubber processing.

1976

Creation of Société nationale Elf Aquitaine (SNEA), the merger of ERAP and SNPA.

1983

Birth of the company Atochem, an SNEA subsidiary, the merger of ATO Chimie, Chloé Chimie and part of Péchiney Ugine Kuhlmann.

1991

CFP, which had become Total-CFP in 1985, becomes TOTAL.

Following the merger of Fina in 1999, TOTAL acquires Elf Aquitaine

The new Group is called TotalFinaElf and is the world's fourth largest oil major.

2000

2001

The Girassol field on Block 17 in Angola starts production.

2003

TotalFinaElf changes its name to TOTAL.

Investment in the solar energy sector with the acquisition of 60% of the US company SunPower

On June 15, 2011, TOTAL and SunPower Corp. announce the success of TOTAL's friendly tender on SunPower to create a new global leader in the solar industry.

2011

Acquisition of Saft Groupe

On July 18, 2016, TOTAL acquires Saft Groupe, a world leading designer and manufacturer of advanced technology batteries for industry, complementing its portfolio with electricity storage solutions, a key component of the future growth of renewable energies.

Acquisition of Lampiris in Belgium.

2016

Launch of Total Spring in France.

2017

2018

Acquisition of Direct Energie

On July 6, 2018, TOTAL announces the completion of the acquisition of Direct Energie and the launch of a tender offer on the company. This operation enables the Group to accelerate its integration downstream along the full gas and power value chain and to reach critical mass in the French and Belgium markets, where it is growing fast.

TOTAL acquires Engie's LNG business and becomes the world's number-two liquefied natural gas player.

TOTAL acquires exploration and production company Mærsk Oil & Gas A/S in a share and debt transaction. This acquisition makes TOTAL the second largest operator in the offshore North Sea.

2019

Acquisition of 26.5% in the Mozambique LNG project

This acquisition stems from an agreement with Occidental to acquire Anadarko's assets in Africa, and expands TOTAL's position in liquefied natural gas.

TOTAL states its new climate ambition: carbon neutrality by 2050

On May 5, 2020, TOTAL announces its ambition of reaching net zero emissions by 2050, together with society, from the production to the use of the energy products by the customers.

2050
Zero net emissions, together with society

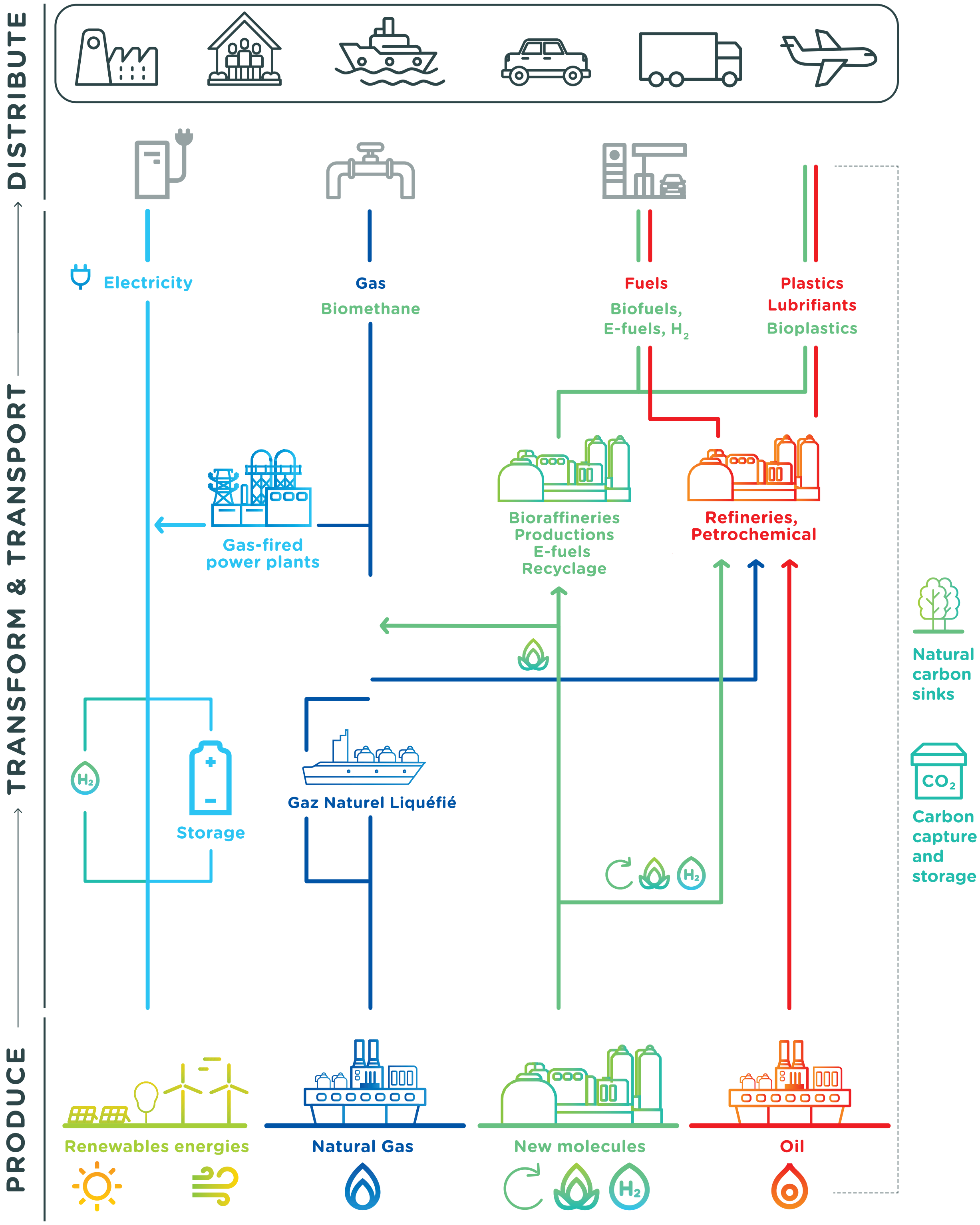
2020

2021

TOTAL becomes TotalEnergies and turns into a multi-energy company with the ambition of being a major player in the energy transition.

1.1.3 Our business model

Integrated value chain



Solar

Wind

Natural gas

Oil

Electricity

Resources generated from circular management (bio-based plastic, waste, CO_2)

Biomass resources

Hydrogen

Resources and ecosystem

Proven expertise

- **101,309** employees
- Nearly **160** nationalities
- More than **740** business-related competencies
- **420,000** days of training
- More than **400** talent developpers to help employees along their professional development path

A responsible innovation

- R&D budget: **$849 million**
- **18** R&D centers worldwide
- More than **200** patent applications in 2021

Top-tier industrial and commercial assets

- **10.3 GW**(1) of gross installed renewable power generation capacities
- More than **25,000** EV operated charge points
- Proved reserves of **12.1 Bboe** and hydrocarbon production of **2,819 kboe/d**
- **16** refineries including **1** biorefinery ○ **27** petrochemical sites including **6** integrated platforms (refining-petrochemicals) ○ **85** specialty chemicals production sites ○ **37** production sites operated (lubricants and greases)
- Nearly **16,000** service stations in more than **70** countries

Solid financials

- Operating cash flow before working capital changes without financial charges: **$30.7 billion**
- Net investments: **$13.3 billion**
- Gearing ratio (excluding leases): **15.3%**
- Pre-dividend organic cash breakeven : **$23/boe**

Geographic reach

- Present in **more than 130** countries
- Hydrocarbon production in **29** countries

Environment

- Fresh water withdrawal: **101 Mm^3**
- Net primary energy consumption: **148 TWh** (operated perimeter)

Data as of December 31, 2021.

Excluding COVID-19 effect: refer to point 5.11.

Shared value creation

Employees

- **$9.2 billion** payroll (including social security charges)
- **€132 million** for training
- **92.8%** of employees on permanent contracts; women account for **40.3%** of employees hired on permanent contracts
- **89.9%** of employees hired by the Company and **65.3%** of managers hired were non-French nationals

Customers

- Sales: **$205.9 billion**
- **2nd** largest private LNG player worldwide with **42,0 Mt** of LNG sold in 2021, including **17.4 Mt** from equity production of the Company
- **21.2 TWh** of net power production, including **6.8 TWh** from renewable sources
- **101.2 TWh** of gas delivered to **2.7 million** BtB and BtC clients sites
- **56.6 TWh** of power delivered to **6.1 million** BtB and BtC clients sites
- More than **100** products and solutions bearing the Ecosolutions label by TotalEnergies
- Approximatively **15,000** patents in force

Suppliers

- **$25 billion** worth of purchases of goods and services, from a network of **more than 100,000** suppliers, supporting hundreds of thousands of direct and indirect jobs worldwide

Shareholders

- **$8.2 billion** distributed as dividends (excluding dividends paid to non-controlling minority interests)
- **65%** of employees are shareholders

Communities

- Fostering social and economic development in host countries with contributions amounting to **$8,158 million** in income tax, **$7,719 million** in production taxes paid by EP activities, **$2,217 million** in employer social charges and **$21,229 million** in excise taxes
- A global integrated local development approach (in-country value)

Climate

- Reducing GHG emissions (Scope 1+2) on operated facilities from 46 Mt CO_2e in 2015 to **37 Mt CO_2e** excluding the COVID-19 effect between 2015 and 2021
- Reducing methane emissions from operated facilities by **50%** between 2010 and 2020 and by 23% between 2020 and 2021
- Scope 3(2) GHG emissions limited to **400 Mt CO_2e** excluding the COVID-19 effect, in 2021 below the level of 2015
- Reducing Scope 3(2) GHG emissions of the petroleum products sold worldwide by **19**% excluding the COVID-19 effect in 2021, compared to 2015
- Reducing carbon intensity of the energy products used by customers by **10%** excluding the COVID-19 effect between 2015 and 2021
- Reducing GHG emissions (Scope 1+2+3) in Europe by **14%** excluding the COVID-19 effect in 2021, between 2015 and 2021

---

(1) Includes 20% of Adani Green Energy Ltd gross capacities effective first quarter 2021.

(2) GHG Protocol - Category 11.

1.2 A major player in the energy transition

In affirming its ambition to be a major player in the energy transition and to get to net zero by 2050, together with society, TotalEnergies has committed to profoundly transforming its production and sales while continuing to meet the needs of a growing population. The Company is developing a wide range of energies in an integrated approach (from production to retailing) in order to decarbonize its energy offering and generate a competitive advantage that will create long-term value for its shareholders and secure its future.

1.2.1 Energy is reinventing itself, and so are we

On one hand, the energy transition depends on the development of new decarbonized molecules (biofuels and biogas, clean hydrogen, and synthetic fuels combining hydrogen and carbon) that TotalEnergies has the core skills to produce. It is expanding in these markets with a focus on circular resource management. On the other hand, the energy transition involves electrifying energy uses, which requires a massive increase in green electrons production. TotalEnergies is deploying across the entire renewable electricity value chain, from production and storage to trading and sales, in accordance with a selective, profitable approach. Its goal is to rank among the top five global producers of solar- and wind-generated electricity by 2030.

Concerning gas, the transition fuel, TotalEnergies is pursuing its development across the liquefied natural gas (LNG) value chain to strengthen its position as the world's second-largest supplier(1). LNG plays a key role in the net zero roadmaps of numerous coal-consuming countries and is the ideal partner to intermittent renewable energies.

As for oil, the Company is very selective and focuses its investments on low breakeven, low emissions projects.

As they evolve, energy markets are becoming increasingly interconnected and interdependent, particularly since electricity – the energy at the center of the transition – is a secondary energy, meaning that it depends on other energies and markets. What's more, electricity will be increasingly produced from intermittent sources that depend on weather factors that cannot be controlled. TotalEnergies' integrated multi-energy strategy, combined with its solid financial base, are strengths and sources of resilience that will allow the Company to be a major provider of the sustainable energy the world needs and make the most of these changes, including the potential price volatility they may cause.

1.2.2 Rising to the challenges of the sustainable development of the planet

TotalEnergies places sustainable development in all its dimensions at the heart of its strategy, projects and operations to contribute to people's well-being and aims to be a benchmark for endorsement of the United Nations' Sustainable Development Goals.

To that end, TotalEnergies leverages the principles of action at the core of its responsible business model and its Code of Conduct, which applies to all of the Company's operations around the world:

- Safety is a TotalEnergies value. Safety, operating excellence and sustainable development go hand in hand.
- Respect for each other is another TotalEnergies value and respect for human rights is a cornerstone of its Code of Conduct.
- Zero Tolerance is the rule in the fight against corruption and fraud.
- Transparency is the rule in engaging with society, no matter what the subject.

TotalEnergies' commitment to the Sustainable Development Goals has four dimensions addressed by this report: Climate and sustainable energy, Well-being of people, Protection of the environment and Creating value for society. TotalEnergies creates and drives positive change for communities in its host territories and, more broadly, for its employees, suppliers, customers, partners, states and civil society

1.3 Our strategy: an integrated multi-energy Company

1.3.1 A vision of a Net Zero TotalEnergies in 2050, together with society

The work carried out over the last year has produced a clearer picture of what a Net Zero TotalEnergies in 2050, together with society, and energy transition leader would look like, inspired in particular by the International Energy Agency's Net Zero vision. Reinventing a net zero energy system means producing decarbonized electrons and molecules and developing carbon sinks to absorb the CO_2 from residual hydrocarbons (for producing chemicals, for example). The following observation supplements the ambition presented to shareholders in May 2021.

In 2050:

- Around half of the energy produced by TotalEnergies would be renewable electricity with corresponding storage capacity, or around 500 TWh/year. This would require developing around 400 GW of renewable capacity.
- Decarbonized molecules would account for around 25% of the energy produced by Total Energies, equivalent to 50 Mt/year, in the form of biogas, hydrogen, or synthetic liquid fuels from the following circular reaction: $H_2 + CO_2 \rightarrow$ "e-fuels".
- TotalEnergies would produce around 1 Mb/day of hydrocarbons (or close to four times less than in 2030, in line with the reduction outlined in the IEA's Net Zero vision) made up primarily of liquefied natural gas (around 0.7 Mb/d, i.e., 25 to 30 Mt/y). Very low-cost oil would account for the rest. This oil would be used, in particular, by the petrochemicals industry to produce around 10 Mt/year of polymers, of which two-thirds from the circular economy.
- These hydrocarbons would represent around 10 Mt/year of residual Scope 1 emissions, including methane emissions close to zero (below 0.1 $MtCO_2e$/year),which would be fully offset by nature-based carbon sink solutions.

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(1) Second largest private firm. Source: WoodMackenzie (TOTAL LNG Corporate Report 2020 published in November 2020).

- These hydrocarbons would represent Scope 3 emissions of around 100 Mt/year. To get to net zero together with society, TotalEnergies would help "eliminate" the equivalent of 100 Mt of CO_2 a year produced by its customers by developing:
  - A carbon storage service for customers that would store 50 to 100 Mt/year of CO_2.
  - An industrial "e-fuels" activity that would avoid 25 to 50 Mt/year of CO_2 for the Company's customers through production with 100% green hydrogen while making up for the intermittence of renewable energies to replace fossil fuels.

In short, the Company will spend the next ten years building the projects and skills needed to make TotalEnergies a net zero energy company by 2050, together with society.

1.3.2 Our multi-energy offering: ambition for 2030 and progress in 2021

To achieve carbon neutrality, the global energy mix will have to change considerably. Today, fossil energies still account for more than 80% of the mix(1). The markets for low carbon electricity and gas (natural gas, biogas and hydrogen) will need to expand, while coal will have to be eliminated and demand for oil will need to stabilize and then decline.

TotalEnergies is already carving out a position in this energy offering of the future and diversifying its energy mix by reducing the share of petroleum products and increasing natural gas, as transition fuel, and renewable electricity.

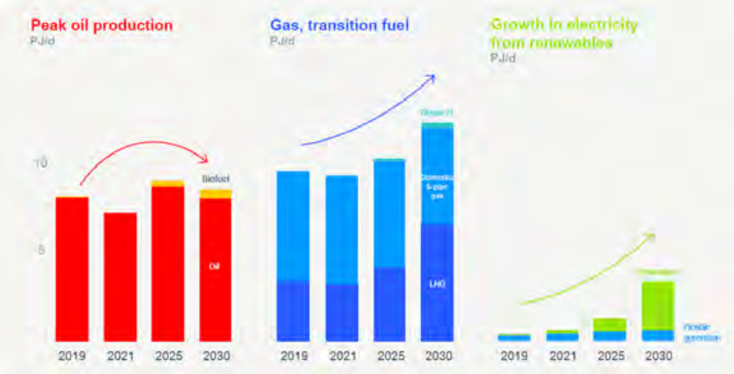
The energy mix of its sales will shift significantly as well, and could stand at 50% gas, 30% petroleum products, 15% majority-renewable electricity and 5% biomass and hydrogen by 2030.

This movement to lower-carbon products will allow the Company to reduce the lifecycle intensity of energy products sold by at least 20% by 2030.

OUR PRODUCTION

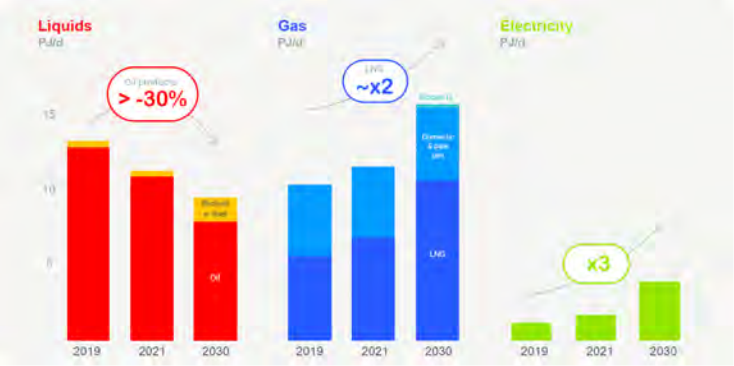
TotalEnergies aims at an oil production peak this decade and then decreasing to around 1.4 Mb/d in 2030. It aims to increase gas production by around 50% between 2015 and 2030 (from 1.3 Mboe/d to 2 Mboe/d) and raise electricity generation to 120 TWh in 2030 from 1.7 TWh in 2015.

In 2021, the Company's energy production increased by nearly a quarter in relation to 2015.



OUR SALES

The Company is reducing its sales of petroleum products to align with production by 2030, or around 1.4 Mb/d. Sales of gas and electricity will rise sharply, doubling for gas and by a factor of 20 for electricity over the 2015-2030 period.



THE LIFECYCLE CARBON INTENSITY OF OUR PRODUCTS

In 2021, TotalEnergies continued to reshape its mix thanks to increased sales of LNG (up 10% at 42 Mt in 2021 vs. 2020) and electricity (up 20% at 57 TWh in 2021 vs. 2020) and a 10% decrease in petroleum product sales. The lifecycle carbon intensity of products sold continued to improve with a 2% decline (excluding the impact of COVID-19).

Levers to decarbonize the energy mix of the Company are the following.

Growth in electricity will account for nearly two-thirds of the decrease in carbon intensity between 2015 and 2030. The second lever involves reducing sales of petroleum products and increasing production of gas (especially LNG) and sales of products based on biomass. Lastly, carbon sinks and lower emissions from the Company's facilities will each contribute around 5% of the decrease in carbon intensity.

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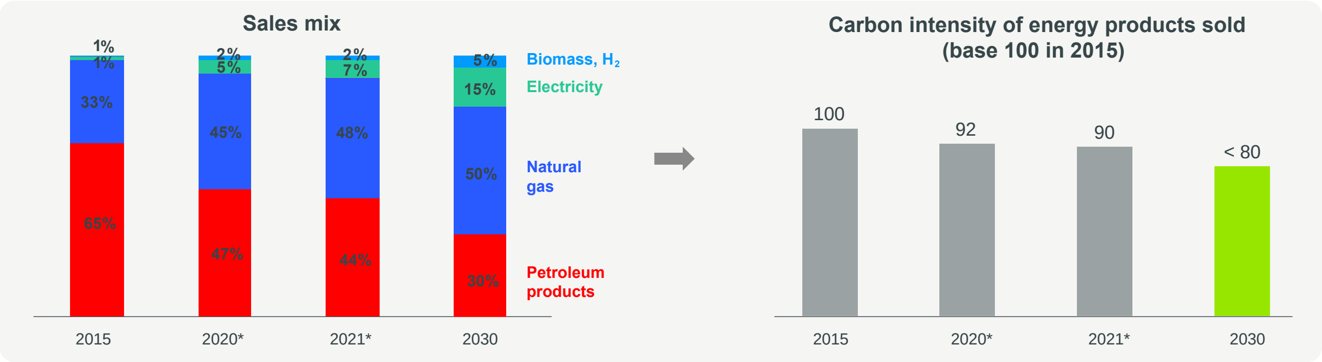
(1) Source: IEA Key World Energy Statistics 2021.



* Excluding COVID-19 effect. - Refer to the point 5.11.

1.3.3 Electricity – Becoming a world leader in renewable electricity by integrating the value chain from production to sales

TotalEnergies wants to become one of the top five worldwide producers of renewable electricity (solar and wind). In five years, the Company has invested more than $10 billion, primarily in photovoltaic electricity and offshore wind, for an average of $2 billion per year. In 2021, TotalEnergies lifted its investments in electricity and renewables to more than $3 billion, or 25% of its net investments. It intends to finance investments of more than $60 billion in renewable power generation capacity by 2030. The Company makes profitable investments, meaning projects with a return of more than 10%[1]. The mix combines regulated markets with deregulated markets integrated across the entire electricity value chain. As a result, the Renewables & Electricity business's EBITDA[2] exceeded $1 billion in 2021.

In the past four years, the Company's gross installed capacity for renewable power grew from 0.7 GW in 2017 to more than 10 GW in 2021. The objective is to have **35 GW of gross capacity in 2025** and 100 GW in 2030. The 2025 figure is based on **projects that have been identified or are in development.** The Company's goal is to increase electricity production from 21 TWh in 2021 to 120 TWh in 2030.

TotalEnergies' broad international footprint gives it a competitive advantage for identifying and developing profitable renewables projects. For that reason, TotalEnergies created a "Renewable Explorers" network in 2021 in some 60 host countries.

Since 2015, TotalEnergies has been building a portfolio of flexible power generation using combined-cycle gas turbine (CCGT) plants, with a capacity of 4 GW at end-2021. These plants complement the development of renewables by supporting the grid during periods of peak demand or when there is not enough sunshine or wind. Ultimately, the CCGT units are targeted for decarbonization, either by changing from gas to biomethane or hydrogen or by sequestering their emissions through carbon capture and storage (CCS).

FURTHER ACCELERATING OUR POSITIONS IN PHOTOVOLTAIC SOLAR ENERGY IN 2021

TotalEnergies' solar portfolio expanded rapidly in 2020 and again in 2021, notably in India and the United States. This growth will continue, as solar energy accounts for three-quarters of the 35 GW the Company wants to develop by 2025.

CONTINUED SCALING UP IN OFFSHORE WIND IN 2021

Offshore wind offers high utilization rates with significant development potential and better acceptability than onshore wind, notably in Europe. TotalEnergies sees strong growth potential in offshore wind energy, especially since it can leverage its teams' expertise in managing and operating offshore megaprojects.

The offshore wind projects portfolio's total capacity exceeds **10 GW, of which two-thirds fixed-bottom and one-third floating.**

LAUNCH IN 2021 OF SEVERAL STATIONARY ELECTRICITY STORAGE PROJECTS TO SUPPORT RENEWABLES

Electricity storage solutions are necessary to offset the intermittence of solar and wind projects, make the most of daily volatility in the electricity markets and ensure grid stability. In this segment, TotalEnergies benefits from the technological expertise of Saft, which also aims to make the most of this fast-growing market.

More than
$11 B
invested in electricity between 2015 and 2021

More than
10 GW
of gross installed renewable power generation capacity at the end of 2021

35 GW
Target of gross installed renewable power generation capacity by 2025

50 TWh
Net electricity production target by 2025

80 TWh
Target for sales of electricity by 2025

more than
6 millions
electricity customers at the end of 2021

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(1) Return on equity, including partial divestments.

(2) Adjusted EBITDA (Earnings Before Interest, Tax, Depreciation and Amortization) corresponds to the adjusted earnings before depreciation, depletion and impairment of tangible and intangible assets and mineral interests, income tax expense and cost of net debt, i.e., all operating income and contribution of equity affiliates to net income.

1.3.4 Natural gas : transition fuel

For TotalEnergies, natural gas is a key transition energy. It plays a major role in power generation thanks to its flexibility and capacity for responding to the strong growth in demand fueled by the electrification of uses. Natural gas releases half the greenhouse gas emissions of coal in power generation and, when used as a substitute, makes it possible to achieve substantial reductions as is already in the case in the United States and United Kingdom. Obviously, for gas to play this role, all the participants in the value chain – businesses and States – must pull together to fight methane emissions, as was underlined at the COP26 meeting in Glasgow with the commitment from 105 States to reduce methane emissions by 30% by 2030. TotalEnergies has committed to reducing methane emissions by 80% by 2030(1).

Main strengths of gas

- Widely available resources, well redistributed worldwide thanks to LNG.
- A simple and immediate solution for decarbonizing electricity and industry, especially in high energy consuming sectors like steel and cement manufacturing.
- An ideal partner for renewables, which are intermittent and seasonable by nature.
- A core component of numerous coal-consuming countries' roadmaps for getting to net zero.
- A source for massively developing blue hydrogen with carbon capture and storage (CCS) technologies.

TotalEnergies' strategy

- Increase the share of natural gas in the sales mix to 50% by 2030.
- Strengthen the Company's position among the Top 3 in LNG.
- Cover the entire gas value chain, from production and trading to gas-fired power plants and retailing.
- Reduce the gas value chain's emissions and eliminate methane emissions.
- Work with local partners to promote the shift from coal to natural gas.

RANKING AMONG THE TOP THREE WORLDWIDE IN LOW CARBON LNG BY 2030

Once liquefied, natural gas can be transported and delivered to places of use. Global demand for liquefied natural gas (LNG) has seen strong growth, rising by 9% a year between 2015 and 2021. With 42 Mt sold in 2021, TotalEnergies is the world's second largest non-state-owned LNG company. It aims to sell 50 Mt per year by 2025, i.e. to maintain a stable global market share of 10%. In 2021, 99% of the Company's LNG sales went to countries that have committed to carbon neutrality.

REDUCING OUR LNG VALUE CHAIN'S EMISSIONS INTENSITY

This growth requires an exemplary strategy for greenhouse gas emissions. In reducing emissions across the LNG chain, the priority is on methane**.** The Company is also working on improving liquefaction plant performance, notably in the United States, in Qatar, in Russia with energy efficiency projects, electrification using renewable solar and wind energy, and native carbon capture and storage. Lastly, TotalEnergies is renewing its fleet of LNG carriers with new vessels that emit on average 40% less CO_2 than older ships.

N°2
TotalEnergies is the global number two on the LNG market(2) in 2021

42.0 Mt
LNG volumes sold in 2021 including 17.4 Mt coming from equity production

50 Mt/year
TotalEnergies' LNG sales target by 2025

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(1) Refer to point 1.4.2. of this Chapter.

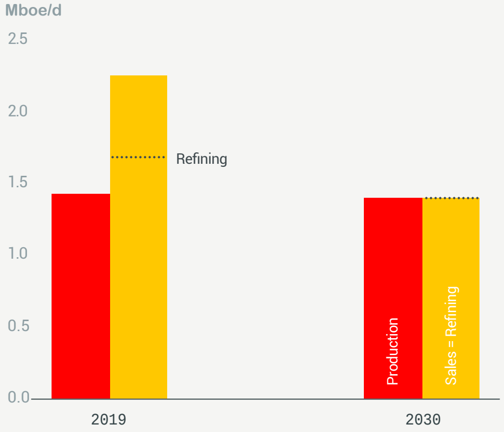
(2) Second largest private firm. Source: WoodMackenzie (TOTAL LNG Corporate Report 2020 published in November 2020).

1.3.5 Petroleum products: adapting to demand

Demand for petroleum products is expected to stagnate and then decline between now and 2030 thanks to technological progress and evolving uses. By 2050, demand will have dropped significantly. Petroleum products will have to meet increasingly stringent requirements on limiting the emissions related to their extraction and use.

TotalEnergies is reducing the share of petroleum products in its sales mix, from 65% in 2015 to 44% in 2021, with a targeted 30% in 2030. The objective is for the Company's petroleum product sales not to exceed its oil production, which itself will peak during the decade before declining, or around 1.4 Mb/d in 2030.

Oil production and oil product sales



Investments remain necessary to satisfy demand, given the natural decline in field output. The Company gives priority to oil projects with low technical costs (typically below $20/b) and a low breakeven point (typically below $30/b). All new projects are assessed for their contribution to the average carbon intensity of their category in the Upstream portfolio. All approved projects must help reduce this intensity. New hydrocarbon developments are limited to the least emitting fields. In 2021, for example, TotalEnergies decided to exit Venezuela, considering that production of the Orinoco Belt's heavy oils did not meet its greenhouse gas emissions objectives.

The Tilenga and EACOP projects in Uganda were approved with a low technical cost of $11 per barrel and CO_2 emissions significantly below those of the current portfolio (13 kg CO_2 per barrel vs. 18 kg CO_2 per barrel).

Late 2021, the Company broadened its presence in Brazil's offshore Atapu and Sépia fields, which represent low-cost, low-emissions reserves.

In addition, TotalEnergies respects exclusion zones and good environmental practices. TotalEnergies will not explore for oil in the Arctic Sea ice and will not approve any capacity increases in Canada's oil sands.

In September 2021, TotalEnergies signed major multi-energy agreements in Iraq covering the construction of a new gas network and treatment units, the construction of a large-scale seawater treatment unit and the construction of a 1 GW photovoltaic power plant.

Over 700 kb/d

Reduction of TotalEnergies' refining capacity between 2010 and 2021

-30%

TotalEnergies' petroleum products sales reduction target between 2019 and 2030

30%

Target share of petroleum products in TotalEnergies' energy sales mix in 2030, versus 65% in 2015

1.3.6 Promoting circular management of resources

TotalEnergies joined the Platform for Accelerating the Circular Economy (PACE) in 2022. This initiative launched by the World Economic Forum and now hosted by the World Resources Institute aims to speed the transition to a more circular economy. The Company pledges to double the circularity of its businesses within the next ten years. It contributes to the circular economy at different points in the value chain: through purchasing, sales and production, as well as through the management of its own waste.

BIOFUELS

Over their lifecycle, biofuels emit over 50% less CO_2e than their fossil equivalents (in accordance with European standards), making them a key element in the decarbonization of liquid fuels. TotalEnergies currently has a biofuel production capacity of 500 kt per year, primarily at the La Mède refinery in France. Its goal is to increase that to **2 Mt by 2025 and 5 Mt by 2030, sustainably produced.**

Today, more than 90% of the biofuels in the market are first generation, meaning they are made from virgin vegetable oils or sugar. TotalEnergies is investing in advanced biofuels projects based on animal fat or used oils, thereby limiting the competition for and impact on arable land. These advanced biofuels will add to the range of first-generation biofuels. Looking further out, the Company is investing in R&D into so-called second- and third-generation biofuels based on micro-algae, but they still raise numerous technological challenges.

TotalEnergies has converted its La Mède refinery in France into a world-class biorefinery to meet its ambition of being a biofuel market leader. The facility produces hydrotreated vegetable oil (HVO - a precursor for renewable diesel and sustainable aviation fuel), bionaphtha (a precursor for renewable polymers) and bioLPG (renewable liquefied gas) for use in mobility or heating.

The agricultural feedstock used to make these products complies with sustainability and traceability requirements concerning carbon footprint, non-deforestation and land use. The Company has made a commitment to stop sourcing palm oil in 2023 and aims to increase the share of used cooking oil and animal fat in feedstock to 50% by 2025. TotalEnergies' future Grandpuits zero-crude complex will also produce biofuel.

BIOGAS

Biogas, produced from the anaerobic digestion of organic waste, is a renewable gas comprised primarily of methane. Compatible with existing transportation and storage infrastructure, it has a key role to play in decarbonizing gas products and reducing greenhouse gas emissions through the development of a circular economy. The Company aims to produce **2 TWh per year of biomethane starting in 2025 and more than 5 TWh per year by 2030 worldwide.**

In early 2021, TotalEnergies became a major player in biogas in France by acquiring Fonroche Biogaz, with 500 GWh/year of installed capacity. In late 2021, TotalEnergies and Clean Energy Fuel Corp.(1) broke ground for their first biomethane production unit in Friona, Texas. The output will be used as an alternative fuel for mobility, thereby helping to decarbonize road transportation. The facility will use livestock manure to produce more than 40 GWh per year of biomethane; as a result, 45 kt of CO_2e emissions will be avoided each year.

In early 2022, TotalEnergies and Veolia joined forces to produce biomethane from Veolia waste and water treatment facilities operating in more than 15 countries, with the goal of producing up to 1.5 TWh of biomethane a year by 2025.

HYDROGEN

Hydrogen is an energy carrier between primary energy source and final application that does not generate any CO_2 during its lifecycle if it was produced in a decarbonized process. Growing generation of decarbonized electricity is creating opportunities to produce **green** hydrogen via electrolysis of water using decarbonized electricity. In addition, the development of carbon storage is paving the way for the development of **blue hydrogen using natural gas.**

The European Union's objectives of installing more than 40 GW of electrolyzers powered by renewable electricity to produce up to 10 Mt of renewable hydrogen a year by 2030(2) help accelerate decarbonized hydrogen projects, particularly for industries where decarbonization and/or electrification are difficult. TotalEnergies is working with its suppliers and partners to decarbonize all of the hydrogen used in its European refineries by 2030. This represents a reduction in CO_2 emissions of 3 Mt per year. Further out, the Company aims to pioneer mass production of clean and low carbon hydrogen to serve demand for hydrogen fuel as soon as the market takes off**.**

TotalEnergies, working with Engie, is developing the Masshylia green hydrogen project at the La Mède biorefinery. The project will be powered by solar and wind farms with an overall capacity of close to 300 MW. Its 125 MW electrolyzer will produce more than 10 kt/y of green hydrogen to meet the needs of the biorefinery and help reduce its emissions by 140 kt of CO_2 a year.

At the Zeeland refinery, the Company plans to capture carbon from the steam methane reforming unit (SMR) that produces hydrogen from natural gas. It is also developing a 150 MW electrolyzer intended to be linked to an offshore wind field. In all the Company has six projects in progress in Europe.

SYNTHETIC OR E-FUELS

The production of synthetic fuels from renewable hydrogen and captured CO_2 is a promising avenue for decarbonizing transportation. The pace at which these e-fuels scale up will depend on the development of green hydrogen. Besides being low carbon themselves, they offer the advantage of recycling CO_2. E-fuels are one of the solutions for getting to net zero via carbon capture and utilization technologies.

TotalEnergies is staking out a position in this market, notably to help decarbonize the aviation industry with sustainable aviation fuel. In early 2022, TotalEnergies joined a Masdar and Siemens initiative in the United Arab Emirates to build a pilot unit for producing green hydrogen that will be used to convert CO_2 into sustainable aviation fuel.

BIOPLASTICS AND RECYCLED PLASTICS

The circular economy for plastics is based on three axes :

- Axis 1. **Mechanical recycling,** which is the most mature technology in the market. Mechanical recycling processes materials from selective sorting and collection centers and is suited to the needs of industries such as automobile manufacturing and construction. The Company's Synova subsidiary, with a production capacity of 45 kt at end-2021, is involved in this part of the value chain. It aims to produce 100 kt as from 2025.
- Axis 2**. Advanced recycling,** which can process waste that cannot be recycled mechanically and serve other markets, such as food-grade plastics. The Company currently produces polymers from advanced recycling at the Antwerp complex using TACoil produced by partner Plastic Energy, with which it has joined forces to build a production unit at Grandpuits. TotalEnergies is also partnering with Honeywell to promote advanced recycling of plastics in Europe and the United States.
- Axis 3. **Bioplastics.** The Company provides customers with biopolymers made from biofeedstocks based on vegetable oils or used cooking oils processed at the La Mède biorefinery (and Grandpuits tomorrow), as well as PLA(3), a fully recyclable and compostable bioplastic based on starch or sugar produced by its joint venture with Corbion at the PLA plant in Rayong, Thailand and future unit at Grandpuits in France.

In 2021, the Company produced 60 kt of recycled or bioplastic. It aims to produce **30% recycled or biopolymers by 2030, or one million tons.**

3.3 Mt
Biofuels distributed by TotalEnergies in 2021

2 Mt/year
Target of biofuels production by 2025
5 Mt/year
by 2030

+10%/year
Target of biofuels sales by TotalEnergies until 2030

more than
5 TWh/year
Target of biomethane production by 2030

Ambition of **30%** of polymers production from recycled or renewables by 2030

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(1) TotalEnergies holds a capital share of 19.09% of Clean Energy Fuels Corp., U.S. Company listed on NASDAQ (as of 31 December 2021).

(2) Source: *A hydrogen strategy for a climate-neutral Europe*, European Commission, 2020.

(3) PLA: Poly Lactic Acid.

1.4 Our climate ambition: net zero emissions by 2050, together with society

The world’s energy mix needs to change if the objectives of the Paris Agreement are to be achieved. As a broad energy company, therefore, TotalEnergies has factored this development into its strategy and set itself the ambition of achieving carbon neutrality (net zero emissions) by 2050, together with society.

TotalEnergies promotes a policy of reducing GHG emissions based on the following principles in order of priority:

- avoid emissions;
- reduce them by using the best available technologies;
- offset the residual emissions thus minimized.

1.4.1 Our objectives for 2030

TotalEnergies sets the intermediate targets by 2030:

At the global level

1. Achieve **by 2050 or earlier** carbon neutrality (zero net emissions) for TotalEnergies' operated activities **(Scope 1+2)** with intermediate targets of:

- reducing GHG emissions (Scope 1+2) of its operated facilities from 46 Mt CO_2e in 2015 to less than 40 Mt CO_2e by **2025**;
- reducing net emissions[1] of GHG (Scope 1+2) for its operated activities by at least 40% by **2030** compared to 2015, thus bringing net emissions to between 25 Mt and 30 Mt CO_2e.

These objectives for operated emissions include emissions related to the growth strategy in electricity deployed since 2015, which led to the development of a flexible power generation portfolio based on CCGT plants. These CCGT emissions, virtually nil in 2015, stood at 4 million tons in 2021 and could amount to more than 6 million tons in 2025.

2. Achieve **by 2050 or earlier** carbon neutrality (net zero emissions) for indirect GHG emissions related to its customers’ use of energy products **(Scope 3)**, together with society. This axis requires TotalEnergies to work actively with its customers, since this means they will reduce their direct emissions (Scope 1+2) that correspond to TotalEnergies’ indirect Scope 3 emissions.

The Company's intermediate targets for **2030** are to reduce:

- Scope 3 GHG emissions related to its customers' use of energy products to less than 400 Mt CO_2e, which is a level lower than in 2015, despite the growth of its energy production in the coming decade;
- Scope 3 GHG emissions from the petroleum products sold worldwide by more than 30% compared to 2015.
- the average carbon intensity of energy products used by customers by more than 20% compared to 2015. By 2025, the target reduction is at least 10%.

In Europe[2]

3. Achieving carbon neutrality (zero net emissions) of energy products throughout the value chain (from production to use by customers) **by 2050 or earlier (Scope 1+2+3)**, together with society. Given that, for the Company, Europe currently accounts for about half of GHG emissions related to the use by its customers of energy products (Scope 3) and that Europe has set ambitious targets for 2030 towards carbon neutrality, TotalEnergies wants to actively contribute to this ambition.

The Company has set itself the following intermediate objectives for **2030:**

- reducing GHG emissions from energy products throughout the value chain (from production to use by its customers) (Scope 1+2+3) by at least 30% relative to 2015 ;
- reducing Scope 3 GHG emissions relating to customers’ use of the energy products in Europe by at least 30% in absolute terms, relative to 2015, which represents a major step toward carbon neutrality by 2050.

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(1) The calculation of net emissions takes into account negative emissions from natural sinks like forests, regenerative agriculture and wetlands.

(2) Europe refers to the European Union, Norway, the United Kingdom and Switzerland.

Our ambition

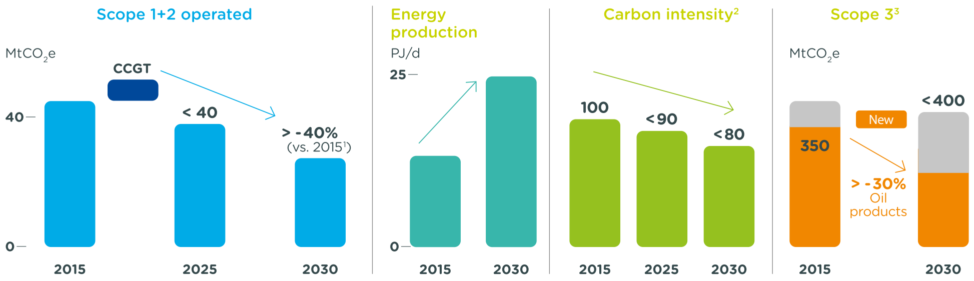
NET ZERO BY 2050, TOGETHER WITH SOCIETY

In line with the objectives of the Paris Agreement

Scope 1+2 – Net Zero by 2050

Scope 3 – Net Zero 2050, together with society

OUR OBJECTIVES FOR 2030



OUR LEVERS

REDUCE SCOPE 1+2

IMPROVE THE EFFICIENCY OF OUR FACILITIES

- Achieve zero routine flaring by 2030 and less than 0.1 Mm^3/d by 2025.
- Invest in emissions-reduction projects (400 projects identified, $400 million over 2018-2025 in Downstream).
- Decarbonize our electricity purchases in Europe and the United States (Scope 2) by 2025.

TOWARDS ZERO METHANE EMISSION

- Reduce emissions by 80% from 2020 levels by 2030.
- Maintain methane intensity of operated gas installations below 0.1%.

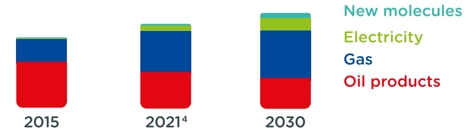
CAPTURE AND STORE CARBON FROM OUR FACILITIES

- Develop a CCS capacity of more than 10 Mt/y by 2030[5].

OFFSET RESIDUAL EMISSIONS

- Invest $100 million a year to develop natural carbon sink capacity of more than 5 Mt/y by 2030.

DEVELOP A MULTI-ENERGY OFFER



Electricity

- Rank among the Top 5 producers of renewable electricity.
- Achieve the same customer recognition in electric mobility tomorrow as we have in fuel retailing today.

Natural gas

- Cement our position among the Top 3 in low carbon LNG.
- Set the standard for decarbonizing the gas value chains.

Oil products

- Focus on projects with low emissions and low technical costs.
- Set the standard for decarbonizing the oil value chains.

New molecules

- Develop production of biofuels and biogas.
- Become a major player in the production of clean H_2.
- Become a producer of e-fuels.

REDUCE SCOPE 3 EMISSIONS, TOGETHER WITH SOCIETY

- Guide our customers towards lower-carbon energies.
- Promote a circular economy approach in the use of biomass and plastics.
- Develop a carbon offer for our customers with capacity exceeding 10 Mt/year by 2030[5].
- Forge partnerships with our top 1000 suppliers to reduce emissions from our purchasing.

---

1. Including carbon sinks. 2. Average net carbon intensity of energy products. 3. Indirect GHG emissions related to the use by customers of energy products sold. 4. Excluding the impact of Covid-19. 5. Overall capacity that includes storage for our facilities as well as the storage offer for our customers.

1.4.2 Our levers to achieve our ambition of net zero emissions

To get to net zero by 2050, together with society, TotalEnergies is transforming into a multi-energy company and deploying specific action plans to reduce its emissions and achieve its short- and medium-term objectives.

The Company is taking action to:

- Reduce emissions from its operated industrial facilities (Scope 1+2) by more than 40% by 2030 and disclose the progress made at its operated and non-operated facilities.
- Reduce the indirect emissions related to its products (Scope 3), together with society – i.e., its customers, its suppliers, its partners and public authorities – by helping to transform its customers' energy demand.

1.4.2.1 REDUCING SCOPE 1+2 EMISSIONS, USING THE BEST AVAILABLE TECHNOLOGIES

Our objectives

TotalEnergies' primary responsibility as an industrial operator is to reduce the emissions resulting from its operations.

In early 2019, TotalEnergies announced its aim to reduce emissions from its operated facilities to less than 40 million tons by 2025 and set itself the target of cutting Scope 1+2 net emissions (including carbon sinks) for its operated activities by at least 40% in 2030 relative to 2015.

These objectives for operated emissions include emissions related to the growth strategy in electricity deployed since 2015, which led to the development of a flexible power generation portfolio based on CCGT plants. These CCGT emissions, virtually nil in 2015, stood at 4 million tons in 2021 and could amount to more than 6 million tons in 2025.

The main driver for achieving these objectives is to develop emissions-reduction projects at the Company's industrial sites using best available technologies. This means improving energy efficiency, reducing flaring and methane emissions, supplying sites with renewable electricity and deploying carbon capture and storage for residual emissions. To achieve the net emissions objective, nature-based projects (NBS - Nature Based Solutions) will help offset a limited share (5 to 10 Mt CO_2e per annum) of emissions by 2030.

Since late 2018, a dedicated team for reducing greenhouse gas emissions, known as the CO_2 Fighters, has been tracking GHG emissions across the Company. It's tasked with encouraging a low-carbon mindset within the Company, initiating energy efficiency projects, accelerating the electrification process at facilities and helping to introduce greener forms of energy consumption. The team has overseen more than 400 emissions reduction projects, most of which have cost less than $10 per ton of CO_2. By 2025, 160 upstream projects and more than 200 downstream projects will yield reductions in Scope 1+2 emissions of 2.5 million and 4.5 million tons of CO_2 respectively.

Targets

- Reduce GHG emissions (Scope 1+2) of operated facilities from 46 Mt CO_2e in 2015 to less than 40 Mt CO_2e by **2025**.
- Reduce net GHG emissions(1) (Scope 1+2) from operated activities by **at least 40% by 2030** compared to 2015, bringing net emissions to between 25 Mt and 30 Mt CO_2e.
- Improve the energy efficiency of operated facilities by an average of 1% per year since 2010.
- Reduce routine flaring to less than 0.1 Mm^3/d by 2025, with the goal of eliminating it by 2030.
- Reduce methane emissions from operated facilities by 50% between 2020 and 2025 and by 80% between 2020 and 2030.
- Maintain the intensity of methane emissions at less than 0.1% of commercial gas produced at operated gas facilities.

A reduction target for 2030 in step with the 2030 objectives of Net Zero 2050 countries

TotalEnergies set its target of a **40% reduction in net emissions** (Scope 1+2) from its operated facilities between 2015 and 2030 with an eye to the European Union's objectives for 2030 and the objectives of countries with a net zero by 2050 pledge as part of the Paris Agreement.

To qualify the level of this ambition, the Company called on two independent third parties known for their expertise in energy and decarbonization to analyze the greenhouse gas emissions reduction objectives for 2030 of countries committed to net zero by 2050 as of COP26 in Glasgow: **Carbone 4**, a consultancy specialized in low-carbon strategy in France and the **Center on Global Energy Policy** at Columbia University in the United States.

These objectives, taken from each country's nationally determined contributions (NDCs), cover direct emissions on their territory, comparable to Scope 1 for businesses.

Carbone 4 makes a distinction between two scopes:

- Countries that explicitly mention their net zero by 2050 ambition in their NDC, having set a 2030 target consistent with that ambition.
- All countries that have publicly announced their net zero by 2050 ambition, notably at COP26, including those that have not updated their NDC since then.

The more restricted scope includes the 35 most ambitious countries(2), which have committed to reducing the net emissions(3) by **39 to 40%** between 2015 and 2030. The broader scope includes 43 countries(4) committed to a **28 to 31%** reduction over the same period.

In its study(5), Columbia University's Center on Global Energy Policy puts the reduction commitment for all countries with a net zero by 2050 pledge at **27% between 2015 and 2030**.

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(1) The calculation of net emissions takes into account negative emissions from natural sinks like forests, regenerative agriculture and wetlands.

(2) EU-27, United States, Japan, Canada, Australia, United Kingdom, South Korea, Argentina and South Africa.

(3) Including sequestration capacity of forests.

(4) Restricted scope + Brazil, Colombia, Israel, United Arab Emirates, Peru, Thailand, Malaysia and Vietnam.

(5) "Tallying updated NDCs to gauge emissions reductions in 2030 and progress toward Net Zero" published on March 2, 2022.

The European Union's "Fit for 55" objective of a 55% decrease between 1990 and 2030 corresponds to a **37% decrease between 2015 and 2030**(1).

The IEA's NZE scenario

In its 1.5 °C scenario, the IEA is aiming for carbon neutrality by 2050, which requires a **39% reduction in net emissions from energy** between 2015 and 2030 (from 34 to 21 billion tons of CO_2e).

Our progress in 2021

Scope 1+2 emissions decreased from 41.5 Mt in 2020 to **37.0 Mt** (excluding COVID-19 effect) in 2021 thanks to 120 emissions-reduction initiatives carried out across the Company and portfolio management aligned with our strategy (divestment of the Lindsey refinery in the United Kingdom and the halt of Grandpuits in France).

These data include the commissioning of two combined cycle gas turbine plants.

IMPROVING THE EFFICIENCY OF THE COMPANY'S FACILITIES

A portion of the direct emissions from the Company's facilities corresponds to energy losses through flaring, venting(2), etc. or fugitive emissions. This part is a minority (about 15%) but should be reduced as a priority. The second, more important part (about 85%) corresponds to energy use, either by combustion, for example to generate electricity, or within industrial processes, and is the subject of the Company's energy efficiency improvement projects.

Reducing flaring

Restricting routine flaring is a priority for reducing GHG emissions. Since 2000, TotalEnergies has made a commitment to discontinue routine flaring on its new projects. As a founding member of the World Bank's "Zero Routine Flaring by 2030" initiative since 2014, the Company has pledged to end the practice altogether by 2030. Routine flaring has been reduced by 90% since 2010, and the Company has set **a new target to bring the level below 0.1 million cubic meters per day as from 2025**.

Occasional, or non-routine, flaring connected with operational issues or the start-up of facilities has also been addressed with action plans, as has safety flaring, which is used to protect facilities. In Argentina and Bolivia, for example, the Company has reduced safety flaring by half, thanks to continuous monitoring of gas flows and optimized flaring parameters.

Using less energy

Improving energy efficiency means reducing the quantity of energy used to produce a given amount of energy, so emissions are reduced as well. Exploration & Production is enhancing energy efficiency through projects to reduce the quantity of gas its facilities use to produce the energy they need. Refining & Chemicals, for which energy consumption is a key factor in production costs, is continuing its efforts of recent years to improve energy efficiency as part of an investment plan totaling $450 million over the period 2018-2025.

Improving energy efficiency also entails finding new ways to use waste heat from units. Several refineries, including Leuna in Germany, have mapped and quantified their sources of waste heat. Research is underway to see how heat from nearby industrial and municipal ecosystems can be put to use.

The Company has made a firm commitment to embracing digital technology at its sites as a driver in improving energy performance. As of the end of 2021, 26 out of the 46 operated sites using more than 50,000 toe/year were equipped with an auditable energy management system using for instance ISO 50001 certification for their energy management system.

Decarbonizing electricity purchases (Scope 2)

In 2020, with its "Go-Green" project, TotalEnergies decided to aim for net zero emissions for all electricity purchases at its operated sites in Europe by 2025. All electricity needs at the Company's industrial and commercial sites, as well as its offices, will be met by renewable power obtained through the Company's regional generation capacity in Europe; a similar strategy has been adopted in the United States. Taken together, this will represent around 7 TWh/year.

As a result, the Company is on track to reduce Scope 2 emissions across its operated scope by more than 2 million tons of carbon annually as of 2025.

TEND TOWARDS ZERO METHANE EMISSIONS

Methane is a greenhouse gas with a global warming potential 25 times higher than that of CO_2 over 100 years. In 2021, the IPCC assessed methane's contribution to current warming at 0.5 °C since pre-industrial times. COP26 highlighted the major role that methane emissions reduction must play in limiting global warming, both in its final conclusion (the Glasgow Climate Pact) and through the Global Methane Pledge, a commitment by 105 countries, led by the United States and the European Union(3), to reduce their methane emissions by 30% from 2020 levels by 2030.

New objectives

The Company has been working on reducing its methane emissions for several years. It halved its operated methane emissions between 2010 and 2020. In line with the Glasgow agreements, the Company is setting new targets for the decade to come: reductions from 2020 levels of **50% by 2025 and 80%** by 2030.

The Company is also maintaining its target of keeping methane intensity(4) of the produced gas below 0.1% across its operated gas facilities.

Achieving those objectives requires improved measuring capability and redoubled efforts on emissions sources.

Measuring methane emissions more accurately

Methane emissions have numerous and dispersed sources. TotalEnergies is a pioneer in detecting and quantifying emissions across the entire value chain.

The Company operates a site for testing methane emissions measurement technology. Known as the TADI complex(5), it is unparalleled in Europe; only one comparable site exists worldwide, in the United States(6).

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(1) EU-27. Adding in Norway, the United Kingdom and Switzerland, the reduction ambition is 39% between 2015 and 2030.

(2) Venting: emissions associated with the venting of gases, on an occasional or continuous basis, at certain facilities, such as water treatment, hydrocarbon loading and unloading, glycol dehydrators and pneumatic devices fueled by natural gas.

(3) These 105 countries represent 70% of the global economy and account for nearly half of the planet's anthropogenic methane emissions.

(4) The intensity of methane emissions in relation to the commercial gas produced, expressed in a volume/volume ratio.

(5) TotalEnergies Anomaly Detection Initiative.

(6) METEC, Colorado State University.

In addition, TotalEnergies is speeding up deployment of its drone-mounted methane detection technology, AUSEA(1), at all of its operated sites starting in 2022.

The Company is also enhancing its reporting as part of OGMP 2.0, the second phase of the United Nations Development Programme's Oil & Gas Methane Partnership. OGMP 2.0 outlines a reporting framework that encompasses the entire gas value chain and non-operated scope, including a breakdown of emissions by source, information on inventory methodologies and the use of airborne measurement campaigns.

In late 2021, TotalEnergies was awarded Gold Standard(2) status by the OGMP. It will implement the necessary continuous improvement measures to maintain this level for methane emissions measurement and reporting.

Abating emissions at each source

Methane emissions are primarily attributable to venting (more than half the total) and flaring(3) (a quarter of the total); the rest are fugitive emissions (i.e., leaks at valves, flanges and couplings) or the product of incomplete gas combustion at our facilities (turbines, furnaces, boilers, etc.).

In order to tend towards zero methane emissions, stronger action will be taken on each of these emission sources:

- Reductions in venting: projects to reroute vents to the gas export system or the flare and to reduce instrument gas on producing assets. In 2021, the decline from the year before linked to reductions in venting came to 6 kt/y (projects in Gabon and the United Kingdom).
- Reductions in flaring: In 2021, the decrease in flaring from 2020 reduced emissions by 1,8 kt/y.
- . Leak reduction: annual campaigns to identify and repair leaks at all operated sites will be deployed starting in 2022. In 2021, emissions declined by 4kt/y as a result of leak reduction efforts, including a significant upgrade to the OML58 facility in Nigeria.

Moreover, all new projects include strict design criteria for preventing methane emissions: no instrument gas, no continuous cold venting and the systematic use of closed flares. All of these practices have been implemented at the CLOV site in Angola, Moho-Nord in the Republic of the Congo and Egina in Nigeria.

CAPTURING AND STORING CARBON AT OUR FACILITIES

Reducing emissions at the facilities also means developing industrial processes for carbon capture, transport and storage (CCS(4)), a field in which TotalEnergies wields critical expertise in large-scale project management, gas treatment and geoscience.

The Company has been contributing to the development of CCS solutions in the Norwegian Sea since 1996 to reduce emissions from the Sleipner(5) and Snøhvit natural gas fields. The CO_2 associated with that natural gas, known as native CO_2, is isolated and injected into the subsurface. From 2010 to 2013, TotalEnergies developed a pilot project in Lacq, France, involving a complete CCS chain, in which carbon from a steam generator was captured using oxy-combustion technology (a European first) and then transported and stored in an depleted reservoir.

This experience in CCS opens the door to large-scale projects for reducing carbon emissions resulting from hydrogen production at the Company's refineries in Europe. Current CO_2 storage projects are located in the North Sea to take advantage of its significant potential, particularly in depleted fields operated by TotalEnergies. Moreover, the regulatory environment within the E.U. is favorable to such projects. Not only will they provide a way to reduce the Company's own emissions, but thanks to additional capacity, it can also offer CO_2 emissions storage to its customers to reduce their Scope 1 and the Scope 3 emissions of the Company.

The 2021 budget for the entire CCS system was $100 million and TotalEnergies is now aiming to expanding storage capacity of about **10 Mt CO_2/year by 2030**.

WORKING WITH OUR PARTNERS ON NON-OPERATED ASSETS

TotalEnergies' Scope 1+2 emissions based on equity share amounted to 54 Mt CO_2e in 2021. Half of those emissions were attributable to its interests in sites it operates(6); interests in sites operated by its partners, primarily upstream, accounted for the other half.

For those non-operated assets, the Company acts by exerting its influence and by sharing best practices with its partners. In 2021 TotalEnergies helped to prepare action plans for reducing emissions at its non-operated Refining & Chemicals assets (notably Naphtachimie in France, HTC in South Korea and Satorp in Saudi Arabia). As with its operated assets, the Company takes steps to improve energy efficiency, electrify operations using green electricity, reduce flaring and manage methane emissions.

In 2021, TotalEnergies joined forces with Novatek to reduce the intensity of the LNG chain, and conducted an energy efficiency audit of the Lavéra petrochemical facility in France.

In Norway, TotalEnergies is a partner in the Johan Sverdrup field, which came onstream in 2019 and has an emissions intensity of less than 2 kg CO_2e/boe thanks to the use of green electricity supplied from shore, and the Oseberg field, where an electrification project was initiated in 2021. It is also studying plans to electrify the Snøhvit LNG plant alongside the operator, Equinor. In the United Arab Emirates, where TotalEnergies is the biggest international operator, its non-operated onshore assets were powered with green electricity as of January 1, 2022, and with the partner, ADNOC, the Company is reviewing an electrification project for the offshore fields. Photovoltaic solar projects are also in the works at the non-operated Refining & Chemicals facilities in Saudi Arabia, Algeria and South Africa.

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(1) Airborne Ultra-light Spectrometer for Environmental Applications.

(2) International Methane Emissions Observatory (IMEO) report under OGMP2.0.

(3) Emissions associated with incomplete gas combustion, based on a standardized estimate of 2% of volumes flared.

(4) Carbon capture and storage.

(5) TotalEnergies sold its interest in this field in 2016.

(6) 27 Mt on an equity share basis, 37 Mt of CO_2e on a 100% share basis.

For the first time in 2021, TotalEnergies released the methane emissions from its non-operated assets. The operators of those assets were each asked to provide their emissions data, itemized by source(1). Those operators differ in their measuring and reporting capabilities, but the Company is working with them in a commitment to continuous improvement, with the aim of reaching the highest reporting level in the OGMP 2.0 framework.

OFFSETTING RESIDUAL EMISSIONS WITH NATURAL CARBON SINKS

In addition to taking action to prevent and reduce greenhouse gas emissions, it will be necessary to offset residual carbon emissions if TotalEnergies is to achieve net zero emissions together with society. For that reason, it is investing in natural carbon sinks, such as forests, regenerative agriculture and wetlands.

The model for managing areas must be integrated and shared with the local population. Within this framework, operations may comprise a variety of techniques (conservation, afforestation-reforestation, agroforestry, agricultural transition, blue carbon, etc.) and appropriate types of contracts (purchase contract, sustainable financing mechanism, impact funds, financed project, etc.). The goal is to combine and balance the value of agricultural and forestry revenues with the value of co-benefits for the population, soil, biodiversity, and the water cycle and that of carbon credits. When this is done, the local standard of living improves and the causes of degradation and deforestation, which are major sources of greenhouse gas emissions, recede. The Company works with experienced partners to manage the long-term approach required and the risks involved in these complex projects. The projects are certified in accordance with the highest standards, including Vera VCS and CCB.

Backed by an average annual budget of $100 million between 2020 and 2030, TotalEnergies aims to build up a stock of 100 million credits(2) and develop the annual capacity to produce at least five million credits a year as from 2030. The Company does not intend to trade these carbon credits but rather to gradually use its stock and annual production to neutralize its residual Scope 1+2 emissions as from 2030. As of end-2021, TotalEnergies' stock stood a little under 7 million certified credits. The cumulative budget for all of the signed operations amounts to nearly $350 million over their lifetime, for an anticipated aggregate volume of credits of 23 million in 2030 and 31 million in 2050.

1.4.2.2 REDUCING SCOPE 3 EMISSIONS, TOGETHER WITH SOCIETY

The Scope 3 emissions of an integrated multi-energy company

One major focus of TotalEnergies' strategy is to shape its customers' consumption habits. About 90% of petroleum product emissions occur when those products are used (Scope 3), while only about 10% are generated in their production (Scope 1+2).

TotalEnergies reports Scope 3 GHG emissions, category 11, which correspond to indirect GHG emissions related to the use of energy products by customers, i.e. from their combustion to obtain energy. The Company follows the oil & gas industry reporting guidelines published by IPIECA, which comply with the GHG Protocol methodologies. In order to avoid double counting, this methodology accounts for the larger volume in the oil or gas value chain, i.e. the higher of production or sales. For TotalEnergies, in 2021, the calculation of Scope 3 GHG emissions for the oil value chain takes into account sales of refined products and biofuels (higher than production) and for the gas value chain, gas sales, either in the form of LNG or through marketing to B2B/B2C customers, which are equivalent to marketable gas production.

Our objectives for 2030

TotalEnergies has set a target by 2030 of reducing its global Scope 3 emissions related to the use by its customers of the energy products sold to below 2015 levels, even though over the same period the Company plans to produce and sell 30% more energy products due, in particular, to growth in sales of LNG and electricity.

On the other hand, to anticipate the decline in oil demand by the end of the decade, the Company has initiated a voluntary strategy to adapt its downstream refining and distribution activities to bring them back to its oil production level. Accordingly, the Company has committed to a new objective by 2030: to reduce Scope 3 emissions from petroleum products sold worldwide by more than 30% between 2015 and 2030.

The sharp rise in sales of electricity (a twentyfold increase over the period 2015-2030) will make it possible to decarbonize the Company's energy mix without adding to indirect Scope 3 emissions (GHG Protocol - Category 11).

Gas is a key transition fuel that allows customers to replace the higher emitting coal they use and that TotalEnergies does not produce or sell (the Company voluntarily withdrew from coal in 2016). TotalEnergies will increase twofold its sales of LNG over the period 2019-2030.Reducing sales of petroleum products by more than 30% and boosting sales of biofuels to three times their current level will help reduce Scope 3 emissions in absolute terms over the 2015-2030 period.

This Scope 3 trend over the 2020-2030 period varies by region, in line with evolving global energy demand (TotalEnergies having very little presence in North America):

- In support of the European Union's ambitions on the path toward carbon neutrality and in light of Europe's weight in its Scope 3 emissions in 2015 (256 Mt out of 410 Mt), the Company has set a specific target of reducing its Scope 1+2+3 emissions in Europe by 30% in absolute terms over the same period, as the reduction in sales of petroleum products will focus particularly on Europe.
- At the same time, the Company intends to provide populations in developing countries with the energy they need to raise their living standards. It is increasing its energy supplies in these regions with a priority on natural gas and renewable energies.

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(1) Thirteen sources using the methodology in the OGMP 2.0 reporting framework.

(2) One credit corresponds to one ton of sequestered CO_2.

Scope 3 Targets for 2030

World

- Reduce Scope 3 GHG emissions related to its customers' use of energy products to less than 400 Mt CO_2e, which is a level lower than in 2015, despite the growth of its energy production in the coming decade;
- Reduce Scope 3 GHG emissions from the petroleum products sold worldwide by more than 30% compared to 2015;
- Reduce the average carbon intensity of energy products used by customers by more than 20% compared to 2015. By 2025, the target reduction is at least 10% (Scope 1+2+3).

Europe

- Reduce GHG emissions from energy products throughout the value chain (from production to use by its customers) (Scope 1+2+3) by at least 30% compared to 2015;
- Reducing Scope 3 GHG emissions relating to customers' use of the energy products in Europe by at least 30% in absolute terms, relative to 2015.

TOGETHER WITH OUR CUSTOMERS– MOBILITY

TotalEnergies is actively striving to make net zero emissions an ambition it shares with its customers. The primary avenue for effectively advancing the energy transition is to gradually change the forms of energy its customers use. With that in mind, the Company is pursuing a marketing strategy focused on the lowest-carbon products and scaling back its offerings for certain applications where competitive low-carbon alternatives are available. As of 2018, transportation generated approximately 17% of global greenhouse gas emissions(1). The Company's belief is that the mobility of the future does not call for a single solution, but an array of complementary solutions.

Road Transport

Road transportation undoubtedly offers a wider range of solutions for decarbonization than any other form of transport. TotalEnergies' strategy is to be present in four major axes of the new types of road mobility:

Winning recognition as a major player in electric mobility

As their driving range increases, electric vehicles (EVs) offer a future-oriented solution, accounting for 9% of total vehicle sales in 2021. TotalEnergies is acting on two key links in that value chain to spur adoption of EVs by its customers:

- Deployment of charging infrastructure:
  - 150,000 charge points worldwide by 2025.
  - 300 service stations on motorways and major roads and 600 urban service stations with high power chargers (HPC) by 2030 to support e-mobility travel in Europe. This works out to one HPC every 150 km, for optimal coverage on long-distance trips.
  - TotalEnergies is transforming and adapting its presence in cities by developing an e-mobility network in Europe and Asia.
- Production of affordable, high-performance batteries: Automotive Cells Company (ACC), a joint venture founded by TotalEnergies and Stellantis in 2020, is set to emerge as a global player in the development and manufacture of automotive batteries beginning in 2023. With Saft, TotalEnergies is giving the new company the benefit of its expertise in R&D. The batteries produced by ACC will power nearly one million EVs a year, or 10% of the European market. Mercedes-Benz joined ACC in September 2021. This is a major investment to contribute to the development of electric vehicles in Europe.

Expanding the distribution of biofuels

At year-end 2021, internal combustion vehicles still accounted for more than 98% of the land vehicles on the road worldwide. Sustainable biofuels can reduce those vehicles' CO_2 emissions. In 2021, TotalEnergies distributed 3 Mt of sustainable biofuels(2) worldwide. Government policies to promote carbon neutrality are boosting demand for these renewable products, especially in Europe. The Company will be part of that change, and aims to sell 7 to 8 million tons in 2025.

Supporting our customers' energy transition thanks to NGV

Natural gas vehicle (NGV) fuel, marketed in the form of compressed natural gas (CNG) or liquefied natural gas (LNG), offers a transitional pathway for reducing CO_2 emissions. This fuel is now available at 600 of the service stations in the TotalEnergies global network. The incorporation of biogas, if there is enough available production, may make it possible to decarbonize NGV, CNG and LNG in the future. In February 2021, TotalEnergies inaugurated France's largest NGV and bio-NGV service station in Gennevilliers.

Promoting low-carbon solutions for trucks

Truck manufacturers are developing electric vehicles for daily journeys of less than 500 km and are also working on very high-power batteries that can extend truck's driving range. TotalEnergies is supporting that process by expanding its network of high-power charge points. Its goal is to have a charging station every 150 kilometers throughout Western Europe, with charging solutions available to trucking professionals directly at their home site. In addition, several truck manufacturers are looking at hydrogen as an attractive alternative for longer trips. With this in mind, TotalEnergies entered into a partnership with Daimler Trucks in 2021 dedicated to hydrogen infrastructure for trucks in France, Germany and Benelux.

Shipping

The maritime sector accounts for 90% of all goods transportation and 3% of global carbon emissions. Although heavy fuel oil remains the most common fuel for ship propulsion, the use of LNG, a bridge energy, can reduce CO_2 emissions by 20%. In the medium term, decarbonized liquid fuels (such as e-fuel or biofuels) and the use of hydrogen or ammonia will make it possible to reduce those emissions still further. TotalEnergies is working with major shipping companies to define the most appropriate fuels for achieving their decarbonization roadmaps.

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(1) Source: Climate Watch, World Resources Institute, 2018.

(2) Physical volume of biofuels in equivalent ethanol and esters according to the rules defined by the European Union's RED Directive, excluding volumes sold to third parties by Trading.

Aviation

TotalEnergies is developing sustainable aviation fuels (SAFs). SAFs include biofuel produced from waste and residues sourced from the circular economy (animal fats, used cooking oil, etc.) as well as synthetic E-Jet fuel for aviation. SAFs will substantially reduce CO_2 emissions from air transportation. TotalEnergies is involved in many initiatives to produce and market sustainable aviation fuel in partnership with companies in the aviation industry. These biofuels can already be used as a drop-in fuel with standard jet fuel up to 50%, without any need to modify existing logistics infrastructure, aircraft or engines. With the start-up of production at La Mède in 2021 and Normandy in 2022, TotalEnergies is in a position to meet demand from its customers and the requirements of French legislation, which calls for aircrafts to use at least 1% biojet fuel effective January 1, 2022.

Targets for 2025

- Operate 150,000 EV charge points
- Sell 7 to 8 Mt of biofuels
- Increase LNG bunkering to 1 Mt/year
- Produce in a sustainable way and propose 300 kt/year of biojet to customers in the aviation sector

RESIDENTIAL, COMMERCIAL AND INDUSTRIAL USES

By the end of 2021, TotalEnergies sold electricity and natural gas to 9 million residential and commercial customers in Europe. TotalEnergies is aiming for nearly 13 million sites (B2B and B2C) across every market segment in 2025. The Company gives preference to power from renewable sources and has developed a range of differentiated offerings for residential and business customers.

- For residential customers in Europe, TotalEnergies offers tailored solutions with its Green renewable power service, with rates that are locked in for one year, alongside conventional service offerings. It also helps consumers find energy savings with ConsoLive, a tool that lets them measure their electricity use in real time; ConsoLive's 40,000 current users have reduced their power consumption by an average of 13%.
- For businesses, TotalEnergies is signing a growing number of corporate power purchase agreements, or CPPAs, that rely on renewable energy. The Company also offers customers the option of adding solar power to their sites. In France, TotalEnergies is the market leader in solar power on buildings, having been awarded projects totaling more than 250 MW in the French Energy Regulatory Commission's CRE 4 call for tenders since 2017.

Portfolio management that is firmly focused on low-carbon energy

TotalEnergies' marketing units now deploy a strategy designed to prioritize markets that offer the highest margins per ton of CO_2 emitted, and streamline their portfolios accordingly. The Company emphasizes customized solutions that create a direct relationship with the customer, and its goal is to eliminate low-margin sales to resellers, an area in which it lacks a significant competitive advantage.

Target for 2030

- Storage capacity of more than 10 Mt CO_2/year by 2030, with the ambition to reach more than 50 Mt CO_2/year by 2050.

In the aviation industry, TotalEnergies is focusing on high-value-added airport facilities while maintaining its global presence.

As of 2025, the Company will no longer be selling heavy fuel oil for power generation, and it is already steering its customers toward alternatives, such as natural gas, biofuels and renewable energies.

Developing CO_2 storage services

Under the scenarios prepared by the IEA, the volume of CO_2 captured and stored using CCS processes could total 5 to 7 Gt CO_2e annually by 2050, compared to just 40 Mt today. Developing that business therefore represents a major challenge for the decades ahead to get to net zero by 2050.

TotalEnergies' CCS projects are helping to reduce its own emissions, but via additional available capacity, they will also help it develop services for transporting and storing carbon on behalf of industrial customers intent on reducing their emissions. The North Sea is an ideal setting for such projects, offering significant storage potential close to major industrial centers. TotalEnergies is taking part in several large-scale initiatives in the North Sea.

The Company's goal is to provide its customers with storage capacity of more than 10 Mt CO_2/year by 2030, with the ambition of lifting capacity to more than 50 Mt CO_2/year by 2050.

TOGETHER WITH OUR PARTNERS

Navigating the energy transition and capping global warming are global challenges. TotalEnergies can meet those challenges only by actively enlisting its partners, specifically by lobbying governments and industry associations, and its suppliers' entire ecosystem.

Support for the "Fit for 55" package

TotalEnergies supports the pledges made by nations worldwide to combat global warming as part of the Paris Agreement. Within the European Union, TotalEnergies supports the "Fit for 55" package, and particularly some key components that are aligned with its strategy and positions:

- Broader use of carbon pricing.
- A massive expansion of renewable energies.
- The deployment of infrastructure (charging stations, hydrogen).
- The development of low-carbon and renewable fuels for the transportation industry.

In support of those commitments by the European Commission, it has set a target in Europe of reducing Scope 1+2+3 emissions by 30% between now and 2030.

Mobilization of professional associations

TotalEnergies is a member of many professional associations and has published a list of its affiliations since 2016. The Company typically cooperates with these organizations on technical matters, but some take public stances on other issues, such as climate. The Company ensures that these organizations hold positions aligned with its own, and regularly reviews each organization's stance on the climate.

Since 2019, TotalEnergies has conducted an annual assessment of the climate-related public positions of the main professional associations of which it is a member. For those with such positions, the Company examines whether they are aligned with its own, based on the following six principles from its Advocacy Directive.

REVIEW OF AFFILIATIONS BASED ON SIX KEY PRINCIPLES:

- **Scientific position:** TotalEnergies recognizes the link established by science between human activities, in particular the use of fossil fuels, and climate change.
- **The Paris Agreement:** TotalEnergies recognizes the Paris Agreement as a major step forward in the fight against global warming and supports the initiatives of the implementing States to achieve the objectives of this agreement.
- **Carbon price:**TotalEnergies supports the implementation of carbon pricing.
- **The development of renewable energies and technologies aimed at decarbonizing:** TotalEnergies supports policies, initiatives and technologies aimed at promoting the development of renewable energies and sustainable bioenergies (biofuels, biogas) as well as energies and technologies aimed at decarbonizing industrial processes and transport, such as hydrogen, carbon capture or the electric vehicle.
- **The role of natural gas:** TotalEnergies promotes the role of natural gas as "transition fuel", in particular as a replacement for coal. TotalEnergies supports policies aimed at measuring and reducing methane emissions to move towards the ambition of Zero Methane emissions. TotalEnergies promotes a policy of reducing greenhouse gas emissions: avoid - reduce by using the "best available technologies" - offset residual emissions thus minimized.
- **The carbon offset mechanisms:** TotalEnergies supports the carbon offset mechanisms necessary to achieve carbon neutrality, through organized and certified markets ensuring the quality and sustainability of carbon credits.

During the 2019 and 2020 reviews, the positions taken by the American Petroleum Institute (API) were deemed "partially aligned" with the Company's own positions. After voicing its points of disagreement with the API, and after continuing to promote its positions within the organization, in early 2021 TotalEnergies announced its decision not to renew its membership because of continued divergences over the role of natural gas and methane emissions (the API supports the rollback of the U.S. regulation on methane emissions), support for electric vehicles and the principle of carbon pricing.

TotalEnergies has likewise withdrawn from two other organizations whose positions are not aligned with its own: American Fuel & Petrochemical Manufacturers (AFPM) and the Canadian Association of Petroleum Producers (CAPP).

Additionally, TotalEnergies participates in organizations and initiatives devoted specifically to the fight against climate change.

In 2014, for example, the Company helped launch and develop the **Oil & Gas Climate Initiative** (OGCI). Comprising 12 major national and international energy operators, this global industry partnership is committed to developing solutions for a sustainable, low-carbon future. In 2021, the OGCI's members, which collectively account for more than one third of the world's oil and gas production, embarked on a new strategy for reaching net zero Scope 1+2 emissions by 2050. In addition, OGCI Climate Investments, a fund launched in 2017 to invest $1 billion over 10 years, provides funding to tech start-ups connected with the energy transition

The Company is also engaged in other international initiatives involving the private and public sectors (non-exhaustive list):

- the World Bank's "**Zero Routine Flaring by 2030**" initiative aimed at stopping the routine flaring of the gases associated with oil production;
- for enhanced transparency, taking into account the recommendations of the G20 Financial Stability Board on climate, and of the **Task Force on Climate-related Financial Disclosures** (TCFD);
- for the development of new state-of-the-art energy companies, since 2017, within the **Breakthrough Energy Coalition** (BEC), a group of investors created by Bill Gates in 2015, and since 2016 within the **Breakthrough Energy Ventures**, a $1 billion fund created in 2016 by the BEC;
- to reduce methane emissions, as a member of the United Nations Development Programme's **Oil & Gas Methane Partnership** (OGMP) since 2014.

Support for carbon pricing

Carbon pricing is a major tool for reaching net zero. For more than a decade, TotalEnergies has advocated the adoption of carbon pricing, and applies an internal carbon price when evaluating its own projects.

By integrating an energy source's carbon content in its price, carbon pricing makes the most emission-intensive sources more expensive. In particular, putting a price on carbon gives all players an incentive to shift faster from coal to renewable energies and natural gas for electricity production. Over the long term, it also offers a way to channel investment to research into low-carbon technologies and carbon capture and storage.

The launch of China's emissions trading scheme (ETS) in 2021, the increase in the price per ton of carbon following reforms to the European ETS market and the return of the United States to discussions on climate all augur positively for the development of carbon pricing. According to the World Bank's Carbon Pricing Dashboard, more than 21% of global emissions are now covered by 64 carbon pricing systems worldwide.

Since 2014 the Company has been supporting a range of international initiatives that call for the implementation of regulatory mechanisms tailored to local conditions. TotalEnergies is a founding member of the **Climate Leadership Council** (CLC), which promotes a balanced approach to carbon pricing in the United States in which the revenue is redistributed to the American people in the form of a Carbon Dividend. TotalEnergies also supports the World Bank's **Carbon Pricing Leadership Coalition** (CPLC).

1.4.2.3 PROGRESS IN 2021

The credibility of the Company's ambition for 2050 hinges on its ability to show the progress it has made so far, and it is firmly committed to doing that by publishing its 2021 results in meeting its targets online, often in advance:

- Emissions from operated facilities have declined by **approximately 20% since 2015**. This includes 4 Mt of emissions from CCGT power plants following on the implementation of the Company's new strategy in electricity to have flexible generation capacity ; the decline for operated oil & gas activities thus actually came to 30%.
- For indirect emissions associated with customers' use of its products:
  - Scope 3 emissions worldwide have fallen since 2015. In Europe, those emissions **fell by 14%** (excluding the COVID-19 effect). On petroleum products alone the emissions **fell by 19%** (excluding the COVID-19 effect).
  - The lifecycle carbon intensity indicator for the energy products sold **felt by 10%** since 2015 (excluding the COVID-19 effect), making TotalEnergies the leader among its peers in decarbonizing its energy mix.

1.5 Our sustainability ambitions and targets

A PROCESS OF CONTINUOUS IMPROVEMENT

TotalEnergies has placed sustainable development in all its dimensions at the heart of its strategy, projects and operations, in order to contribute to the well-being of the planet's populations, and it wants to set the standard in terms of commitment to the Sustainable Development Goals (SDG).

TotalEnergies' commitment to the SDG focuses on four areas:

- **Climate and sustainable energy**: Leading the transformation of the energy model to fight climate change and meet the needs of populations.
- **People well-being**: Set the standard as an employer and a responsible operator. TotalEnergies promotes responsible working practices and develops a working environment that combines performance and conviviality. TotalEnergies protects the safety and the health of individuals and respects human rights in the workplace, both within the Company and with its partners.
- **Care for the environnement** : To be exemplary in the management of the environment and the use of the planet's natural resources. TotalEnergies ensures that the environmental impacts of all its operations are managed according to the Avoid - Reduce - Compensate approach, thereby helping to preserve the environment, biodiversity and freshwater resources. To this end, TotalEnergies promotes the circular economy.
- **Creating value for society**: Generate shared prosperity across regions. TotalEnergies is a creator and a driver of positive change for the communities in its host regions and, more broadly, for its employees, suppliers, customers, governments and civil society.

BUSINESS ETHICS COMMITMENTS

TotalEnergies operates in many different countries with disparate and complex economic, social and cultural environments, where governments and civil society have especially high expectations of the Company as an exemplar. Within this context, TotalEnergies strives to act as a vehicule for positive change in society by helping to promote ethical principles in every region where it operates.

Accordingly, TotalEnergies is committed to respecting internationally recognized human rights wherever it operates, especially the Universal Declaration of Human Rights, the Fundamental Conventions of the International Labor Organization (ILO), the U.N. Guiding Principles on Business and Human Rights, the OECD Guidelines for Multinational Enterprises and the Voluntary Principles on Security and Human Rights (VPSHR).

The Company also refrains from resorting to artificial or aggressive tax planning and in particular is committed not to create subsidiaries in countries generally acknowledged as tax havens and to repatriate or liquidate existing subsidiaries, where feasible.

Lastly, TotalEnergies is fully committed to fighting corruption and has adopted a policy of zero tolerance in that area.

In addition to that commitment, it lends active support to initiatives promoting greater transparency. TotalEnergies publishes in its Universal Registration Document an annual report covering the payments made by the Company's extractive companies (fully consolidated entities) to governments and the full list of its consolidated entities, together with their countries of incorporation and operations.

The Company also publishes a tax transparency report which provides additional information on the taxes paid in its main countries of operation.

TotalEnergies publishes a report based on the new EITI (Extractive Industries Transparency Initiative) guidelines in November 2020 designed to promote transparency in the trade of raw materials. In accordance with the EITI framework, of which it has been a member since 2002, TotalEnergies advocates for the disclosure by countries of their petroleum contracts and licenses.

VOLUNTEERING PROGRAM

In 2018, the Company introduced a worldwide employee community volunteering program called *Action!*, designed to give its employees the time and opportunity to do more to foster development in its host regions. *Action!* lets volunteer employees devote up to three workdays a year to local community projects that fall within the scope of the TotalEnergies Foundation program.

By the end of 2021, the program had been implemented in 93 countries, and more than 17,400 inclusive projects had been carried out since the program's launch.

TARGETS AND PROGRESS INDICATORS

Whether with regard to safety, health, climate, the environment or shared growth, TotalEnergies manages its operations with the aim of working in a sustainable, active and positive manner in all of the Company's host countries. The Company was one of the first in the industry to publish measurable improvement targets in these areas.

Safety/Health

Protecting the safety of its employees, stakeholders and facilities is a priority for TotalEnergies, as is protecting the health of all people directly or indirectly involved in its activities.

SAFETY

Targets	Facts
Avoiding the occurrence of a major industrial accident	No major industrial accidents in 2021
Zero fatal accidents	One fatality in 2021
Continuously decrease the TRIR and achieve a TRIR of 0.70 by 2022. The 2021 target was 0.75	A TRIR(1) of 0.73 in 2021

HEALTH

Target	Facts
Protecting the health of employees at work	**97%** of employees with specific occupational risks received regular medical monitoring in 2021(2)

(1) TRIR (Total Recordable Incident Rate): number of recorded incidents per million hours worked.

(2) Data provided by the WHRS.

Climate

Targets	Facts
2030 worldwide targets (Scope 1+2)	
– Reduce GHG emissions (**Scope 1+2**) of operated facilities from 46 Mt CO_2e in 2015 to less than 40 Mt CO_2e by 2025. By 2030, the target is a reduction of at least 40% of the net emissions(1) compared to 2015 for its operated activities, i.e., 25 to 30 Mt CO_2e	– A GHG emission reduction (Scope 1+2) of the operated facilities from 46 Mt CO_2e to **37 Mt CO_2e** excluding the COVID-19 effect(5) between 2015 and 2021
– Improve by an average of **1%** per year the **energy efficiency** of operated facilities since 2010	– **13%** improvement in energy efficiency between 2010 and 2021
– Reduce **methane emissions** from operated facilities by 50% between 2020 and 2025 and by 80% between 2020 and 2030.	– Methane emissions already reduced by **50%** between 2010 and 2020 and by 23% between 2020 and 2021
– Maintain the **intensity of methane emissions** at less than 0.1% of commercial gas produced at operated gas.	– A methane intensity of less than **0.1%** for operated gas facilities
– Reduce **routine flaring**(2) to less than 0.1 Mm^3/d by 2025, with the goal of eliminating it by 2030.	– More than **90%** reduction in routine flaring between 2010 and 2021
2030 worldwide targets (Scope 3)	
– Reduce **Scope 3**(3) GHG emissions related to its customers' use of energy products to less than 400 Mt CO_2e, which is a level lower than in 2015, despite the growth of its energy production in the coming decade;	– Scope 3 GHG emissions limited to **400 Mt CO_2e** excluding the COVID-19 effect(5) in 2021, below the 2015 level
– Reduce **Scope 3** GHG emissions from the petroleum products sold worldwide by more than 30% compared to 2015.	– A decrease of the Scope 3 GHG emissions from the petroleum products sold of **19%** excluding the COVID-19 effect(5) in 2021 compared to 2015
– Reduce the **average carbon intensity** of energy products used by customers by more than 20% compared to 2015. By 2025, the target reduction is at least 10% (**Scope 1+2+3**).	– A decrease of the lifecycle carbon intensity of **10%** excluding the COVID-19 effect(5) between 2015 and 2021
2030 Europe(4) targets	
– Reduce emissions from energy products throughout the value chain (from production to use by our customers) (**Scope 1+2+3**) by at least 30% compared to 2015.	– A decrease in GHG emissions (Scope 1+2+3) in Europe of **14%** excluding the COVID-19 effect(5) between 2015 and 2021
– Reduce **Scope 3** GHG emissions relating to customers' use of the energy products in Europe by at least 30% in absolute terms, relative to 2015	– A decrease in GHG emission (Scope 3) in Europe from 265 Mt CO_2e to **220 Mt CO_2e** excluding the COVID-19 effect between 2015 and 2021.

(1) The calculation of net emissions takes into account negative emissions from natural sinks like forests, regenerative agriculture and wetlands.

(2) Routine flaring, as defined by the working group of the Global Gas Flaring Reduction program within the framework of the World Bank's Zero Routine Flaring initiative.

(3) Indirect GHG emissions related to the use by customers of energy products (Scope 3).

(4) Europe refers to the European Union, Norway, the United Kingdom and Switzerland.

(5) Excluding COVID-19 effect, refer to 5.11.

Environment

TotalEnergies places the environment at the heart of its ambition of being a responsible company with a goal to improve the environmental performance of its facilities.

ENVIRONMENT MANAGEMENT SYSTEM

Target	Facts
Have the environment management systems of our sites important for the environment, certified to the ISO14001 standard	100% of our sites important for the environment certified to the ISO14001 standard

AIR

New Target	Facts
Decrease sulfur dioxide (SO_2) emissions into the air by **75%** between 2015 and 2030, a target that amounts to not exceeding 15 kt emitted in 2030	**64%** reduction in SO_2 emissions into the air, excluding COVID-19 and conjunctural events, compared to 2015

WATER

New Target	Facts
Reduce the freshwater withdrawal of the sites located in water stress area by 20% between 2021 and 2030	**4%** reduction of sites' freshwater withdrawal compared to 2020 and preparation of reduction plans in water stress area
Limit the hydrocarbon content of water discharges to below **30 mg/l** for offshore sites and to below **1 mg/l** for onshore and coastal sites by 2030	**92%** of the Company's oil sites met the target for the quality of offshore discharges in 2021 **80%** of the Company's oil sites met the new target for the quality of onshore discharges in 2021

WASTE

New Target	Facts
Recycle more than **70%** of the waste from Company-operated sites by 2030	**61%** of the waste produced by sites operated by the Company's subsidiaries was recycled in 2021

Biodiversity

Commitments	Facts
– Implement a net zero deforestation policy in new projects on new sites approved from 2022 onwards	
– Refrain from conducting oil and gas exploration or production operations in the area of natural sites listed on the UNESCO World Heritage List	– No oil and gas exploration or production activity in the area of natural sites listed on the UNESCO World Heritage List
– Refrain from conducting exploration in oil fields under sea ice in the Arctic	– No exploration activity in oil fields under sea ice in the Arctic
– Launch action plans in favor of biodiversity for projects located in protected areas(1)	– **Eight** biodiversity action plans deployed or in preparation in 2021 for projects located in protected areas(1)
– Deploy biodiversity action plans on existing sites which are important for the environment(2)	– **Five** biodiversity audits carried out on sites of environmental importance(2)
– Promote biodiversity and share biodiversity data of the Company	– **more than 1,600** employees made more aware of biodiversity within the framework of the *Action!* program – **more than 4,700** biodiversity datasets downloaded from the *Global Biodiversity Information* Facility (GBIF) database and some 15 citations in scientific publications

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(1) Sites located in an IUCN I to IV or Ramsar convention protected area.

(2) Production sites of Exploration-Production subsidiaries, refineries, petrochemical sites, gas-fired power plants.

Diversity

Targets	Facts
Women to account for **30%** of Executive Committee members and of the G70[1] by 2025	**25%** of Executive Committee members and **32%** of the G70 are women
Women to account for **30%** of Management Committee members in the business segments and large functional divisions by 2025 **30%** of the members of the Management Committees (headquarters and subsidiaries) by 2025	**31.7%** of Management Committee members in the business segments and large functional divisions are women and **25.4%** of Management Committee members (headquarters and subsidiaries) are women
Women to account for **30%** of senior executives by 2025 and **30%** of senior managers by 2025	**26.5%** of senior executives are women and **19.9%** of senior managers are women
Non-French nationals to account for **45%** of senior executives by 2025 and non-French nationals to account for **40%** of senior managers by 2025	**36.6%** of senior executives are non-French nationals and **33.8%** of senior managers are non-French nationals
Local managers to account for between **55%** and **75%** of Management Committee members in subsidiaries by 2025	**59.1%** of local managers are Management Committee members in subsidiaries

(1) Senior executives with the most important responsibilities.

1.6 Our investment policy

TotalEnergies' investment policy is designed to support the deployment of its strategy to transform into a multi-energy company and its ambition of achieving carbon neutrality (net zero emissions) by 2050. This policy is guided by two axes: discipline and selectivity in oil and gas investments, on the one hand, and strong investment growth in renewables & electricity, on the other hand.

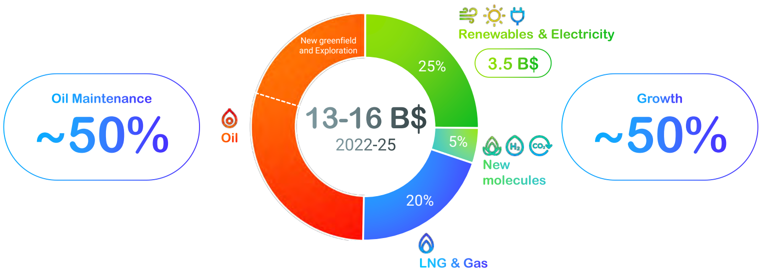
In 2021, in an environment that remained highly volatile, TotalEnergies maintained strong spending discipline and invested $13.3 billion, 25% of which was dedicated to renewables & electricity (including the acquisition of a 20% interest in the renewable projects developer in India, Adani Green Energy Limited, for $2 billion).

Between 2022 and 2025, TotalEnergies projects annual net investment totaling between $13 billion and $16 billion per year, according to the following guidelines:

- About half of the investments allocated to the growth of TotalEnergies' activities, mainly for:
  - investments in renewables & electricity, which will account for about one half of these growth investments, i.e, about 25% of the net investments of the Company. These investments will support TotalEnergies' transformation and expansion in the renewable energy market, both through the development of its electricity generation and distribution capacities and through the acquisition of positions in electric mobility in Europe;
  - investments in natural gas, mostly in LNG, which will account for about the other half of these growth investments. These investments will strengthen its production capacity and address new markets through liquefaction or regasification plant projects, while investing in the decarbonization of natural gas through biogas, biomethane and hydrogen;
  - investments in new molecules (biofuels, biogas, plastic recycling, bio-polymers, e-fuels and hydrogen) in the range of about 5% of the net investments of the Company, to increase production and sales.
- the other half of the investments allocated to maintaining the activities of the oil and gas chain, dedicated to the maintenance of existing assets and the development of projects allowing the maintenance of current production levels.

  These oil and natural gas investments will focus on low-cost, or low break-even, and low-emission upstream projects. In the downstream, TotalEnergies plans to continue to adapt its refining capacity and sales of petroleum products to the changing demand, particularly in Europe.
- in addition, TotalEnergies intends to continue to invest $100 million per year in natural carbon sink projects and $100 million per year in carbon capture and storage (CCS), including R&D programs aimed at developing negative emissions technologies.

GROWING INVESTMENTS TO BUILD THE MULTI-ENERGY COMPANY



1.6.1 Major investments over the period 2019-2021

Gross investments[1] *($M)*	2021	2020	2019
Integrated Gas, Renewables & Power	6,341	6,230	7,053
Exploration & Production	7,276	6,782	8,992
Refining & Chemicals	1,638	1,325	1,698
Marketing & Services	1,242	1,052	1,374
Corporate	92	145	120
TOTAL	**16,589**	**15,534**	**19,237**

Net investments[2] *($M)*	2021	2020	2019
Integrated Gas, Renewables & Power	4,506	4,903	6,180
Exploration & Production	6,523	6,063	8,649
Refining & Chemicals	1,285	1,155	1,382
Marketing & Services	923	900	1,131
Corporate	70	(32)	107
TOTAL	**13,307**	**12,989**	**17,449**

Net acquisitions[3] *($M)*	2021	2020	2019
Acquisitions	3,284	4,189	5,980
Assets sales	(2,652)	(1,539)	(1,939)
Other operations with non-controlling interests	–	–	11
TOTAL	**632**	**2,650**	**4,052**

Organic investments[4] *($M)*	2021	2020	2019
Integrated Gas, Renewables & Power	3,341	2,720	2,259
Exploration & Production	6,690	5,519	8,635
Refining & Chemicals	1,502	1,209	1,426
Marketing & Services	1,074	814	969
Corporate	68	77	108
TOTAL	**12,675**	**10,339**	**13,397**

Organic investments

In the Integrated Gas, Renewables & Power segment:

- in renewables & electricity, organic investments were mainly in the construction of solar and wind power plants by TotalEnergies Renewables International and TotalEnergies Renouvelables France, the Landivisiau gas-fired power plant (CCGT) project in France, which is expected to come on stream in the first half of 2022, and Saft Groupe's industrial activities;
- in LNG, organic investments focused mainly on developing LNG production projects that have started (Ichthys LNG in Australia and Yamal LNG – trains 1 to 4 – in Russia) or that are under construction (Arctic LNG 2 in Russia and Mozambique LNG in Mozambique), and liquefaction trains under construction, for which the final investment decision was taken recently (Nigeria LNG train 7 in Nigeria and ECA in Mexico);
- in biogas and hydrogen, TotalEnergies launched projects in 2021 to produce green hydrogen at the La Mède biorefinery in France, in partnership with Engie, and low-carbon hydrogen (as defined by European standards) in the Normandy industrial basin, using technologies such as CCS and electrolysis, in partnership with Air Liquide.

In the Exploration & Production segment, most of the organic investments were allocated to the development of new hydrocarbon production facilities, the maintenance of existing facilities, infill well projects for assets already in production and exploration activities. Development investments included in particular the Iara 2 project in Brazil that started up in 2020, the Zinia Phase 2 project in Angola that started up in May 2021, and the major projects under construction (Tilenga & Kingfisher in Uganda and the associated cross-border EACOP pipeline project in Uganda/Tanzania, Anchor in the United States, Mero 1, 2, 3 and 4 in Brazil, Johan Sverdrup 2 in Norway, the redevelopment of Tyra in Denmark, Absheron in Azerbaijan and Ikike in Nigeria).

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(1) Including acquisitions and increases in non-current loans. The main acquisitions for the 2019-2021 period are detailed in Note 2 to the Consolidated Financial Statements (point 8.7 of chapter 8).

(2) Net investments = organic investments + net acquisitions.

(3) Net acquisitions = acquisitions - assets sales - other operations with non-controlling interests.

(4) Organic investments = net investments excluding acquisitions, assets sales and other operations with non-controlling interests.

In the Refining & Chemicals segment, organic investments focused, on the one hand, on facility safety and maintenance and, on the other hand, on projects aimed at improving plant competitiveness, especially in Europe, such as Donges in France, where the Company is building a diesel desulfurization unit. They were also allocated to the continued development of petrochemical activities in Texas in the United States, as part of a joint-venture with Borealis, the construction of a polypropylene production unit on the Daesan integrated platform in South Korea, and the project to transform the Grandpuits refinery into a zero-crude platform, focused on new energies and low-carbon activities. This project is expected to represent an investment of more than €500 million by 2024.

In the Marketing & Services segment, organic investments concerned mainly the retail networks in growth regions in Africa, Asia, and the Americas, logistics and production and storage facilities for specialty products.

Acquisitions

In 2021, TotalEnergies' finalized acquisitions amounted to approximately $3.3 billion (compared to $4.2 billion in 2020 and $6.0 billion in 2019).

TotalEnergies accelerated its development in renewable energy with the acquisition of a 20% minority interest in Adani Green Energy Limited (AGEL) from the Adani Group, the acquisition of a 23% stake in a 640 MW offshore wind power project under construction in Taiwan, the acquisition of a 2.2 GW portfolio of solar and storage projects in Texas in the United States, and the acquisition of Fonroche Biogaz in France.

In Exploration & Production, TotalEnergies focused its acquisitions on low-cost, low-emission petroleum projects, culminating in 2021 with the increase of its interest in the Lapa block in Brazil by 10% and the acquisition of Repsol's interests in the Tin Fouyé Tabankort II field in Algeria. TotalEnergies also continued its growth in natural gas with the acquisition of 10% in Arctic Transshipment LLC, which is expected to operate two LNG transshipment terminals under construction in Russia.

Assets sales

TotalEnergies completed assets sales amounting to about $2.7 billion in 2021 (compared to $1.5 billion in 2020 and $1.9 billion in 2019). They included in particular:

- In the Integrated Gas, Renewables & Power segment, the payment by GIP Australia of more than $750 million as part of the tolling agreement for the infrastructure of the Gladstone LNG project in Australia, the sale of TotalEnergies' interest (9.67%) in the TBG pipeline in Brazil, the sale in France of a 50% interest in a portfolio of renewable energy projects with a total capacity of 285 MW (100%), as well as the sale of all of TotalEnergies' shares in Tellurian Inc. and a limited portion of TotalEnergies' shares in Clean Energy Fuels Corp. in the United States.
- In the Exploration & Production segment, the finalization of the sale of TotalEnergies' interests in 7 mature non-operated offshore fields, as well as its interests in the Cap Lopez oil terminal in Gabon, the sale of its 10% interest in the OML 17 onshore block in Nigeria and an earn-out related to the sale of Block CA1 in Brunei.
- In the downstream, the sale of the Lindsey refinery in the United Kingdom and the sale of a 30% interest in Société des Transports Pétroliers par Pipelines (Trapil) in France.

Net investment stood at $13.3 billion in 2021 (compared to $13.0 billion in 2020 and $17.4 billion in 2019).

1.6.2 Major planned investments

In line with its growth strategy in the Renewables & Electricity segment, TotalEnergies plans to pursue its development in renewables, with projects to build solar and wind (particularly offshore) power plants, led by TotalEnergies Renewables International and TotalEnergies Renouvelables France, along with the industrial activities of Saft Groupe.

In the first quarter of 2022, TotalEnergies thus secured an additional 2 GW of offshore wind projects with the award of a concession in Scotland as part of the Scotwind tender. The Company also announced the acquisition of SunPower's commercial and industrial solar operations in the United States and to have been named winner of a maritime lease area to develop an offshore windfarm of over 3 GW off New York and New Jersey on the US East Coast.

In LNG, TotalEnergies plans to focus its investments on major LNG production projects for which the final investment decision has already been taken (Nigeria LNG train 7 in Nigeria, ECA in Mexico and Arctic 2 in Russia).

In Exploration & Production, oil and gas development investments are expected to mainly be allocated to the Tilenga & Kingfisher projects in Uganda and the associated EACOP cross-border oil pipeline project in Uganda/Tanzania, as well as major ongoing development projects, for which the final investment decision has already been taken (Anchor in the United States, Mero 1, 2, 3 and 4 in Brazil, Johan Sverdrup 2 in Norway, the redevelopment of Tyra in Denmark, Absheron in Azerbaijan). In addition, more than $1 billion are expected to be spent on short-cycle development projects, including in Angola, Nigeria and the United States.

In downstream, a significant share of the Refining & Chemicals segment's investment budget is expected to be devoted to safety and maintenance at TotalEnergies' facilities, on the one hand, and to the continuation of its project to convert the Grandpuits refinery into a zero-crude platform, on the other hand. In addition, TotalEnergies expects to finalize its investments to develop its petrochemical activities in Texas in the United States through a joint-venture with Borealis.

Investments in the Marketing & Services segment are expected to be allocated mainly to the service stations network, logistics, production and storage facilities for specialty products (in particular lubricants) and new forms of energy for mobility. The major part of the segment's investment budget is expected to be allocated to TotalEnergies' operations, on new mobility solutions (electricity and gas) and new energies.

Finally, TotalEnergies plans to continue investing up to $100 million per year in natural carbon sink projects in various regions of the world and $100 million per year in CCS projects (this amount includes R&D programs aimed at developing negative emission technologies), particularly in the North Sea.

1.6.3 Financing mechanisms

TotalEnergies self-finances most of its investments with cash flow from operating activities and may occasionally access the bond market when financial market conditions are favorable. Certain subsidiaries or specific projects may be financed through external financing, notably in the case of joint-ventures. These include Ichthys LNG in Australia, Satorp in Saudi Arabia, Yamal LNG and Arctic LNG 2 in Russia, Mozambique LNG in Mozambique, Cameron LNG in the United States and Hanwha Total Petrochemical in South Korea.

As part of certain project financing arrangements, TotalEnergies SE has provided guarantees. These guarantees ("Guarantees given on borrowings") as well as other information on TotalEnergies' off-balance sheet commitments and contractual obligations appear in Note 13 to the Consolidated Financial Statements (refer to point 8.7 of chapter 8). TotalEnergies believes that neither these guarantees nor the other off-balance sheet commitments of TotalEnergies SE or any other company of the Company have, or could reasonably have in the future, a material effect on TotalEnergies' financial position, income and expenses, liquidity, investments or financial resources.

1.7 Innovation for the transformation of TotalEnergies

1.7.1 OneTech, engine of the transformation

The creation of OneTech on September 1, 2021 is the signal of an unprecedented mobilization of human energy to meet TotalEnergies' new challenges. The new branch OneTech brings together the Company's technical and scientific expertise. There are 3,400 engineers, technicians, and researchers to meet these new challenges.

The Company's industrial success and technological advances have always been driven by the teams' pioneer spirit and performance-minded attitude, as well as by their technical and scientific competencies, which are widely recognized by our peers and partners. This is a major competitive advantage. OneTech builds on that foundation by leveraging the expertise of our employees. They are the key to TotalEnergies' successful transformation into a major player in the energy transition.

There are three hubs: an Industrial hub, a Research & Development hub and a Support Functions hub. The teams are based in France, Belgium, Denmark and in international R&D hubs.

The Industrial Hub consists of:

- The Customer Lines Division which is the entry point for business units and local business units, including sites and subsidiaries. It is organized in 6 groups, each dealing with a certain type of industrial assets, namely: Conventional Onshore, Deep Offshore, Onshore Upstream, Onshore Downstream, Gas & LNG and Power. In addition, a seventh Customer Line is dedicated exclusively to CO_2 (monitoring and reduction of CO_2 emissions on industrial sites, including CCS). This Division is responsible for coordinating development studies with the help of the resources of the Technical Lines Division.
- The Technical Lines Division, which includes the areas of expertise, is the core of the technical and industrial know-how. It brings together in combined teams under one organization, all the specialists of the same technical field originating from different entities or branches. This will promote cross-fertilization across the Company's sites worldwide, by sharing experience, best practices, innovative solutions and common knowledge and know-how.

The organization of the Research & Development Hub is described in 1.7.2.

OneTech FOCUSES ON SIX OBJECTIVES

Adapting to the Company's new industrial activities

The objective of OneTech is to adapt the know-how together with the engineering and technical experience that we have acquired in our current activities to support the development of our new industrial initiatives. In the past, the Company's engineering teams were organized around its oil and gas exploration, production, refining and chemical businesses. The Company wants to ensure that new activities such as wind, solar, hydrogen, biogas, and carbon capture benefit from the same level of technical and technological expertise and make the most of the Company's experience to design their activities from an industrial point of view. At the same time, we need to continue to deliver on our oil and gas business objectives which include reducing our carbon footprint, building sustainable, low-cost projects, and ensuring the safe and timely delivery of our projects and operations. It is therefore a question of accompanying the growth of the Gas Renewables and Powers segment, while continuing to support its existing activities.

Nurturing, retaining, and attracting talent

OneTech will make it easier to nurture, retain and attract talent, both in-house and externally.

OneTech will be in a position to build the future of TotalEnergies and ensure that the Company has the technical and technological know-how it needs in the short, medium and long terms – in line with the Company's strategy – by serving as an entry point for new recruits. This organization has a two-fold benefit: attracting talent wanting to work on the industrial aspect of new energies via the OneTech Industrial hub, and talent whose focus is to work on fast-tracking the new technologies related to these new energies via the OneTech R&D hub. OneTech is an opportunity for the Company to be more attractive to new talent by proposing promising broad energy technical career paths that offer greater visibility in a changing energy environment. The oil & gas industry is losing its appeal among the younger generations, in Europe in particular.

OneTech will offer long-term career paths in all of the Company's activities, including in the booming new energies sector, as well as in refining, petrochemicals, and E&P, which give them a chance to contribute to unique industrial projects in terms of their size, challenges, and complexity in addition to expatriation opportunities. Both current and new employees will benefit from a broad energy experience with exposure to and an understanding of all the energy sectors in which TotalEnergies will invest. OneTech will create attractive multi-energy career paths thanks to the support provided to all of the Company's business units, but also by moving through back and forth between the operational entities and industrial sites.

OneTech enables the Company to support and accompany its employees in their careers to help them smoothly adapt to its transition from an oil & gas company to a broad energy company. A single organization would ensure that employees are more easily and efficiently introduced to new technical professions. OneTech will be able to anticipate the pace of change in the mix of expertise required as the Company evolves and will offer its employees in the oil & gas domain the opportunity to acquire the knowledge and skills needed to work in the Company's new areas of activity, in particular, by running programs to broaden the teams' skills: on-the-job training, courses, technical and scientific workshops.

Encouraging and fast-tracking innovation for today and tomorrow's activities

OneTech will focus especially on fostering innovation and anticipating game-changing technologies in its activities so as to adapt to new global challenges and accelerate the development of the Company's strategy.

By integrating the technical teams of different entities into an Industrial hub and an R&D hub within the same organization, the R&D teams are constantly aware of the technological challenges faced by the Industrial hub, and R&D solutions can be more readily tested, adapted and incorporated into our industrial designs

Likewise, by combining several strong industrial teams, it will be possible to apply the innovative solutions tested on one type of industrial site to others, even across different business units. For example, OneTech will offer an overview of all the digital innovations that have brought tangible results in terms of cost, efficiency, and carbon emissions on specific industrial sites, and will be able to accelerate the application of these solutions across all the Company's industrial sites. The OneTech teams could take initiatives across the different business units to always put that innovation and digital (accelerated by the digital factory described in 1.7.3) technologies at the heart of progress.

Mobilizing technical resources on the most strategic subjects and with a higher added value

OneTech will serve to mobilize resources and technical competencies on the most strategic subjects and with a higher added value, making sure that the organizations in place make them their priority focus.

OneTech will offer a granular vision of all the Company's industrial activities through a joint management committee with all the industrial activities. This organization will make it easier to determine business unit and Company priorities and decide on the allocation of resources.

There is currently a wide range of high added value technical competencies that can be applied to several industrial sectors. These competencies can be rapidly mobilized and demobilized to support the most strategic and pressing industrial challenges while ensuring that they are used on projects where they have the greatest impact.

Providing solutions to reduce the carbon footprint of all industrial assets and operations

TotalEnergies' ambition to achieve carbon neutrality by 2050 requires developing and implementing technical solutions to reduce the carbon footprint. OneTech has created an entity that will be the entry point entry of all projects aiming at reducing the carbon footprint of the Company's assets. The objective will be to evaluate, develop and promote efficient solutions to reduce the carbon footprint of industrial assets and operations and thereby provide the local business units with a wider and more comprehensive range of solutions to help them nurture and mature these projects, better understand the stakes involved, offer them innovative concepts and lastly, carry these subjects forward to investment approval stages. The entity will ensure these solutions are implemented on the Company's different industrial assets, and that feedback from their first use is taken on board.

Improving the efficiency of interactions between all the Company's entities but also with external stakeholders

OneTech will help improve the efficiency of interactions between the industrial and other central functions by improving cooperation between the central technical entities and other headquarter organizations such as TGP, OneHSE, the Digital Factory, and with external stakeholders.

Several of the Company's central functions have already been merged into entities common to all the business units such as procurement and purchasing activities with TGP, Health, Safety & the Environment with OneHSE, and the development of digital technologies with the Digital Factory. Creating a single OneTech central entity for technical support to industrial assets and for R&D will streamline interactions with these entities by making it easier to identify the right people to contact and optimizing the sharing of information and objectives.

This new organization will also offer greater clarity to external stakeholders, with the technical contact on each subject for the entire Company being clearly identified. This will be the case in particular in relationships with our suppliers, through the implementation of OneTech/TGP contact duets (technical/contractual contacts) common to all the business units and carrying One Voice to the market.

1.7.2 R&D at the heart of our strategy

OneTech's Research & Development Hub brings together all the Company's R&D in one entity. This organization allows for the acceleration of the development of industrial solutions, products, and services, which more than ever involve and benefit several of the Company's activities and business units.

Based on the various scenarios studied by TotalEnergies, the goal of achieving carbon neutrality (net zero emissions) by 2050 entails more than large-scale deployment of proven technologies such as photovoltaic solar power, wind power and biofuels. It also requires technological game-changers and the development of completely new industrial value chains, such as hydrogen, synthetic fuels, and carbon capture and storage.

The transformation of TotalEnergies into a multi-energy company calls for agile R&D that is firmly committed to innovation. At the heart of the strategy, R&D is focusing on its teams and partners who specialize in the electricity and renewables value chain, and technology for shrinking our environmental footprint. The research projects are defined by the principles that underpin the growth strategy and the Company's ambition of carbon neutrality.

These R&D programs are organized around five lines:

- the "Power" R&D line covers renewable energies, their hybridization and their distributed operation, for example by supplying the network from the batteries of electric vehicles. The challenge is to reduce the production costs of low-carbon energy, decarbonize assets and offer new processes and services;
- the "CO_2 & Sustainability" R&D line develops innovative and competitive technologies by focusing on increasingly sustainable solutions. This research concerns the capture and the use of CO_2, for sustainable synthetic fuels and the storage of CO_2, as well as the development of low environmental footprint technologies for the entire low-carbon liquefied natural gas chain, biogas and hydrogen sector. Work undertaken on quantifying greenhouse gas emissions, water and soil management is also contributing to the development of low-carbon technologies;
- the “Upstream” R&D line aims to improve the operational efficiency of exploration and production activities, both in terms of reducing greenhouse gas emissions and cutting costs to ensure a low break-even point and a smaller carbon footprint;
- the “Downstream Processes & Polymers” R&D line supervises and operates research on polymer recycling, the development of new-generation biofuels and process electrification;
- the “Fuels & Lubricants” R&D line is supporting the transformation of the world of transport and new forms of mobility, developing products to increase the performance of electrical systems and gas engines and to reduce the environmental footprint of existing solutions.

In addition to TotalEnergies’ five R&D lines, some subsidiaries conduct R&D centered on their own businesses. At Hutchinson, for example, research activities focus on three main issues connected with mobility of the future: weight reduction and energy efficiency, electrification, and smart objects. Saft Groupe is conducting research into more safe and more efficient batteries, particularly in the field of mobility and renewable energy storage, using artificial intelligence and big data, and developing solid-state batteries, safer for electric mobility.

R&D is also investigating forward-looking topics with the aim of evaluating the potential of emerging technologies for the Company’s businesses.

With an R&D workforce of more than 4,000 employees, the Company invested $849 million in R&D in 2021 (versus $895 million in 2020 and $968 million in 2019). Including developments in digital technology (described in 1.7.3) and industrial projects for CO_2 capture and storage, and including investments made by Total Carbon Neutrality Ventures (TotalEnergies' venture capital fund dedicated entirely to carbon neutrality activities, with cumulative investments expected to reach $400 million by 2023), the Company's investment to prepare for the future amounted to $1.1 billion.

TotalEnergies carries out its R&D projects with an open innovation approach, drawing on its talent pool, research infrastructure, pilot sites and R&D centers worldwide, as well as start-ups and top-ranked academic partners. TotalEnergies operates 18 R&D centers across the globe, and has signed about 1,000 agreements with its partners.

In addition, the Company implements an active intellectual property policy to protect its innovations, maximize their use and differentiate its technology. In 2021, the Company filed more than 200 patent applications.

1.7.3 Digital acceleration as a performance lever

In early 2020, TotalEnergies opened a digital factory in Paris that brings together 300 developers, data scientists and other experts, to accelerate the Company’s digital transformation. TotalEnergies’ goal is to leverage the capabilities of digital tools to create value in all of its businesses.

The Digital Factory is tasked with developing the digital solutions the Company needs to improve its operations in terms of both availability and cost, offer new services to customers, particularly in management and control of energy use, extend its reach to new distributed energies and reduce its environmental impact. Its ambition is to generate as much as $1.5 billion in value per year for the company by 2025 through additional revenue and reductions in operating or investment expenses.

1.8 Our strengths

1.8.1 Our employees

OUR EMPLOYEES' COMMITMENT AND GROWTH ARE KEY TO OUR SUCCESS

It is thanks to the commitment of its workforce that the Company can rise to the challenges it faces. Therefore, TotalEnergies strives to uphold the strictest standards of safety, ethics and integrity, management and social performance wherever its subsidiaries operate. The goal of that policy is to create an environment in which every employee can reach his or her potential and TotalEnergies can continue to pursue its growth and transformation.

TotalEnergies maintains a dialogue with the Company's employees and their representatives, who have a privileged position and role, particularly in discussions with management teams. Workplace dialogue is one of the pillars of the company project. In order to associate the employees to the major challenges of the Company, the expectations of employees are regularly listened to and discussed. Examples include the TotalEnergies Survey, which compiles the views and suggestions for improvement of tens of thousands of employees every two years. Employees are involved, through participative approaches, in discussions of the construction of the Company project undertaken since 2016 and in significant Human Resources projects.

In 2019, the Company launched "Better Together", the human part of its Company project, in response to employees' expectations and in order to raise the Company's human ambitions to the same height as its business ambition. This project has three ambitions: to develop the talents of every employee, to promote the coaching dimension of managers and to build a company where it is a good place to work. These ambitions have been translated into concrete projects, in order to quickly anchor the changes in the daily lives of employees. More than 400 talent developers have been trained and are actively assisting individual employees in their professional development by offering personalized support. Job mobility is now an internal recruitment process that allows employees to apply for available positions in complete transparency. More than 10,000 vacancies were published in 2021. Functional, geographic mobility and lifelong training are essential levers in order to develop everyone's skills and employability and meet business challenges. Actions to develop the managerial culture have also been taken to empower managers in their role as manager-coaches, to support team development and to improve collective performance.

New programs were launched in 2021 to ensure a just transition and to provide employees with the support they will need at every stage of the Company's transformation to new energies and a new Transforming with our people program was announced at the end of 2021. This program includes not only the implementation of listening, informing and training measures, but also an upskilling and reskilling initiative, and the implementation of a skills map in order to build bridges between current jobs and the jobs of Renewables & Electricity, and to target key skills.

A CULTURE OF DIVERSITY

The Company is an image of its employees: diverse. The diversity of talents within TotalEnergies is crucial to its competitiveness, innovative capacity and attractiveness. Diversity in all its forms is promoted at the highest level, and in particular by the Company Diversity Council, which is chaired by a member of the Executive Committee.

By drawing on this culture of diversity, TotalEnergies can seek out the best talent, regardless of career background, wherever it may be. As a result, with nearly 160 nationalities represented in its workforce, a presence in over 130 countries and more than 740 professional skills, the Company boasts genuine human potential.

Such diversity is an essential asset for the Company. The variety of opinions and career paths yield both innovative solutions and new opportunities. Thanks to its motivated, enterprising workforce, the Company can carry out ambitious projects and provide every employee with the opportunity to give meaning to their work and find professional fulfillment. To maintain the momentum generated by successive diversity roadmaps, the Company has set new objectives for 2025 that bear on two priority concerns: gender balance and international diversity. The Company is targeting the same level of female representation for its highest executive bodies and other governing bodies and leadership positions, with women comprising:

- 30% of the members of the Executive Committee (25% in 2021);
- 30% of the G70(1) (32% in 2021);
- 30% of the members of the Management Committee in each business segment and the large functional divisions (31.7% in 2021);
- 30% of senior executives (26.5% in 2021);
- 30% of the members of the Management Committee (headquarters and subsidiaries) (25.4% in 2021);
- 30% of senior managers (19.9% in 2021).

Under the targets set for international diversity by 2025, non-French nationals are expected to comprise:

- 45% of senior executives (36.6% in 2021);
- 55% to 75% of local managers on Management Committees in subsidiaries (59.1% in 2021);
- 40% of senior managers (33.8% in 2021).

The Company has a long-standing commitment to promoting equal opportunity and diversity, which constitute, for everyone, a source of development where only expertise and talent count. In 2018, the Company decided to adhere to the Global Business and Disability Network Charter of the International Labor Organization (ILO) and is gradually implementing these principles in its subsidiaries. In 2021, more than 5,400 employees took part in community support projects as part of the *Action!* program.

1.8.2 Our integrated multi-energy model

TotalEnergies' model of value creation is based on integration across the energy value chain, from exploration and production of oil, gas and electricity to energy distribution to the end customer, and including refining, liquefaction, petrochemicals, trading, and energy transportation and storage.

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(1) Senior executives with the most important responsibilities. Together with the Executive Committee, they form part of the Company's management bodies within the meaning of point 7.1 of the AFEP-MEDEF Code.

This integrated business model enables the Company to capitalize on synergies among the various businesses while responding to volatility infeed stock prices. Thanks to this business model, the Company's Upstream activities, which are more dependent on the price of oil, can complement its Downstream activities, which – at the bottom of the cycle – enable the Company to generate value-added untapped by the Upstream part of the business. With this integration of its operations across the entire value chain, the Company can manage the bottom of the cycle more effectively and capture margins when the market improves.

TotalEnergies is applying this integrated model to the new electricity and renewables businesses in which the Company has staked out a position in recent years. The Company can leverage those businesses with the know-how and resources inherent in its business model, including a global brand and presence, technical expertise (e.g., in offshore operations and trading) and partnerships with governments and local communities.

Accelerating growth in electricity and renewables will strengthen TotalEnergies' model of value creation by providing more predictable cash flows while offering the prospect of long-term gains and diversifying the Company's geographical risk profile. That transition will cement the durability and resilience of TotalEnergies' value creation model and bolster its ambition of getting to Net Zero (net zero emission).

1.8.3 Our operational excellence

Energy is an industrial sector that demands state-of-the-art know-how and complex facilities that are both flexible and reliable.

ACKNOWLEDGED TECHNICAL EXPERTISE

Thanks to the technical expertise wielded by the Company's men and women and their ability to manage large-scale projects, TotalEnergies has been able to forge trust-based partnerships with the world's primary producing countries and global consumers. The Company's expertise allows it to provide convincing support to its customers and partners in even the most demanding fields, such as liquefied natural gas (LNG), electricity, offshore wind power and renewables, deep offshore, refining and petrochemicals, where the Company has developed platforms that are among the industry's top performers.

HIGH-PERFORMANCE INDUSTRIAL ASSETS

TotalEnergies boasts streamlined, high-performance industrial assets that ensure its resilience in its traditional businesses. Moreover, the flexibility of those assets allows the Company to adapt to changing markets. TotalEnergies is one of the world's top ten integrated producers(1). Its refining and petrochemicals operations are structured around six major integrated complexes (Port Arthur in the United States, Normandy and Antwerp in Europe, Jubail and Qatar in the Middle East and Daesan in South Korea), which provide opportunities for synergies and enhance value creation between those two businesses. The Antwerp facility is the Company's largest refining and petrochemicals complex in Europe.

To meet a growing global demand and respond to market trends, the Company has upgraded and adapted its sites to focus production on higher-value-added products that meet the most stringent environmental standards. TotalEnergies has also invested in making its petrochemicals sites more flexible so they can use the most advantageous feedstocks. Most of those sites can now process both naphtha and ethane, to ensure a reliable, cost-competitive supply.

The La Mède biorefinery, the first world-class facility of its type in France and one of the largest in Europe(2), aims to meet the growing demand for biofuels. Operational as of July 2019, it has a capacity of 500,000 tons of HVO-type(3) biodiesel per year. The HVO technology the Company has selected is French, developed by IFP Énergies nouvelles and marketed by its Axens subsidiary. It produces a sustainable, premium biofuel similar to fossil fuels that can be blended into regular fuels in any proportion and has no adverse effect on engines.

TotalEnergies is ramping up its renewable electricity generation capacity – solar, wind and hydro – to satisfy the surge in electric power needs responsibly.

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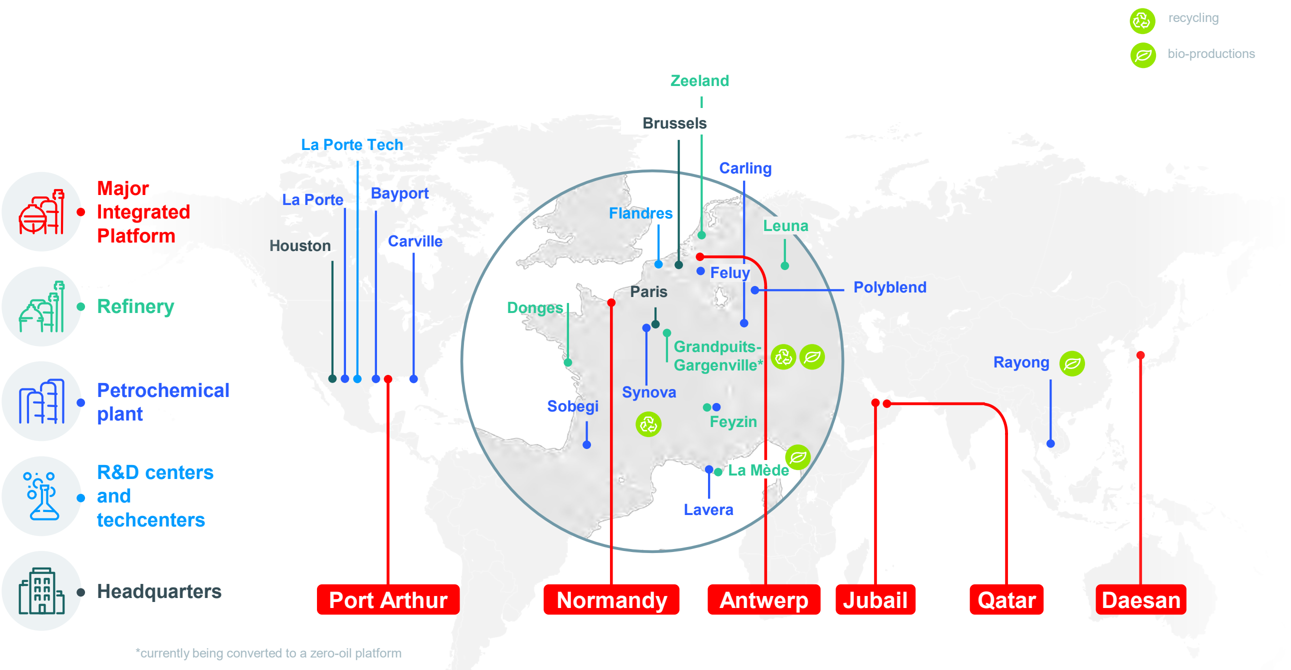
(1) Based on publicly available information, production capacity at year-end 2019 (refer to point 2.4 of chapter 2).

(2) TotalEnergies data based on production capacity.

(3) Hydrotreated vegetable oil.

Main sites of Refining & Chemicals at year-end 2021



*currently being converted to a zero-oil platform

As part of its strategy to support its Climate ambition to get to carbon neutrality (net zero emissions) by 2050, TotalEnergies plans to convert its refinery in Grandpuits, France, into a zero-crude platform. By 2024, following an investment totaling more than €500 million, the complex will focus on four new industrial activities: production of renewable diesel primarily for the aviation industry, production of bioplastics, plastics recycling and operation of two photovoltaic solar power plants.

Moreover, the Company is moving ahead with projects to convert its deep offshore oil production complexes into offshore wind power platforms, a strategy that is wholly aligned with its goal of profitable growth in Renewables & Electricity.

TotalEnergies can also take specific steps to support the conversion of its industrial sites through additional projects that can be conducted at the same time:

- a forward-looking project, led by the relevant segment based on an analysis of market trends, with the goal of modifying a given site's industrial infrastructure in order to restore a long-term competitiveness;
- a Voluntary Agreement for Economic and Social Development (CVDES), implemented to support the site and its ecosystem (subcontractors, stakeholders, etc.) during this period of change.

1.8.4 A global footprint, with local roots

A GLOBAL PRESENCE

TotalEnergies has an industrial and retail presence in more than 130 countries spanning five continents. Three regions in particular are the long-standing cornerstones of TotalEnergies' strategy: Europe, the Company's decision-making center; the Middle East, where TotalEnergies is recognized as a preferred partner among producing countries and national companies; and Africa, with its substantial oil and gas production and Company-branded service stations.

That global footprint yields the benefits that accrue from economies of scale for the Company's industrial, marketing and retail operations, and also ensures a detailed knowledge of end markets, giving TotalEnergies a competitive advantage in addressing the manifold needs of its customers worldwide.

CUSTOMER PROXIMITY ACROSS THE WORLD

To cement its strong bond with its customers – both businesses and consumers – the Company strives to focus on close, effective and direct customer relationships. Beyond its sales of products and services, TotalEnergies aims to draw on its retail networks to make its Company-branded service stations "true community hubs," with a comprehensive array of services for users that encompass every form of energy and respect the environment.

In its Renewables & Electricity businesses, TotalEnergies intends to become integrated across the entire value chain and develop direct, personalized relationships with business and residential customers alike through the use of digital technology.

TotalEnergies is recognized for its know-how in customer service. In 2021, TotalEnergies' Consumer Services division won the "Best Customer Service of the year 2021" award, for the thirteenth year in a row, in the category Services to motorists(1). TotalEnergies Electricité et Gaz France finished on the podium of multi award-winners brands in the field of Customer Experience in 2021: The Customer Excellence Award (3rd consecutive year), the Customer Relationship Podium (4th consecutive year), the Qualiweb Award for the best online customer relationship (4th year) and the CX Award for Data and personalization.

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(1) Category Services to motorists - BVA study. Viséo CI.

With all these awards, TotalEnergies is the most awarded company and received the symbolic “2021 Awards Prize” for the company with the most awards and distinctions in the field of customer relations during the year.

SUSTAINABLE VALUE CREATION ALONGSIDE REGIONS AND COMMUNITIES

TotalEnergies’ success in building and expanding partnerships worldwide can also be attributed to its strategy of generating value at the local level as part of its growth model. That commitment – carried out systematically and professionally – is a major competitive asset. Whether they target continued growth in LNG or renewable electricity generation, the partnerships with governments and local communities serve a critical function.

The Company maintains a comprehensive, integrated policy, rooted in dialogue with communities and public and private stakeholders, for supporting local growth and in-country value. It forges synergies among the various sources of value generation for host countries (employment, subcontracting, infrastructure, support for local industry, socioeconomic development projects, education, energy access, etc.) by capitalizing on the Company’s industrial expertise. TotalEnergies intends to maintain this approach over the long term to ensure that its presence in these regions and the major projects it develops create shared prosperity.

THE ABILITY TO COPE WITH GEOPOLITICAL UNCERTAINTY

In the face of political and geopolitical uncertainty, including tensions sparked by war and conflict, TotalEnergies intends to conduct its operations by leveraging its skills and expertise to benefit each host country, in compliance with applicable legislation and all international economic sanctions that may be in effect. The Company also ensures that the amount of capital invested in the most sensitive countries remains at a level that limits its exposure in each country.

1.8.5 An ongoing dialogue with our stakeholders

In TotalEnergies’ view, dialogue with its internal and external stakeholders is essential for the Company to conduct its business responsibly and integrate the long-term challenges of sustainable development in its strategy and policies. This dialogue contributes to the identification of the main risks and impacts of the Company's activities, and more broadly to a better understanding of changing trends and the main societal expectations of each of the major categories of stakeholders. It is also a prerequisite to ensuring that the Company is firmly integrated in its host regions, as well as an effective tool for identifying ways to generate value at the local level.

TotalEnergies believes that transparency is an essential principle of action in building a trust-based relationship with its stakeholders and ensuring that the Company is on a path of continuous improvement.

Pending the adoption of an international, standardized non-financial reporting framework, TotalEnergies is making every effort to report its performance on the basis of the various commonly used ESG reporting frameworks. As such, TotalEnergies refers to the Global Reporting Initiative (GRI) standards and those of the Sustainability Accounting Standards Board (SASB), for which detailed tables of correspondence are available on the TotalEnergies website. TotalEnergies’ also includes in its reporting the World Economic Forum’s core indicators(1) (refer to chapter 11). Furthermore, it also follows the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD) for its climate reporting.

Wanting to provide the performance indicators to its stakeholders, TotalEnergies publishes additional information on its website on the pages devoted to its sustainable development approach.

For more than 15 years, TotalEnergies has structured its dialogue processes with its stakeholders at different levels of the company, through relays within the organization, requirements included in internal reference frameworks, the deployment of a methodology for conducting local dialogue and a dedicated attention to the professionalization of the teams responsible for fostering that dialogue.

Those measures are designed to develop a long-term, trust-based relationship founded on principles of respect, attentiveness, constructive dialogue, proactive engagement and transparency, consistent with the legitimate need for confidentiality as appropriate. They also ensure that stakeholder warnings or grievances can be gathered and addressed quickly and that potential controversial situations are defused.

Each group of stakeholders (employees, employee representatives, customers, investors, shareholders and the financial sector, government officials, suppliers, academics, NGOs and civil society, and the media) has a single point of contact at the corporate level, responsible for responding to their requests, keeping them informed and maintaining an ongoing dialogue in formats appropriate to each concern.

Moreover, the director of each of these points of contact sits on the Company’s CSR coordination committee, which meets at least twice a year. At each session, the committee devotes a portion of its agenda to either discuss concerns expressed by stakeholders or to meet with one or more external stakeholders.

Those stakeholder liaisons also provide advice and support to Company subsidiaries as needed. The One MAESTRO framework provides that subsidiaries should conduct a stakeholder mapping and engage in a structured, ongoing process of dialogue with stakeholders to keep them informed, hear and address their concerns and expectations, report on mitigation actions or compensation, measure their satisfaction and identify ways the subsidiaries can improve their community outreach. This commitment to local dialogue puts special emphasis on residents and communities located near Company facilities.

To help guide TotalEnergies’ transformation into a multi-energy company and, more broadly, offer concrete evidence that the Company is fully engaged in the challenges facing society, TotalEnergies intends to pursue these initiatives and launch further projects in 2022 to create an even more strategic and proactive process of stakeholder relations.

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(1) Measuring Stakeholder Capitalism: Towards Common Metrics and Consistent Reporting of Sustainable Value Creation, white paper, September 2020.

1.9 Our governance

1.9.1 A fully committed Board of Directors

A MOBILIZED BOARD OF DIRECTORS SERVING THE COMPANY'S AMBITION

The Board of Directors defines TotalEnergies' strategic vision and supervises its implementation in accordance with the corporate interest of the Corporation, by taking into consideration the social and environmental challenges of its business activities.

It approves investments or divestments for amounts greater than 3% of shareholders' equity and it is informed of those greater than 1%. The Board may address any issue related to the Company's operations. It monitors the management of both financial and non-financial matters and ensures the quality of the information provided to shareholders and financial markets.

The Board of Directors is assisted by the four committees it has created: the Audit Committee, the Governance and Ethics Committee, the Compensation Committee, and the Strategy & CSR Committee. The duties of the Board of Directors and of the Committees are described in point 4.1.2 of chapter 4.

The composition of the Board of Directors (14 directors including 9 independent members as of March 16, 2022) reflects the diversity and complementary of experience, skills, nationalities and cultures that are critical to addressing the interests of all of the Company's shareholders and stakeholders.

Composition as of March 16, 2022

14	**1**	**82%**	**5.2 years**	**45.5%**	**5**
directors	Lead Independent Director	Independent directors[a]	Average years of service on the Board	of women [b]	nationalities represented

(a) Excluding the director representing employee shareholders and the directors representing employees, in accordance with the recommendations of the AFEP-MEDEF Code (point 9.3). For more information, refer to point 4.1.1.4 in chapter 4.

(b) Excluding the directors representing employees in accordance with Article L. 225-27-1 of the French Commercial Code and the director representing employee shareholders in accordance with Articles L. 225-23 and L. 22-10-5 of the French Commercial Code.

Complementary skills to meet strategic challenges of the Company

The Governance and Ethics Committee conducts its work within the framework of a formal procedure so as to ensure that the directors' skills are complementary and their backgrounds are diverse, to maintain an overall proportion of independent members that is appropriate to the Corporation's governance structure and shareholder base, to allow for a balanced representation of women and men on the Board, and to promote an appropriate representation of directors of different nationalities. These principles underpin the selection process for directors.

As part of a process undertaken for several years, the composition of the Board of Directors has changed significantly since 2010 to achieve better gender balance and an openness to more international profiles.

Skills of the directors

	Patrick Pouyanné	Jacques Aschenbroich	Patricia Barbizet	Marie-Christine Coisne-Roquette	Jérôme Contamine	Lise Croteau	Mark Cutifani	Valérie Della Puppa Tibi	Romain Garcia-Ivaldi	Glenn Hubbard	Maria van der Hoeven	Anne-Marie Idrac	Jean Lemierre	Angel Pobo	Total	Total (%)
Corporate management	✓	✓	✓	✓	✓	✓	✓					✓	✓		9	64%
International	✓		✓	✓	✓	✓	✓			✓	✓		✓		9	64%
Finance, accounting, economics	✓	✓	✓	✓	✓	✓			✓	✓			✓		9	64%
Risk management			✓		✓	✓					✓		✓		5	35%
Governance	✓		✓	✓	✓		✓	✓		✓	✓	✓	✓		10	71%
Climate - sustainable development	✓	✓		✓		✓	✓			✓	✓	✓	✓		9	64%
Industry	✓	✓		✓	✓	✓	✓	✓	✓						8	57%
Energy	✓			✓	✓	✓		✓	✓		✓			✓	8	57%
Public affairs, geopolitics	✓	✓		✓			✓			✓	✓	✓	✓		8	57%

The competence of directors are detailed in points 4.1.1.1 and 4.1.1.5 of chapter 4.

A Board committed to meeting the Company's strategic priorities, with dedicated and involved directors

9
Board meetings
99.2% attendance

1
executive session chaired by the Lead Independent Director

7
meetings of the Audit Committee
100% attendance

4
meetings of the Governance and Ethics Committee
100% attendance

3
meetings of the Compensation Committee
100% attendance

4
meetings of the Strategy & CSR Committee
100% attendance

Main activities of the Board of Directors in 2021

Major investments

- Information regarding the acquisition of Fonroche Biogaz
- Information regarding the acquisition of a portfolio of 2.2 GW of solar projects and 600 MW of battery storage projects, located in Texas
- Information on the Mero 4 project in Brazil
- Approval of the integrated gas project in Iraq
- Approval of the investment project for the Atapu and Sépia fields in Brazil

Audit/Risks

- Update on the 2020 internal audit and 2021 audit plan
- Presentation of the transition plan for the joint statutory auditors
- Presentation of ESG issues, particularly in terms of reporting and the expectations of the market authorities
- Presentation of the work of the TotalEnergies Risk Management Committee

Strategy – CSR

- The Company's 5-year plan
- Shareholder return policy
- TotalEnergies's ambition and Say on Climate resolution: report to the Shareholders' Meeting on the Corporation's ambition in terms of sustainable development and the energy transition towards carbon neutrality and its related targets by 2030, in the context of the say on climate resolution presented to the Meeting
- Strategic seminar on climate challenges and their consequences on the Company's strategy
- Update on the climate and ESG training program for directors
- The Corporation's policy on gender equality and pay equity
- Ethics and Compliance Policy and review of ethics and compliance activities in the Company

Governance

- Change of corporate name to anchor the Company's transformation strategy into a multi-energy company
- Proposal for appointments and reappointments of directorships
- Maintenance of the unified management form
- Renewal of the mandates of the Chairman and the Chief Executive Officer
- Succession plan

Compensation

- Determination of the compensation for the Chairman and Chief Executive Officer and directors for the 2020 fiscal year
- Compensation policy for the Chairman and Chief Executive Officer and directors for the 2021 fiscal year
- 2021 performance share plan, including a new criterion linked to GHG emissions (Scope 3(1)) in Europe
- 2021 share capital increase reserved for employees

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(1) GHG Protocol - Category 11.

A UNIFIED MANAGEMENT STRUCTURE, TAILORED TO THE COMPANY'S REQUIREMENTS

Mr. Patrick Pouyanné has been Chairman and Chief Executive Officer of TotalEnergies since December 19, 2015. His terms of office as Chairman of the Board of Directors and of Chief Executive Officer were renewed for the duration of his term of office as director, *i.e.,* until the Shareholders' Meeting called to approve in 2024 the financial statements for the 2023 fiscal year.

At its meeting on March 17, 2021, the Board of Directors decided on the proposal of the Governance and Ethics Committee to keep a unified management structure of Chairman and Chief Executive Officer, in the best interests of the Corporation.

This management form of the Corporation is considered to be the most appropriate for dealing with the challenges and specificities of the energy sector, which is facing major transformations. More than ever, this context requires agility of movement, which the unity of command reinforces, by giving the Chairman and Chief Executive Officer the power to act and an increased representation of the Corporation in its strategic negotiations with States and partners of the Company.

The unity of the power to manage and represent the Corporation is also particularly well regulated by the Corporation's governance.

The balance of power is established through the quality, complementarity, independence and full involvement of the directors whose participation in the work of the Board and its Committees is exemplary. The diversity of their skills also enables the Chairman and Chief Executive Officer to benefit from a wide range of contributions.

The balance of power within the governance bodies is also established through the Articles of Association and the Board's Rules of Procedure, which define notably the means and prerogatives of the Lead Independent Director.

The Board's rules of procedure provide that any investment or divestment transactions contemplated by the Company involving amounts in excess of 3% of shareholders' equity must be approved by the Board, which is also kept informed of all significant events concerning the Corporation's operations, in particular investments and divestments in excess of 1% of shareholders' equity.

Lastly, the Corporation's Articles of Association provide the necessary guarantees of compliance with good governance practices in the context of a unified management structure. In particular, they provide that the Board may be convened by any means, including verbally, or even at short notice depending on the urgency of the matter, by the Chairman or by one third of its members, including the Lead Independent Director, at any time and as often as the interests of the Corporation require.

THE LEAD INDEPENDENT DIRECTOR, REFLECTING A BALANCED DISTRIBUTION OF POWER

Listening to investors and stakeholders, the Board of Directors pays special attention to the balance of power within the Company. It is in this context that the Board of Directors in 2015 amended the provisions of its rules of procedure to provide for the appointment of a Lead Independent Director in the event that the positions of Chairman of the Board of Directors and Chief Executive Officer are combined.

The Lead Independent Director's duties, resources and prerogatives are described in the Rules of Procedure of the Board are extensive:

- the Chairman and Chief Executive Officer and the Lead Independent Director are the shareholders' dedicated contacts on issues that fall within the remit of the Board of Directors. In her relations with shareholders, the Lead Independent Director has the possibility, with the approval of the Chairman and Chief Executive Officer, to meet with shareholders on corporate governance issues, a practice that has already been used on several occasions;
- in her relations with the Chairman and Chief Executive Officer, the Lead Independent Director contributes to the agenda of Board meetings and has the possibility to request a meeting of the Board of Directors and to share opinions on major issues;
- in her contribution to the work of the Board of Directors, the Lead Independent Director chairs meetings in the absence of the Chairman and Chief Executive Officer, or when the examination of a subject requires his abstention. She is in charge of the assessment and monitoring of the functioning of the Board, the prevention of conflicts of interest, and dialogue with the directors and Committee Chairpersons.

Since 2016, the Lead Independent Director has organized executive sessions with the independent directors, during which the directors may discuss the Company's strategic challenges and working practices. The directors are also in regular contact with the members of the management team, including members of the Executive Committee during Board meetings and operational managers during Company site visits. Through those interactions between directors and managers, the directors gain a practical understanding of the Company's activities.

The duties of the Lead Independent Director

A COMPENSATION POLICY OF THE EXECUTIVE DIRECTOR ALIGNED WITH THE COMPANY'S STRATEGIC TARGETS

The compensation awarded to the Chairman and Chief Executive Officer is indexed to key performance indicators used to measure the success of the Company's strategy.

In order to determine a compensation aligned with the Company's performance, the variable portion of the Chairman and Chief Executive Officer's compensation takes into account both quantifiable targets (financial, Safety and GHG emission trend parameters) and qualitative criteria (personal contribution).

Conscious of the importance of climate change challenges, the Board of Directors decided, starting in 2019, to change the criteria for determining the variable portion of the Chairman and Chief Executive Officer's compensation, in particular by integrating a quantifiable criterion related to the change in GHG emissions (Scope 1+2) on operated facilities. This criterion supplements those introduced in 2016 to better take into account the achievements of Corporate Social Responsibility (CSR) and HSE targets of the Company.

The Board of Directors has a proactive approach to this issue. At its meeting on March 17, 2021, the Board of Directors decided to adapt the parameters for granting the variable portion of the Chairman and Chief Executive Officer in order to take into account, in the personal contribution of the Chairman and Chief Executive Officer, the Corporation's transformation strategy towards carbon neutrality as well as its societal responsibility in general and in particular diversity. Two new criteria have therefore been introduced to assess the personal contribution of the Chairman and Chief Executive Officer, accounting for 25% of his variable portion: overseeing the transformation strategy towards carbon neutrality and profitable growth in Renewables & Electricity. CSR performance is the third qualitative criterion of the personal contribution. It is assessed notably by the integration of climate issues in the Company's strategy, the Company's reputation in the domain of corporate social responsibility as well as the policy concerning all aspects of diversity.

The granting of performance shares has also included since 2020 a quantifiable criterion relating to the change in GHG emissions (Scope 1 +2) on the facilities operated by the Company, and since 2021, a new criterion to grant performance shares of the change in the indirect GHG emissions related to the use by customers of energy products (Scope 3)(1) in Europe.

1.9.2 An Executive Committee entrusted with implementing the Company's strategy

The Executive Committee, under the responsibility of the Chairman and Chief Executive Officer, is the decision-making body of the Company.

It implements the strategic vision defined by the Board of Directors and authorizes the corresponding capital expenditures, subject to the Board of Directors' approval for investments exceeding 3% of shareholders' equity and any significant transaction outside the scope of the company's stated strategy, and subject to the Board's review for investments involving amounts exceeding 1% of shareholders' equity.

In 2021, the Executive Committee met 24 times.

1.9.3 An operational structure built around the Company's business segments

As of December 31, 2021, the Company's organization was based on four business segments:

- an Integrated Gas, Renewables & Power segment comprising the integrated gas value chain (including upstream and midstream LNG activities), Renewables & Electricity;
- an Exploration & Production segment that encompasses oil and natural gas exploration and production operations in more than 50 countries;
- a Refining & Chemicals segment constituting a major production hub comprising the activities of refining, petrochemicals and specialty chemicals. This segment also handles oil supply and trading activities and shipping;
- a Marketing & Services segment that includes marketing activities for petroleum products as well as the related supply and logistics operations.

The Holding's corporate entities include Finance, Legal, Communications, Security, People & Social Engagement and Strategy & Sustainability divisions:

- Strategy-Sustainability comprises Health, Safety and the Environment, Audit & Internal Control, Public Affairs, Strategy & Markets, Sustainability & Climate, Information Systems divisions and the Digital Factory entity;
- People & Social Engagement includes Human Resources, Citizen Engagement and France, which represents the Company in France to national and regional elected officials.

Starting in January 2022, the OneTech branch brings together all the technical and R&D expertise and is at the heart of TotalEnergies' transformation into a multi-energy company.

TotalEnergies SE is the parent company. It acts as a holding company and drives the Company's strategy.

The Company's operations are conducted through subsidiaries that are directly or indirectly owned by TotalEnergies SE and through interests in joint-ventures that are not necessarily controlled by TotalEnergies. TotalEnergies SE has three secondary establishments in France, located in Lacq, Pau and Paris. It also has one branch office in Oman.

Corporate name: TotalEnergies SE

Headquarters: 2, place Jean Millier, La Défense 6, 92400 Courbevoie, France

Registered in Nanterre: RCS 542 051 180

LEI (Legal Entity Identifier): 529900S21EQ1BO4ESM68

EC Registration Number: FR 59 542 051 180

Date of incorporation: March 28, 1924

Term of the Corporation: extended for 99 years from March 22, 2000

Fiscal year: from January 1 to December 31 of each year

APE Code (NAF): 7010Z

totalenergies.com

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(1) GHG Protocol - Category 11.

The scope of consolidation of TotalEnergies SE as of December 31, 2021, consisted of 1,140 companies, including 160 equity companies. The principles of consolidation are described in Note 1.1 to the Consolidated Financial Statements and the list of companies included in the scope of consolidation can be found in Note 18 to the Consolidated Financial Statements (refer to point 8.7 of chapter 8).

[REDACTED SECTION: CERTAIN TEXT HAS BEEN REDACTED.]

TotalEnergies holds interests in a limited number of companies that issue financial instruments in France or abroad or whose financial instruments are listed in France or abroad. These companies are mainly the Company's financing vehicles (TotalEnergies Capital, TotalEnergies Capital International, TotalEnergies Capital Canada Ltd) or the operational subsidiaries in its business segments, in particular in Africa, such as TotalEnergies EP Gabon(1). TotalEnergies also holds an interest in SunPower Corporation (50.83% as of December 31, 2021), an American company listed on NASDAQ, and minority interests in other companies, including PAO Novatek (19.4% as of December 31, 2021), a Russian company listed on the Moscow Interbank Currency Exchange and the London Stock Exchange as well as Adani Green Energy Ltd (20% as of December 31, 2021), a company under Indian law, listed on the NSE India Limited and the BSE (Bombay Stock Exchange) Limited.

The changes in the composition of the Company in 2021 are explained in Note 2 to the Consolidated Financial Statements (refer to point 8.7 of chapter 8). During fiscal year 2021, TotalEnergies SE did not acquire any interest in companies with their registered office in France representing more than one twentieth, one tenth, one fifth, one third or one half of the capital of these companies or obtained control of such companies.

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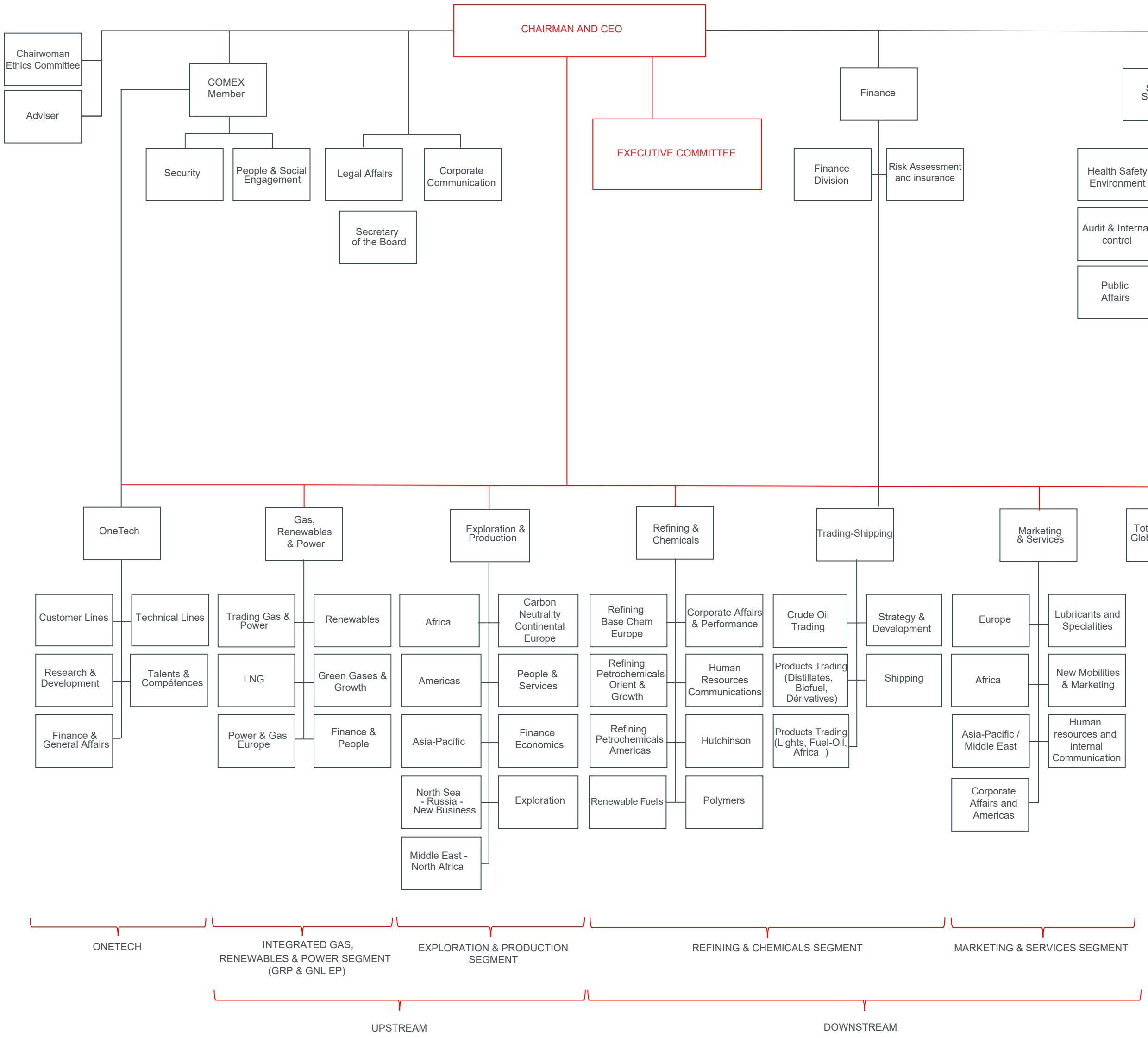
(1) TotalEnergies EP Gabon is a company under Gabonese law, listed on Euronext Paris. TotalEnergies holds 58.28%, the Republic of Gabon holds 25% and the public holds 16.72%.

Organization chart as of January 3, 2022



1.9.4 Risk management system

TotalEnergies implements a comprehensive risk management system that is an essential factor in the deployment of its strategy. This system relies on an organization at Company level and in the business segments, on a continuous process of identifying and analyzing risks in order to determine those that could prevent the achievement of the goals as well as the analysis of management systems.

The Executive Committee is responsible for identifying and analyzing internal and external risks that could impact the achievement of the Company's objectives. For this purpose, it is assisted by the TotalEnergies Risk Management Committee (TRMC), which makes sure that the Company has mapped the risks to which it is exposed and that efficient risk management systems are suitable.

The TRMC relies on the work done by the business segments and functional divisions. The business segments are responsible for defining and implementing a risk management policy suited to their specific activities. However, the handling of certain cross-functional risks is more closely coordinated by the respective functional divisions.

Regarding commitments, General Management exercises operational control through the Executive Committee's approval of investments and expenses that exceed defined thresholds. The Risk Committee (CORISK) is tasked with reviewing these projects in advance, and in particular, with verifying the analysis of the various associated risks.

The Board of Directors' Audit Committee is responsible for monitoring the effectiveness of the risk management systems as well as of the internal audit. The audit plan, based on an analysis of risks and the risk management systems, is submitted annually to the Executive Committee and the Audit Committee.

For a detailed description of how the internal control and risk management procedures are structured, refer to point 3.3 of chapter 3.

1.10 Our financial performance

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[REDACTED SECTION: CERTAIN TEXT HAS BEEN REDACTED.]

BORROWING REQUIREMENTS AND FUNDING STRUCTURE

The Company's policy consists in incurring long-term debt at a floating or fixed rate, depending on its general corporate needs and the interest rate environment at the time of issue, mainly in dollars or euros. Long-term interest rate and currency swaps may be entered into for the purpose of hedging bonds at the time of issuance, synthetically resulting in the incurrence of variable or fixed rate debt. In order to partially alter the interest rate exposure of its long-term indebtedness, the Company may also enter into long-term interest rate swaps on an ad-hoc basis.

Long-term financial indebtedness is generally raised by central corporate treasury entities either directly in dollars or euros, or in other currencies exchanged for dollars or euros through currency swaps at issuance, in accordance with the Company's general corporate needs.

As of December 31, 2021, the Company's long-term financial debt, after taking into account the effect of currency and interest rate swaps, was 94% in US dollars and 27% at floating rates; as of December 31, 2020, these ratios were 88% and 37%, respectively.

In addition to its ongoing bond issuance activity, TotalEnergies SE issued perpetual subordinated notes in several tranches in 2015, 2016, 2019, 2020 and 2021: on February 19, 2015, €5 billion in two tranches; on May 11, 2016, €1.75 billion in one tranche; on September 29, 2016, €2.5 billion in two tranches. In April 2019, TotalEnergies SE conducted an early partial refinancing of some of its perpetual subordinated notes, following which the global outstanding amount of such notes remained unchanged. The transaction consisted in the issuance of €1.5 billion of new perpetual subordinated notes coupled with the partial repurchase of some of the perpetual subordinated notes issued in 2015, for a similar amount. In September 2020, TotalEnergies SE conducted an early partial refinancing of some of its perpetual subordinated notes. The transaction consisted in the issuance of €1 billion of new perpetual subordinated notes coupled with the partial repurchase of circa €703 million of the perpetual subordinated notes issued in 2015. Following this transaction, the new nominal amount of the tendered tranche was €297 million and the total outstanding amount of perpetual subordinated notes rose temporarily by €297 million. This residual amount was repaid in full in February 2021 on its first call option date. In January 2021, TotalEnergies SE issued €3 billion of perpetual subordinated notes in two tranches. In January 2022, TotalEnergies SE issued €1.75 billion of perpetual subordinated notes in two tranches in order to refinance the €1.75 billion of perpetual subordinated notes with a first call option date in May 2022.

In accordance with IAS 32 provisions "*Financial instruments – Presentation*" and given their characteristics (notably the absence of mandatory repayment and no obligation to pay a coupon except under certain circumstances specified into the documentation of the notes) the perpetual subordinated notes issued by TotalEnergies SE were accounted for as equity.

In addition, on November 25, 2015, TotalEnergies SE issued a $1.2 billion instrument combining cash-settled convertible bonds indexed on TotalEnergies' share performance with the purchase of stock options hedging the economic risk related to such indexation. The combined instrument is effectively a non-dilutive synthetic issuance equivalent to a standard bond. At maturity, all flows will be settled in cash and limited to the nominal amount.

TotalEnergies has established standards for market transactions under which any banking counterparty must be approved in advance, based on an assessment of the counterparty's financial solidity (multi-criteria analysis including notably a review of its Credit Default Swap (CDS) level, credit ratings from Standard & Poor's and Moody's, which must be of high standing, and general financial situation).

An overall credit limit is set for each authorized financial counterparty and is allocated amongst the affiliates and the TotalEnergies central treasury entities, according to the financial needs.

To reduce the market valuation risk on its commitments, in particular relating to derivative financial instruments, the Treasury Department has entered into margin call agreements with its counterparties, in compliance with applicable regulations. Moreover, since December 21, 2018 and pursuant to Regulation (EU) No. 648/2012 on OTC derivatives, central counterparties and trade repositories (EMIR), any new interest rate hedging swap (excluding cross currency swaps) entered into by a TotalEnergies entity is now subject to central clearing.

Finally, since September 1, 2021, TotalEnergies has been applying Delegated Regulation (EU) N° 2016/2251 (supplementing Regulation (EU) N° 648/2012), regarding initial margin calls on certain OTC derivatives not cleared by a central counterparty.

CONDITIONS OF USE OF EXTERNAL FINANCINGS

As of December 31, 2021, the aggregate amount of the main committed credit facilities granted by international banks to the companies of the Company (including TotalEnergies SE) was $12,314 million (compared to $16,282 million as of December 31, 2020), of which $11,591 million was unutilized (compared to $11,808 million unutilized as of December 31, 2020).

TotalEnergies SE has committed credit facilities granted by international banks allowing it to benefit from significant liquidity reserves. As of December 31, 2021, these credit facilities amounted to $10,679 million (compared to $14,902 million as of December 31, 2020), of which $10,679 million was unutilized (compared to $11,256 million unutilized as of December 31, 2020).

The agreements underpinning credit facilities granted to TotalEnergies SE do not contain conditions related to the Corporation's financial ratios, to its credit ratings from specialized agencies, or to the occurrence of events that could have a material adverse effect on its financial position.

Credit facilities granted to the companies of the Company other than TotalEnergies SE are not intended to fund the Company's general corporate purposes; they are intended to fund either general corporate purposes of the borrowing affiliate, or a specific project.

ANTICIPATED SOURCES OF FINANCING

Investments, working capital, dividend payments and buybacks of its own shares by the Corporation are financed by cash flow from operating activities, asset disposals and, if necessary, by net borrowings.

For the coming years and based on the current financing conditions available in the financial markets, the Corporation intends to maintain this policy.

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2

Business overview for fiscal year 2021

2.1 Integrated Gas, Renewables & Power segment

TotalEnergies' strategy aims to transform itself into a multi-energy company by profitably growing its portfolio of liquefied natural gas and its production of electricity, the two fastest growing energy markets[1], as well as in decarbonized gas (biogas and hydrogen). The Integrated Gas, Renewables & Power (iGRP) segment is driving TotalEnergies' ambition in the activities of the integrated gas and electricity chains. The execution of a profitable growth strategy in these promising businesses is helping to achieve TotalEnergies' ambition to reach carbon neutrality (net zero emissions) by 2050 together with society.

Main indicators

$6.1 B DACF[2] in 2021	**42.0 Mt** LNG volumes sold in 2021 including **17.4 Mt** coming from equity production	**10.3 GW** Gross installed renewable power generation capacities in end-2021	**21.2 TWh** Net production of electricity including **6.8 TWh** from renewable sources	**Over 6 M** Electricity client sites	**Over $3.0 B** Net investments in Renewables & Electricity in 2021

Main objectives and ambitions

[REDACTED SECTION: CERTAIN TEXT HAS BEEN REDACTED.]	**50 Mt** LNG volumes sold by 2025 **+30%** Yearly LNG production in 2025 vs. 2020	**35 GW** Gross installed renewable power generation capacities in 2025 **100 GW** in 2030	**50 TWh** Yearly net production of electricity including 30 TWh from renewables in 2025 **120 TWh** in 2030	**9 M** Electricity client sites in 2025	**$3.5 B** Net investments planned in Renewables & Electricity in 2022

Hydrocarbon production and LNG sales

Hydrocarbon production	2021	2020	2019
IGRP *(kboe/j)*	529	530	560
Liquids *(kb/d)*[a]	63	69	71
Gas *(Mcf/d)*[b]	2,541	2,519	2,656

LNG *(Mt)*	2021	2020	2019
Overall LNG sales	42.0	38.3	34.3
Including sales from equity production[c]	17.4	17.6	16.3
Including sales by TotalEnergies from equity production and third party purchases	35.1	31.1	27.9

(a) Including condensate and NGLs, associated to the gas production.
(b) 2019 data restated.
(c) The Company's equity production may be sold by TotalEnergies or by joint-ventures.

Aggregate LNG sales increased by 10% in 2021, on higher production from Cameron LNG and Freeport LNG in the United States.

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[1] Source : IHS.

[2] DACF = debt adjusted cash flow. The operating cash flow before working capital changes without financial charges of the segment is defined as cash flow from operating activities before changes in working capital at replacement cost, without financial charges except those related to leases, excluding the impact of contracts recognized at fair value for the segment and including capital gains on the sale of renewable projects.

Renewables & electricity

	2021	2020	2019
Solar *(GW)*	8.0	5.6	1.6
Wind *(GW)*	2.0	1.3	1.3
Storage, biogas and hydroelectricity *(GW)*	0.2	0.1	0.1
Gross installed renewable power generation capacities *(GW)*[(a)(b)]	**10.3**	**7.0**	**3.0**
Portfolio of gross renewable power generation capacities *(GW)*[(a)(b)]	**43.0**	**28.6**	**not published**
Renewable power generation capacities with PPA *(GW)*[(a)(b)]	**28.0**	**17.5**	**not published**
Combined-cycle gas power plants – Europe[(c)] *(GW)*	4.2	3.6	1.9
Combined-cycle gas power plants – Rest of the world (Taweelah, UAE) *(GW)*	1.6	1.6	1.6
Net power production *(TWh)*[(d)]	21.2	14.1	11.4
including power production from renewables (TWh)	6.8	4.0	2.0
Clients power – BtB and BtC *(millions)*[(a)]	6.1	5.6	4.1
Clients gas – BtB and BtC *(millions)*[(a)]	2.7	2.7	1.7
Sales power – BtB and BtC *(TWh)*	56.6	47.3	46.0
Sales gas – BtB and BtC *(TWh)*	101.2	95.8	95.0

(a) Data at end of period.
(b) Including 20% of Adani Green Energy Ltd. gross capacities from first trimester 2021.
(c) Including the refinery cogeneration units of Normandy and Anvers.
(b) Solar, wind, biogas, hydroelectric and combined-cycle gas turbine (CCGT) plants.

[REDACTED SECTION: CERTAIN TEXT HAS BEEN REDACTED.]

2.1.1 Presentation of the segment

As a responsible multi-energy company, TotalEnergies aims to meet the dual challenge of satisfying the energy needs of a growing world population while limiting global warming. To meet this challenge and provide more affordable and cleaner energy available to the largest number of clients, TotalEnergies is implementing an integrated strategy of profitable growth in the promising businesses of liquefied natural gas, electricity, renewables and energy storage, which constitute as many growth levers.

During the decade 2020 - 2030, TotalEnergies' energy production is expected to grow by 30%, from about 17 to 23 PJ/d(1) (i.e., about the equivalent of 3 to 4 Mboe/d of which about 500 kboe/d is electricity). Half of that growth should come from electricity, primarily from renewable sources, and the other half from LNG.

In the **LNG** activities, TotalEnergies aims to take full advantage of its position as the world's second-largest player(2) and intends to continue to develop integrated positions all along the value chain. It plans to increase its LNG sales to 50 Mt/year by 2025, relying in particular on supplies from assets in which TotalEnergies is a shareholder, notably in the United States and Russia.

TotalEnergies' global presence enables it to arbitrate its supplies and sales on the various markets to create value. The Company is strengthening its presence on high-growth markets such as India, China and Brazil. In Europe and India, TotalEnergies is integrated in the natural gas value chain, up to distribution to the end customer. TotalEnergies is also active in the trading of LNG and complementary products (liquefied petroleum gas, petcoke and sulfur).

TotalEnergies also intends to increase **biogas** production, with a target of at least 2 TWh per year by 2025 and more than 5 TWh per year by 2030. The acquisition of Fonroche in 2021 and the 50/50 joint venture with Clean Energy Fuel Corp.(3) in the United States contribute to this ambition.

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(1) TotalEnergies Corporate Report 2020 published in November 2020.

(2) Second largest private firm. Source: WoodMackenzie (TOTAL LNG Corporate Report 2020 published in November 2020).

(3) TotalEnergies held a 19.09% interest in the capital of Clean Energy Fuel Corp., US Company listed at the NASDAQ, at the end of 2021.

TotalEnergies is also positioning itself in the production of **low carbon hydrogen**, starting by meeting the needs of its own refineries, and then setting the goal of being a pioneer in the mass production of low-cost low carbon hydrogen.

In **Renewables & Electricity**, TotalEnergies is implementing a differentiated geographic strategy and is developing along the entire value chain :

- In Europe, its strategy is based on building an integrated position in electricity, by being present from production to marketing to the end customer. TotalEnergies is also active in electricity trading.
- In the other areas, TotalEnergies relies on its specialized subsidiaries (TotalEnergies Renewables International and Total Eren in particular) to develop its portfolio of renewable power generation capacities (solar and wind). In certain high-growth markets, TotalEnergies is following a policy of strategic alliances with local players. In India in particular, TotalEnergies acquired in January 2021 a 20% stake in Adani Green Energy Ltd for $2 billion(1).

The Company's objective is to reach gross installed renewable power generation capacities of 35 GW by 2025 and 100 GW by 2030, and to become one of the world's top five producers of renewable electricity (wind and solar). To achieve this ambition, and in order to make the most of its international presence, the Company has established a global network of renewable energy developers, called "Renewables Explorers", in countries where it is already present and where renewables have a high potential for growth. These experienced developers are tasked with initiating and/or speeding up the development of renewable energy projects in their countries and building strong partnerships with local developers.

Offshore wind energy is also an axis of development for renewables. TotalEnergies wants to take part in the growth of this sector by drawing on its experience, its know-how in the offshore oil and gas sector and its ability to manage large projects and to raise the necessary funding,

In 2022, TotalEnergies has already won a first tender in offshore wind in Scotland for 2 GW, and has been named a winner of a maritime lease area to develop an offshore windfarm of over 3 GW off New York and New Jersey on the US East Coast. The Company therefore has gross offshore wind power generation capacities, in construction or development, representing over 10 GW.

TotalEnergies is also committed, via its Saft Groupe affiliate, to expand its capacities in stationary **electricity storage** in order to support the growth in renewables, by nature intermittent, but also since 2021, in the production of batteries for electrical mobility via the joint-venture ACC with Stellantis and Mercedes-Benz.

2.1.2 LNG

The worldwide LNG market has grown by more than 8%(2) per year between 2015 and 2021, thanks to the switch from coal to gas.

As a pioneer in the LNG industry and thanks to its solid, diversified positions, TotalEnergies has become the world’s second largest private player in LNG, with a global portfolio of 42 Mt/y and global market share(3) of about 11% in 2021. TotalEnergies plans to continue its development of an integrated value chain in LNG, which is a key component of its strategy. By 2025, LNG production is expected to grow by 30% compared to 2020, notably thanks to projects already approved. LNG sales are expected to reach 50 Mt in 2025.

TotalEnergies has strengthened its presence across that entire chain, from upstream activities, thanks mainly to its interests in liquefaction plants located in the major production areas, to midstream activities, such as transport, regasification and trading culminating in distribution to end customers.

The LNG sold by TotalEnergies on worldwide markets comes in part from equity LNG production in natural gas fields and condensates or in liquefaction plants of which the subsidiaries are shareholders (refer to point 2.1.2.1 of this chapter). It also comes, to a lesser extent, from agreements concluded with third parties (refer to point 2.1.2.2 of this chapter).

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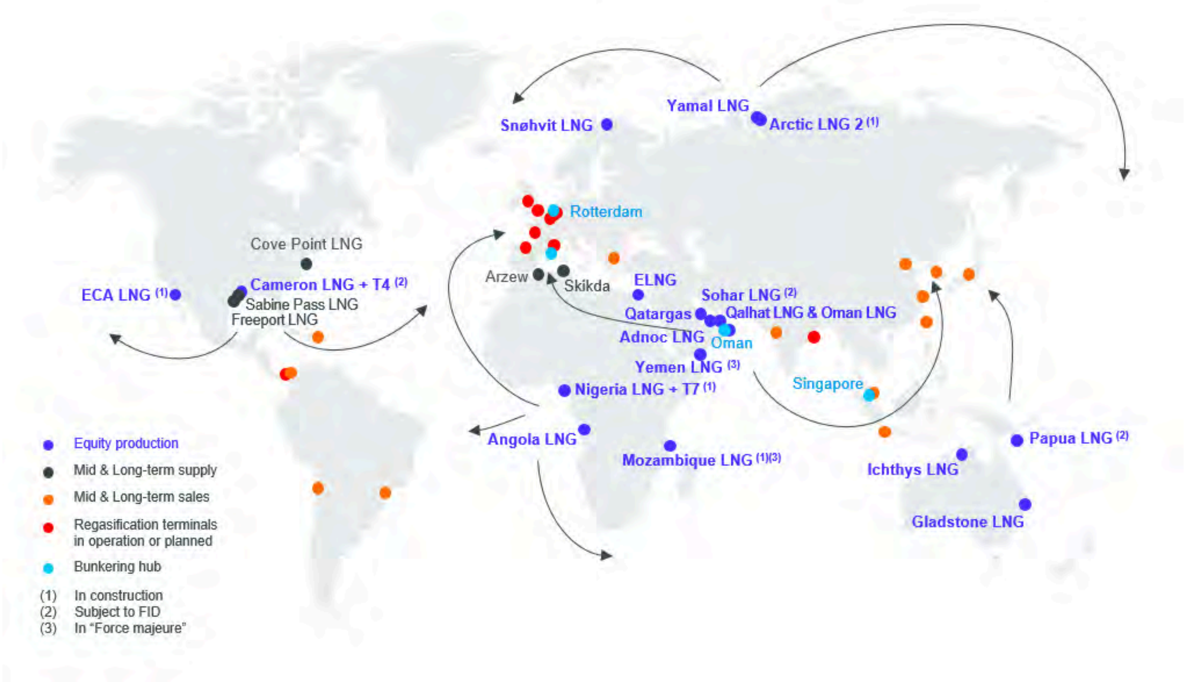
(1) That acquisition follows the acquisition by TotalEnergies in February 2020 of a 37.4% equity interest in the capital of Adani Gas Ltd.

(2) Source : GIIGNL.

(3) Source : based on a global market size of 385,6 MT in 2021 reported by IHS Markit.

An integrated player with a global portfolio



In response to the issue of methane emissions, TotalEnergies has already reduced the methane intensity to below 0.1% of the gas produced on its operated assets. A TotalEnergies objective is to reduce methane emissions from its operated assets by 50% between 2020 and 2025, then by 80% between 2020 and 2030(1).

2.1.2.1 LNG PRODUCTION AND LIQUEFACTION

TotalEnergies' equity share of LNG production stood at 17.4 Mt in 2021 compared to 17.6 Mt in 2020 and 16.3 Mt in 2019.

The decrease in production is due to the downtime of Snøhvit LNG, partially compensated by the ramp up of Cameron LNG in 2021.

The growth in LNG production is expected to resume over the coming years, thanks to the liquefaction projects under construction (Mexico, Mozambique(2), Nigeria, and Russia) or under study (Oman, Papua New Guinea, Russia and the United States).

The information below describes the main development, production and liquefaction activities of the iGRP segment, presented by geographical area. The capacities referred to herein are expressed on a 100% basis, regardless of TotalEnergies' interest in the asset.

AFRICA (EXCLUDING NORTH AFRICA)

In **Nigeria**, TotalEnergies holds a 15% interest in the company Nigeria LNG (NLNG), whose main asset is a liquefaction plant with a total capacity of 22 Mt/y. In late 2019, NLNG's shareholders approved the launch of a plant extension project for an additional capacity of 7.6 Mt/y. NLNG signed an engineering, procurement and construction (EPC) contract for the extension in May 2020. TotalEnergies is also present on the onshore fields of the OML 58 block (40%, operator) as part of its joint venture with the company Nigerian National Petroleum Corporation (NNPC), which has been supplying gas to NLNG for two decades. The OML 58 onshore fields equally supply gas to the Nigerian domestic market.

In **Angola**, TotalEnergies holds a 13.6% interest in the Angola LNG project, which includes a gas liquefaction plant near Soyo with a total capacity of 5.2 Mt/y and that is supplied by gas associated with production from Blocks 0, 14, 15, 17, 18, 31 and 32.

In **Mozambique**, in September 2019, TotalEnergies acquired from Occidental Petroleum Corporation the company that held a 26.5% interest in the Mozambique LNG project, for which the final investment decision was taken in June 2019. The project includes the construction of two onshore liquefaction trains with a total capacity of 13.1 Mt/y to liquefy the gas produced by the Golfinho and Atum fields in Offshore Area 1.

In light of the developments in the security situation in the north of the Cabo Delgado province in Mozambique, on April 26, 2021, TotalEnergies confirmed the withdrawal of all the Mozambique LNG project personnel from the Afungi site. This situation led TotalEnergies, as the operator of the Mozambique LNG project, to declare a case of force majeure.

The sale of nearly 90% of the production of the Mozambique LNG project has been secured by long-term contracts for delivery to customers in Asia and Europe. Part of the gas from the Golfinho and the Atum fields is also intended for the domestic market in order to contribute to the country's economic development. The delivery schedule of the first LNG shipments will be reviewed in light of the duration of the case of force majeure.

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(1) Methane emissions of the operated assets were 49 kt CH_4 in 2021.

(2) Construction in Mozambique is currently suspended due to a case of force majeure (see the Africa section).

AMERICAS

In the **United States**, the LNG production of train 1 (4.5 Mt/y) of the Cameron LNG plant in Louisiana, in which TotalEnergies holds a 16.60% interest, started up in May 2019. The first phase of the Cameron LNG plant, which has a capacity of 13.5 Mt/y, comprises three liquefaction trains, each with a capacity of 4.5 Mt/y. Production from trains 2 and 3 began in February and May 2020 respectively. TotalEnergies is evaluating the expansion of the plant beyond its initial capacity of 13.5 Mt/y.

In 2021, the agreements between TotalEnergies and Tellurian Inc. for the development of the Driftwood LNG project in Louisiana ended and TotalEnergies sold its interest in Tellurian Inc.

In shale gas, TotalEnergies achieved satisfactory results from its operated assets on Barnett (93% on average) thanks to its control of costs and investments, while performing significant well maintenance activities. About 1,500 wells were in operation in 2021 (stable compared to 2020).

In **Mexico**, the decision to launch the Energia Costa Azul (ECA) Phase 1 gas liquefaction project (3 Mt/y nameplate capacity) was made in November 2020. TotalEnergies holds a 16.6% interest in the project and will offtake approximately 1.7 Mt/y of the initial capacity.

ASIA-PACIFIC

In **Australia**, LNG production comes from the Gladstone LNG (GLNG) (27.5%) project and the Ichthys LNG (26%) project.

The Ichthys LNG project involves the development of a gas and condensate field located in the Browse Basin. This development includes subsea wells connected to a platform for the production, processing and export of gas, an FPSO for processing and exporting the condensate, an 889 km gas pipeline and an onshore liquefaction plant in Darwin. The two trains of the gas liquefaction plant have a nameplate capacity of 8.9 Mt/y of LNG. Approximately 100,000 boe/d of offshore and onshore condensates and LPG are also produced. Ichthys LNG started offshore production in July 2018 and exported its 200th LNG shipment in September 2020. Ichthys LNG has reached its production plateau and various adjustments have allowed it to reach 110% of nameplate capacity. A compression project was approved in 2021, thus making it possible for the plateau to be extended.

GLNG is an integrated project with production from the Fairview, Roma, Scotia and Arcadia fields transported to a liquefaction plant on Curtis Island, Queensland with a capacity of 8.8 Mt/y. The plant's two trains have been in production respectively since 2015 and 2016.

In July 2021, TotalEnergies entered into an agreement with GIP Australia (GIP), with an effective date of January 1, 2021, covering downstream facilities of the Gladstone LNG owned by its subsidiary Total GLNG Australia (TGA). The agreement provides for GIP to receive a tolling income for 15 years, based on the volumes of TGA's share of the gas passing through the downstream processing facilities. TGA retains full control and ownership of its 27.5% interest in the Gladstone LNG downstream joint venture.

In **Papua New Guinea**, TotalEnergies owns an interest in Block PRL-15 (40.1%, operator since 2015). The State of Papua New Guinea retains the right to take an interest in the license (when the final investment decision is made) at a level of 22.5%. In this case, TotalEnergies' shareholding would be reduced to 31.1%.

Block PRL-15 includes the Elk and Antelope discoveries. The appraisal program of these two discoveries, completed in 2017, confirmed the resource levels of the fields. In 2021, the conceptual development studies and preparatory activities on the Elk and Antelope fields located on the PRL-15 block, which had been interrupted in 2020 due to the COVID-19 pandemic, resumed with the return of the project teams. The schedule calls for the detailed engineering (FEED) studies to begin in the first half of 2022, with a final investment decision targeted in 2023. It is expected that the gas produced by these fields will be transported by a 320 km onshore/offshore pipeline to the Caution Bay site in order to be liquefied in 2 trains to be built with a total capacity of 5.6 Mt/y which will be integrated to the existing production facilities operated by a partner in the project.

TotalEnergies and its partners have signed an agreement with the independent State of Papua New Guinea defining the fiscal framework for the development of the Papua LNG project in April 2019. This agreement has been supplemented by a Fiscal Stability Act agreement, signed with the State in February 2021, and by an agreement allowing the extension of the PRL 15 license by 5 years until 2026.

EUROPE

In **Russia**, LNG production comes from the Yamal LNG project. This onshore project to develop the onshore South Tambey gas and condensates field located on the Yamal peninsula was launched in 2013 by OAO Yamal LNG(1). TotalEnergies has a direct interest of 20.02% held by the subsidiary, TotalEnergies EP Yamal. The project consists of a three-train gas liquefaction plant with a nameplate capacity of 16.5 Mt/y of LNG. In 2021, the plant's production exceeded the nameplate capacity by 17% to 19.3 Mt/y. A fourth liquefaction train with a capacity of 0.9 Mt/y, using a PAO Novatek technology, also started in March 2021.

In addition, TotalEnergies has in the Arctic LNG 2 project a direct interest of 10% since 2019 held by the subsidiary TotalEnergies EP Salmanov. TotalEnergies and its partners approved the final investment decision for the Arctic LNG 2 project in 2019. With a production capacity of 19.8 Mt/y, the Arctic LNG 2 project is expected to develop the resources of the Utrenneye onshore field (gas and condensates) located on the Gydan Peninsula opposite the Yamal Peninsula. The project in progress involves the installation of three gravity-based structures in Ob Bay that will host the three liquefaction trains of 6.6 Mt/y capacity each. In addition, the context of sanctions against Russia, that will be implemented by the Company regardless of the consequences on its asset management, had led the Company to not qualify anymore as proved reserves as of December 31, 2021 the resources associated with the Arctic LNG 2 project, given the uncertainties of technological and financial sanctions on the ability to complete the Arctic LNG 2 project under construction.

In September 2021, TotalEnergies published the environmental and societal impact assessment (ESHIA) and the biodiversity protection strategy for the Arctic LNG 2 project.

On the basis of this impact assessment, and referring to the highest standards, the Arctic LNG 2 project has defined a set of actions to be taken in order to minimize its environmental and societal footprint and to have a positive impact on biodiversity and local communities. It is anticipated that these measures will be monitored by third-party institutions.

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(1) A company jointly owned by TotalEnergies EP Yamal (20,02%), PAO Novatek (50.07%), YAYM Limited and China National Oil and Gas Exploration Development Corporation (CNODC), a subsidiary of CNPC. TotalEnergies holds a 19.4% interest in PAO Novatek, a company incorporated under Russian law and listed in Moscow and London

Finally, TotalEnergies has in the Arctic Transshipment project a direct interest of 10% since July 2021 held by TotalEnergies EP Transshipment. From 2023, this project is expected to enable LNG shipments to be transferred from Arctic LNG ships to conventional LNG ships, in Murmansk for shipments for the European market, and in Kamchatka for shipments for the Asian market.

In **Norway**, TotalEnergies holds an 18.40% interest in the Snøhvit gas liquefaction plant (nameplate capacity of 4.2 Mt/y). The plant, located on an island in the Barents Sea, is supplied with production from the Snøhvit, Albatross and Askeladd gas fields. Production in the Snøhvit plant has been halted since September 2020 following a fire. According to the operator, production might not resume before May 2022.

MIDDLE EAST AND NORTH AFRICA

In **Qatar**, TotalEnergies participates in the production, processing and exporting of gas from the North Field through its interest in the Qatargas 1 and Qatargas 2 LNG plants:

- Qatargas 1: TotalEnergies held a 20% interest in the North Field-Qatargas 1 Upstream field, the license of which expired on December 31, 2021, and a 10% interest in the LNG plant (three trains with a total capacity of 10 Mt/y) whose agreement between partners also expired on December 31, 2021;
- Qatargas 2: TotalEnergies holds a 16.7% interest in train 5, which has an LNG production capacity of 8 Mt/y.

In **Oman**, in December 2021, TotalEnergies signed:

- a concession agreement to develop natural gas resources on the onshore Block 10 located in the Greater Barik area (26.55%);
- an agreement to sell natural gas to the government of Oman;
- a shareholder agreement regarding the Marsa LNG company (80%, operator), created in order to produce natural gas from block 10 to develop a low-carbon LNG plant in the port of Sohar, powered by solar electricity. This plant, with an initial production capacity of 1 Mt/year will be intended to supply LNG ship bunkers.

TotalEnergies also produces LNG through its investments in the Oman LNG (5.54%)/Qalhat LNG (2.04% via Oman LNG) liquefaction complex, with an overall capacity of 10.5 Mt/y.

In the **United Arab Emirates**, TotalEnergies holds a 5% interest in ADNOC LNG (capacity of 5.8 Mt/y), a company which processes the associated gas produced by ADNOC Offshore in order to produce LNG, NGL and condensates, as well as a 5% interest in National Gas Shipping Company (NGSCO), a company which owns eight LNG tankers and exports the LNG produced by ADNOC LNG.

In **Egypt**, TotalEnergies holds a 5% interest in the first train (capacity of 3.6 Mt/y) of Egyptian LNG’s Idku liquefaction plant.

In **Yemen**, the deterioration of security conditions in the vicinity of the Balhaf site caused the company Yemen LNG, in which TotalEnergies holds a stake of 39.62%, to stop its commercial production and export of LNG and to declare force majeure to its various stakeholders in 2015. The plant has been put in preservation mode.

2.1.2.2 INTERMEDIATE ACTIVITIES: PURCHASE, SALE, TRADING AND TRANSPORT OF LNG

PURCHASE, SALE AND TRADING OF LNG

In 2021, the LNG trading activities represented a volume of 35.1 Mt, compared with 31.1 Mt in 2020 and 27.9 Mt(1) in 2019.

Since 2019, the trading teams have been located in Geneva, Houston and Singapore.

TotalEnergies is developing its business by managing and optimizing a portfolio of long-term contracts and a spot activity.

- TotalEnergies acquires long-term volumes of LNG, in many cases from liquefaction projects in which the Company holds an interest (refer to point 2.1.2.1 of this chapter). New sources of LNG from projects under construction are expected to fuel the growth of the LNG portfolio in the coming years.

  TotalEnergies also acquires long-term LNG volumes mainly from American projects in which the Company has no equity (Sabine Pass, Corpus Christi, Cove Point and Freeport). Those volumes add to and diversify its worldwide portfolio of LNG resources.

  In 2021, TotalEnergies purchased 306 shipments under forward contracts from Algeria, Australia, Egypt, the United States, Nigeria, Norway, Qatar and Russia and 242 spot or medium-term shipments, compared with 350 and 185 shipments in 2020 and 297 and 186 in 2019 respectively. Deliveries from Yemen LNG have been halted since 2015.
- Moreover, TotalEnergies holds several LNG long-term contracts in locations including mainly in India but also Brazil, Chile, China, South Korea, Indonesia, Japan, Panama, the Dominican Republic, Singapore and Taiwan.
- Additionally, TotalEnergies is developing LNG retail sales (by barge and tanker trucks) for industrial use or mobility (by ship, waterway or road) in Europe, in the Caribbean in partnership with AES. In March 2021, TotalEnergies and Shenergy Group have signed agreements for the supply of up to 1.4 Mt per year of liquefied natural gas from TotalEnergies, as well as the creation of a joint venture to expand LNG marketing in China.

At the request of customers, TotalEnergies delivered carbon-offset LNG cargoes using carbon credits certified by the international Verified Carbon Standard (VCS). TotalEnergies has delivered four fully carbon offset cargoes in 2021, and one cargo in 2020.

LNG SHIPPING

At the end of 2021, TotalEnergies Gas & Power Limited (TEGPL) operated a chartered fleet of 20 LNG carriers for its LNG transportation activities. 19 of these LNG carriers are leased from shipowners, and one is co-owned (50%) with the Japanese shipowner NYK. In order to replace the LNG carriers whose contracts will expire in 2022 and 2023 and to support the strong growth of TotalEnergies' LNG portfolio, eight additional new LNG carriers are expected to reinforce the chartered fleet between 2022 and 2024 and to increase the number of LNG carriers in the fleet to 23 by the end of 2024.

In addition to the long-term fleet, each year TEGPL charters spot and short-term ships to serve trading needs and to adapt transport capacity to seasonal demand.

The TotalEnergies’ EP Norge subsidiary also charters two LNG carriers, in addition to the 20 LNG carriers chartered by TEGPL.

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(1) 2020 and 2019 restated data.

Finally, LNG carriers are also chartered through the Company's interests in LNG production and export projects that control their own fleet, such as Nigeria LNG, Angola LNG, Qatargas and Yamal LNG.

TotalEnergies enters into partnerships with shipowners that are selected after an audit performed by the Vetting department of the Company. The vessels are equipped with a double hull, and are strictly selected in a tender process based on technical specifications defined by TotalEnergies and referring to the highest international standards.

2.1.2.3 LNG REGASIFICATION

TotalEnergies holds interests in regasification assets and has signed agreements that provide long-term access to LNG regasification capacity worldwide, through existing assets in Europe (France, the United Kingdom, Belgium and the Netherlands) and in the Americas (United States and Panama). Consequently, TotalEnergies has had an LNG regasification capacity of 28 Bm³/y. Projects under development in Asia (India) could increase this regasification capacity. For its operations, TotalEnergies charters two FSRUs.

In **France**, TotalEnergies sold its 27.5% interest in Fosmax LNG in February 2020. This transaction has not affected TotalEnergies' booked capacity of 7.7 Bm³/y with Fosmax LNG. TotalEnergies also has 6.5 Bm³/year of regasification capacity at the Montoir de Bretagne terminal and 2.2 Bm³/year of regasification capacity at the Dunkirk LNG terminal.

In the **United Kingdom**, as part of its stake in the Qatargas 2 project, TotalEnergies holds an 8.35% interest in the South Hook LNG regasification terminal which has a total capacity of 21 Bm³/y. TotalEnergies has also booked regasification capacity of 3.2 Bm³/y at the Isle of Grain terminal.

In **Belgium**, TotalEnergies has a regasification capacity of 2.2 Bm³/y at the Zeebrugge terminal.

In the **Netherlands**, TotalEnergies holds a regasification capacity of 1.1 Bm³/y at the Gate terminal that is booked until 2024.

In the **United States**, TotalEnergies has a regasification capacity of 5.0 Bm³/year at the Sabine Pass terminal in Louisiana until 2029.

In **India**, the partnerships between TotalEnergies and the Adani Group include several assets in the gas value chain, from LNG import facilities to gas distribution to domestic households. The Dhamra terminal, with an expected capacity of 5 Mt/year, is under construction. The plant is scheduled to start operations at the end of 2022. TotalEnergies has entered into the Indian natural gas market, which has significant potential for growth, with the support of a recognized local partner.

In 2021, TotalEnergies has delivered, via booked capacity at the Dahej terminal, about one cargo per month, i.e. a dozen cargoes in total. Deliveries are divided equally between industrial customers and the Adani -TotalEnergies joint ventures (ATPL and ATGL).

TotalEnergies sold its 26% interest in the Hazira terminal in January 2019.

The projects envisaged by TotalEnergies for the development of regasification terminals in **Benin** and **Ivory Coast** were abandoned.

2.1.3 Biogas and hydrogen

2.1.3.1 BIOGAS

TotalEnergies is engaged in the development and operation of units that produce biomethane from organic and industrial waste, and in the marketing of biomethane as a renewable substitute for natural gas. The Biogas Business Unit's production objectives are at least 2 TWh/year of biomethane by 2025, and more than 5 TWh/year by 2030.

Consisting of the same methane molecule as natural gas, biomethane is renewable due to the way it is produced and it produces very low carbon emissions over its entire life cycle. When it is injected into the natural gas transmission and distribution network, biomethane allows for uses in heating and fuel for land and sea transport.

- In **France,** in April 2021, TotalEnergies acquired Fonroche Biogaz and became the French market leader in biogas production, with seven units in operation (500 GWh/year by 2025) and four units under development (an additional 400 GWh/year by 2025).
- In the **United States**, TotalEnergies has held a stake in NASDAQ-listed Clean Energy Fuels Corp., the leader in renewable gas distribution for vehicles on the US market. TotalEnergies held 19.09% of Clean Energy's capital at the end of 2021.

  In March 2021, TotalEnergies and Clean Energy set up a 50/50 joint venture to develop biomethane production projects to supply CNG (compressed natural gas) and LNG (liquefied natural gas) to stations in the Clean Energy Fuels network. As part of this joint venture, the construction of the first biomethane production unit (over 40 GWh) in Texas was launched in November 2021.

  TotalEnergies also owns landfill biogas production units under the Méthanergy label.

  In July 2021, TotalEnergies joined forces with EveRé, CMA CGM, and Elengy to examine the feasibility of France's first liquefied biomethane (BioLNG) production project in the Grand Port Maritime de Marseille, as a low-carbon alternative fuel for the decarbonization of maritime transport.
- In **India,** within the frame of its non-binding Memorandum of Understanding with the Indian government, which states the intention to develop 100 units by 2025, the Adani Total Gas Limited joint venture (TotalEnergies, 37.4%) signed a collaboration agreement for a first biomethane plant in Barsana, in the state of Uttar Pradesh in October 2021. Adani Total Gas Limited also aims to develop other biomethane plants in India in the near future.

In February 2022, TotalEnergies and Veolia announced the signature of an agreement to produce biomethane from Veolia's waste and water treatment facilities operating in more than 15 countries. The partnership might allow to produce up to 1.5 terawatt-hours (TWh) of biomethane per year by 2025, equivalent to the average annual natural gas consumption of 500,000 residents, and to avoid some 200,000 tons of CO_2 per year.

2.1.3.2 HYDROGEN

As part of its strategy and its ambition to achieve carbon neutrality (net zero emissions) together with society, TotalEnergies intends to break into the low carbon hydrogen market. In October 2021, TotalEnergies joined forces with VINCI, Air Liquide and other major international industrial players to create the world's largest fund(1) dedicated to the development of low carbon hydrogen infrastructures. The first commitments have reached €1 billion, out of a total target of €1.5 billion.

TotalEnergies is positioning itself in green hydrogen, that is produced from renewable electricity by the water electrolysis process, and blue hydrogen, produced from natural gas by the steam reforming process combined with a CO_2 capture and storage (CCS) process. TotalEnergies' ambition consists of developing plants for the mass production of low carbon hydrogen in geographies where renewable electricity and natural gas are produced at low cost.

The most promising opportunities are the use of hydrogen or its derivatives (methanol, ammonia or synthetic fuels) in the transport and energy sectors, for the decarbonization of gas supplies or of the generation of electricity, by replacing coal and natural gas. Low carbon hydrogen also offers a potential means of storing electricity generated by intermittent renewable sources.

TotalEnergies currently consumes almost 300 kt/year of carbonated hydrogen, also known as gray hydrogen (produced from natural gas) for its refineries in Europe. The goal of decarbonizing the gray hydrogen consumed by TotalEnergies in Europe by 2030 would reduce emissions by 3 Mt of CO_2/year. TotalEnergies has already launched projects to decarbonize its refineries by producing and supplying green hydrogen: La Mède (France), with a production of 15 kt/year, and the Zeeland refinery (the Netherlands), with a production of 20 kt/year as a first step.

In October 2021, Offshore Wind Power Limited (OWPL), the consortium formed by TotalEnergies (38,25%), Green Investment Group, and the Scottish developer, Renewable Infrastructure Development Group (RIDG), announced that it is looking into the use of offshore wind power to produce green hydrogen on an industrial scale on the island of Flotta in the Orkney Islands, Scotland.

In addition, Total Eren is conducting feasibility studies for projects to produce green hydrogen or ammonia on a massive scale, notably in Australia and Chile.

2.1.4 Power production and storage

In the context of the development of an integrated value chain from power production to sales of electricity to residential and commercial customers, TotalEnergies is aiming for net power generation of 50 TWh by 2025 , mainly of renewable origin, compared to 21.2 TWh in 2021.

TotalEnergies' ambition is to become a global leader in the field of renewables. The Company had a portfolio of gross installed renewable power generation capacity of 10.3 GW in 2021. TotalEnergies confirms its objective to invest in order to reach a gross power generation capacity from renewables of 35 GW in 2025, and intends to continue its development to become one of the top five producers of renewable electricity (wind and solar) in the world, with a gross capacity of 100 GW by 2030.

2.1.4.1 POWER GENERATION FROM NATURAL GAS

TotalEnergies is building a portfolio of combined-cycle gas turbines (CCGT) in Europe as part of its strategy to create an integrated gas and electricity value chain in Europe, from production to marketing, as an ideal complement to renewable power generation from inherently intermittent sources. Thanks to the flexible production from those power plants, TotalEnergies can optimize its customers' power procurement costs. At year-end 2021, in Europe, TotalEnergies operated eight CCGTs and two cogeneration units, with an aggregate gross electrical generation capacity of 4.2 GW. The CCGTs generated 10.1 TWh of electricity in 2021, compared to 8.1 TWh in 2020. A ninth CCGT (Landivisiau, France) is in the process of starting up.

In **France**, TotalEnergies owned on December 31, 2021, 100% of five CCGT units, including two acquired in 2020 from EPH, and a cogeneration unit (Normandy refinery). Their gross gas-based power generation capacity stood at 2.3 GW at the end of 2021. The 0.4 GW CCGT in Landivisiau (France), under construction by TotalEnergies, is in the process of starting up.

In **Belgium**, TotalEnergies owns the Marchienne CCGT with a 0.4 GW capacity and has access to the electricity production of the Anvers refinery (0.2 GW).

In **Spain**, TotalEnergies acquired two CCGTs from Energías de Portugal in 2020 with a total gross capacity of 0.8 GW at year-end 2021 (stable since 2020).

In **Abu Dhabi**, the Taweelah A1 gas-fired power plant, owned by the Gulf Total Tractebel Power Company (TotalEnergies, 20%), combines electricity generation and seawater desalination. The plant has a gross electricity generation capacity of 1.6 GW and a seawater desalination capacity of 385,000 m³ per day. The plant's production is sold to Emirati Water and Electricity Company (EWEC) under a long-term agreement.

2.1.4.2 POWER GENERATION FROM RENEWABLES

Since 2016, TotalEnergies has been pursuing a policy of dynamic external growth to expand its renewable power generation capacities, including its acquisition of Quadran (through Direct Energie) now renamed TotalEnergies Renouvelables France and a stake in EREN Renewable Energy, now renamed Total Eren, or the acquisition of a 20% interest in Adani Green Energy Ltd in India.

TotalEnergies had gross installed renewable power generation capacities of 10.3 GW at year-end 2021, compared to 7.0 GW at year-end 2020. Net renewable electricity generation amounted to 6.8 TWh in 2021, compared to 4.0 TWh in 2020.

In 2021, TotalEnergies accelerated its growth with the announcement of projects to be developed or already in production, which fuels the objective of 35 GW of gross installed capacities by 2025. By the end of 2022, TotalEnergies targets gross renewable power generation capacities of 16 GW.

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(1) Source: Ardian website.

Renewable power generation capacities

Renewable power generation capacities [(a)]	on December 31, 2021 In operation	In construction	In development
Gross capacities	10.3 GW	6.5 GW	26.2 GW
covered by PPA	10.2 GW	6.2 GW	11.6 GW
Net capacities	5.1 GW	4.6 GW	22 GW
Average PPA price	100 $/MWh	61 $/MWh	44 $/MWh

(a) Including 20% of Adani Green Energy Ltd's gross capacities from first trimester 2021.

Gross installed renewable power generation capacities (GW)

Gross installed renewable power generation capacities (GW) [(a) (b)]	on December 31, 2021 Solar	Onshore Wind	Offshore Wind	Other*	Total
France	0.6	0.5	0.0	0.1	1.2
Rest of Europe	0.2	1.0	0.0	0.1	1.3
Africa	0.1	0.0	0.0	0.0	0.1
Middle East	0.3	0.0	0.0	0.0	0.3
North America	0.9	0.0	0.0	0.0	0.9
South America	0.4	0.3	0.0	0.0	0.7
India	4.5	0.2	0.0	0.0	4.7
Asia-Pacific	1.0	0.0	0.0	0.0	1.0
TOTAL	**8.0**	**2.0**	**0.0**	**0.2**	**10.3**

* Storage, hydroelectricity and biogas

(a) Including 20% of Adani Green Energy Ltd's gross capacities from first trimester 2021.

(b) Data at the end of the period.

TotalEnergies Renewables France

In France, TotalEnergies develops, builds and operates green electricity projects in mainland France and its overseas territories. At the end of 2021, TotalEnergies Renouvelables France operated more than 440 onshore wind, solar, battery and hydraulic assets for a gross installed capacity of 1.2 GW at the end of 2021, compared to 1 GW at the end of 2020 and 0.8 GW at the end of 2019.

In 2020, Banque des Territoires acquired an interest of 50% in a portfolio of solar and wind energy assets held by TotalEnergies in France, with total capacity of 143 MW. TotalEnergies has also farmed down to Banque des Territoires end-2020 and Crédit Agricole Assurances in early 2021 half of its equity in two portfolios of renewable projects (solar and wind), respectively 53 MW and 285 MW. These farmdowns are the implementation of the business model defined by TotalEnergies for the development of renewables aiming to achieve over 10% return on equity and to spread its risk.

In addition, in March 2020, TotalEnergies acquired Global Wind Power France, which is developing a portfolio of more than 1 GW of onshore wind power projects in France, including 250 MW that is expected to be commissioned by 2025.

In 2021, TotalEnergies opened 16 crowdfundings subscriptions for a total financing of nearly €11 million for the financing of renewable farms.

In addition, TotalEnergies is developing battery energy storage to meet the challenges of balancing electricity grids. TotalEnergies has won a major lot in the long-term call for tenders launched by RTE in 2019 to strengthen the security of supply of the French electricity system. The seven-year contract provides a stable revenue base for energy storage projects. Of the 129 MW of batteries developed for this project, 61 MW are already operational at a TotalEnergies site in Dunkirk. This site consists of 27 2.5 MWh containers designed and assembled by Saft Groupe, TotalEnergies' battery subsidiary, which develops, in particular, advanced batteries for industry. This deployment, which is in addition to the combined photovoltaic and storage facilities in the French overseas territories (26 MW), is expected to reach 134 MW by the end of 2022 in France and should be completed by projects in South Africa, the United States and Europe.

TotalEnergies Renewables International

On the international stage, TotalEnergies contributes to the development of solar activities by focusing on large-scale solar electricity production plants, which may be combined with electricity storage in targeted geographical areas, such as India, Europe, particularly Spain, the United States, the Middle East, South Africa, Japan and Chile.

In **Spain**, in 2020, TotalEnergies signed two agreements with Powertis and Solarbay Renewable Energy to develop nearly 2 GW of solar projects in the Spanish solar market. Also in 2020, TotalEnergies signed a third agreement with the Spanish developer Ignis to develop solar power projects totaling 3.3 GW (100%) of solar projects on sites near Madrid and in Andalusia. With this solar power portfolio, the Company intends to provide for all power consumption at its industrial sites in Europe by 2025. With that objective in mind, TotalEnergies intends to purchase nearly 6 TWh/year of green electricity generated at those solar plants as part of a PPA.

In the **United States**, in 2020, TotalEnergies and 174 Power Global, a Hanwha Group subsidiary, signed an agreement to form a 50/50 joint venture to develop 12 utility-scale solar and energy storage projects of 1.6 GW cumulative capacity, transferred from 174 Power Global's development pipeline. These projects, located in six US states, are expected to be developed between 2022 and 2024. This portfolio also includes the Oberon solar power plant in Texas (194 MW, 50%), commissioned in 2021.

In addition, TotalEnergies' presence in the US solar market was strengthened in February 2021 with the acquisition of a portfolio of 2.2 GW (100%) of solar projects and 0.6 GW (100%) of battery storage projects in Texas. As part of this portfolio, the Myrtle (380 MW, 100%) and Danish Fields (720 MW, 100%) solar farm projects in the Brazoria, Wharton and Matagorda counties in Texas, have been initiated for planned commissioning in 2023. With a total of 1.5 TWh of Renewable Energy Certificates (RECs), these projects will contribute to the reduction of Scope 2 emissions from TotalEnergies' sites in the United States by planning to cover all the electricity consumed on the industrial sites operated in the US, including the Port Arthur refinery-petrochemicals platform and the La Porte and Carville petrochemicals sites. They should also be able to supply green electricity to customers such as Kilroy or Amazon.

In addition, TotalEnergies holds interests in the NASDAQ-listed US companies SunPower Corporation (SunPower) and Maxeon Solar Technologies, Ltd. (Maxeon), which are discussed in a specific section below.

In the **Middle East**, TotalEnergies and its partners launched the development of the Al Kharsaah project, which is the first very large-scale solar power plant (800 MW, 19.6%) in **Qatar**, in 2020. The project was awarded to a consortium comprising TotalEnergies (49%) and Marubeni (51%) following the first international solar tender in the country. Funding was put in place in 2020. In addition, as part of a multi-energy agreement with **Iraq**, signed in September 2021, TotalEnergies plans to develop a 1 GW solar power plant to supply the grid in the Basra region. TotalEnergies also has interests in the Shams solar power plants in **Abu Dhabi** (110 MW, 20%).

In October 2021 in **South Africa**, TotalEnergies won two contracts for the development of an 87 MW project (36%) and a 216 MW project (35%) combined with batteries. TotalEnergies also holds a stake in the Prieska solar power plant (86 MW, 27%).

In **Chile**, TotalEnergies holds interests in the Santa Isabel (190 MW, 50%) and PMGD (23 MW, 100%) solar power plants.

Finally, in **Japan**, the Osato solar power plant (45%), with a capacity of 52 MW, came into operation in October 2021. In addition, construction work on the Haze solar power plant, with a capacity of approximately 51 MW, is underway, with an expected start-up date in 2023. TotalEnergies' stake was 90% at the time of the final investment decision and is expected to be reduced in steps to 45% by 2022. TotalEnergies also has interests in the Nanao (27 MW, 50%), Miyako (25 MW, 50%) and Osato (52 MW, 45%) solar power plants.

Total Eren

On the international scene, in 2017, TotalEnergies acquired a 23% indirect stake in EREN Renewable Energy, since renamed Total Eren. This interest was increased to a 29.6% direct and indirect holding at the end of 2019. TotalEnergies has an option to acquire 100% of Total Eren in 2023. At year-end 2021, Total Eren had a diversified set of assets in renewable energies (wind, solar and hydropower), representing gross capacity of more than 3.3 GW in operation or under construction worldwide. Through its partnerships with local developers, Total Eren is developing projects in Europe, Central and South Asia, the Asia-Pacific region, Africa and Latin America. In April 2019, Total Eren acquired Novenergia and expanded its presence, particularly in southern Europe.

OFFSHORE WIND POWER

As part of its long-term strategy to develop renewable energy sources, TotalEnergies has maintained a strong presence in the fixed and floating offshore wind industry since 2020.

In the fixed offshore wind sector, TotalEnergies acquired a 51% stake from SSE Renewables in the 1,140 MW Seagreen project in the Scottish North Sea. The project is currently under construction, with commissioning projected for end 2022 - early 2023. The acquisition also includes a potential expansion of up to 360 MW.

TotalEnergies has established a presence in the nascent floating wind industry as well, where it hopes to become a global leader. In March 2020, TotalEnergies acquired an 80% stake in the groundbreaking Erebus floating wind project from the developer, Simply Blue Energy. Located in the Celtic Sea off the Welsh coast, Erebus has capacity of 96 MW. Plans to expand the project's capacity to 360 MW are currently being examined.

In a longer term vision, in 2020, TotalEnergies entered into 2 agreements to develop power generation capacities in the floating offshore wind technology, including 2 GW in South Korea (with Green Investment Group (GIG), a subsidiary of Macquarie) and up to 0.4 GW in the United Kingdom. In February 2021, a 50/50 joint-venture between TotalEnergies and GIG obtained a concession on the British seabed to jointly develop up to 1.5 GW of offshore wind projects.

In May 2021, TotalEnergies acquired a 23% interest in the 640 MW Yunlin project in Taiwan from wpd. The project is currently under construction and began injecting electricity into the grid in November 2021.

TotalEnergies became a 20% shareholder in 2020 in the Eolmed floating wind farm pilot project, located in the Mediterranean off the French coast and providing 30 MW of capacity.

TotalEnergies has thus, at year-end 2021, more than 6 GW gross capacity of offshore wind projects under construction and development.

In January 2022, the joint venture between TotalEnergies (38.25%), Macquarie's subsidiary Green Investment Group (GIG) (46.75%) and RIDG (15%), a Scottish developer in offshore wind, successfully secured rights in the N1 area to develop a 2 GW offshore windfarm project in the ScotWind leasing round. This project, which aims to start producing renewable power by 2030, represents a potential investment estimated at more than GBP£4 billion. As part of this development, the partners intend to invest GBP£140 million (over €160 million) to support the development of the local supply chain, and in particular the enhancement of ports and harbor infrastructure in Orkney and Caithness. This should ensure high levels of local content and actively promote employment and innovation in the region. Once built, the windfarm could also deliver renewable power to the Flotta Hydrogen Hub, a proposed large-scale green hydrogen production facility in Orkney.

In February 2022, TotalEnergies was named winner of a maritime lease area to develop an offshore windfarm of over 3 GW off New York and New Jersey on the US East Coast.

TotalEnergies Renewables Distributed Generation

In addition to the high-capacity projects, TotalEnergies is also active in distributed electrical generation through its wholly-owned subsidiary TotalEnergies Renewables Distributed Generation. This subsidiary focuses on developing and building rooftop photovoltaic systems, that may be combined with batteries or other means of generation and are installed at industrial and commercial sites for their own consumption. Depending on each country's laws, TotalEnergies can operate those systems or lease them to local players. TotalEnergies Renewables Distributed Generation enters into private power purchase agreements (PPA) as part of its activities. In addition, it helps to carry out TotalEnergies' program for solarizing its own sites.

TotalEnergies Renewables Distributed Generation has operational activities in more than 18 countries, with customers notably in South East Asia, the Middle East and Europe, where the business was launched in 2021 in Belgium, Spain and the Netherlands.

In 2019, TotalEnergies Renewables Distributed Generation and the Envision Group, the world leader in smart energy systems, formed an equally-owned joint venture in China to develop distributed solar energy projects, for self-consumption by industrial and commercial customers.

In Saudi Arabia, the first contracts were signed by the equally-owned SAFEER joint venture formed between TotalEnergies Renewables Distributed Generation and the Zahid Group in March 2021.

Finally, in Southeast Asia, the symbolic milestone of 100 contracted MW was reached and TotalEnergies Renewables Distributed Generation now operates in nine countries.

At year-end 2021, TotalEnergies Renewables Distributed Generation had a gross installed capacity of 415 MW, including 228 MW in China, 90 MW in Southeast Asia, 50 MW in the Middle East, 35 MW in the United States, and 13 MW in Europe.

In February 2022, TotalEnergies acquired SunPower's commercial and industrial solar activities for $250 million.

CORPORATE PPA

On open electricity markets, it is possible to sign long-term sales contracts, called corporate PPAs, for the output from solar or wind assets with corporate customers. Unlike in the distributed generation business, said assets are not located on the customer's property, but elsewhere on the electricity grid. The electricity generated by these assets is then transmitted over the electricity grid to the customer.

These contracts are usually signed on a long-term basis with fixed prices or with limited price variations. They enable customers to buy decarbonized electricity directly from the producer, while benefiting from a stable electricity price over the long term by having access to the cost advantages offered by large-scale plants. These contracts enable TotalEnergies to secure long-term electricity sales and to promote the launch of new production assets.

The most active markets are Australia, Brazil, the United States and Europe (Benelux, Spain, the United Kingdom and the Nordic countries). TotalEnergies is positioned locally on these various markets in order to offer its customers global solutions and to help them achieve their decarbonization targets.

At year-end 2021, TotalEnergies had signed corporate PPAs in these markets for 1.5 TWh, i.e., more than 1 GW of installed capacity with customers such as Amazon Web Services, Microsoft, Merck and Orange.

SunPower Corporation and Maxeon Solar Technologies, Ltd.

TotalEnergies has been the largest shareholder (50.83% as of 31 December 2021) in SunPower Corporation, an American company listed on NASDAQ and based in California, since 2011. Since the spin-off of the company in August 2020 and the creation of Singapore-based Maxeon Solar Technologies, Ltd. (36.4%), which is also listed on the NASDAQ, SunPower has focused on developing and marketing energy services combining photovoltaic systems, energy storage and services in the residential, industrial and commercial segments of the US market. In October 2021, SunPower acquired Blue Raven Solar, one of the fastest-growing solar providers in the U.S. on the residential market.

Maxeon now brings together the design, manufacture and sale of very high-efficiency solar cells and panels worldwide. Tianjin Zhonghuan Semiconductor Co., Ltd. (TZS), a global force in solar cells, acquired a 28.848% stake in Maxeon Solar Technologies Ltd. at the time of the spin-off.

Gross renewable power generation capacities in construction

	on December 31, 2021				
Gross renewable power generation capacities in construction (GW) [(a)] [(b)]	Solar	Onshore Wind	Offshore Wind	Other*	Total
France	0.2	0.2	0.0	0.1	0.4
Rest of Europe	0.0	0.1	1.1	0.0	1.2
Africa	0.0	0.0	0.0	0.0	0.0
Middle East	0.8	0.0	0.0	0.0	0.8
North America	1.5	0.0	0.0	0.0	1.5
South America	0.0	0.0	0.0	0.0	0.0
India	1.2	0.4	0.0	0.0	1.6
Asia-Pacific	0.3	0.0	0.6	0.0	1.0
TOTAL	**4.0**	**0.6**	**1.7**	**0.1**	**6.5**

* Storage, hydroelectricity and biogas

(a) Including 20% of Adani Green Energy Ltd's gross capacities from first trimester 2021.

(b) Data at the end of the period.

Gross renewable power generation capacities in development

Gross renewable power generation capacities in development (GW) [(a)] [(b)]	on December 31, 2021 Solar	Onshore Wind	Offshore Wind	Other*	Total
France	3.1	0.8	0.0	0.0	3.9
Rest of Europe	5.2	0.3	2.3	0.0	7.8
Africa	0.4	0.0	0.0	0.1	0.5
Middle East	1.6	0.0	0.0	0.0	1.6
North America	2.3	0.1	0.0	0.7	3.1
South America	0.6	0.4	0.0	0.1	1.2
India	4.4	0.1	0.0	0.0	4.5
Asia-Pacific	1.2	0.0	2.1	0.1	3.5
TOTAL	**18.9**	**1.7**	**4.4**	**1.1**	**26.2**

* Storage, hydroelectricity and biogas

(a) Including 20% of Adani Green Energy Ltd's gross capacities from first trimester 2021.

(b) Data at the end of the period.

Gross renewable power generation capacities covered by PPAs

on December 31, 2021

	In operation				In construction					In development				
Gross renewable power generation capacities covered by PPAs (GW)	Solar	Onshore Wind	Other	Total	Solar	Onshore Wind	Offshore Wind	Other	Total	Solar	Onshore Wind	Offshore Wind	Other	Total
Europe	0.8	1.5	+	2.5	+	0.2	0.8	+	1.2	4.0	0.3	+	+	4.3
Asia Oceania	5.7	+	+	5.9	2.4	0.3	0.6	–	3.4	6.2	+	–	+	6.4
North America	0.8	+	+	0.9	1.5	+	–	+	1.5	0.1	0.0	–	+	+
Rest of the World	0.6	0.3	+	0.9	+	+	–	+	+	+	+	–	+	0.7
TOTAL	**8.0**	**2.0**	**+**	**10.2**	**4.0**	**0.6**	**1.4**	**+**	**6.2**	**10.8**	**0.5**	**+**	**0.3**	**11.6**

PPA average price ($/MWh)	Solar	Onshore Wind	Other	Total	Solar	Onshore Wind	Offshore Wind	Other	Total	Solar	Onshore Wind	Offshore Wind	Other	Total
Europe	196	118	+	143	+	66	64	+	66	42	96	+	+	46
Asia Oceania	80	+	+	80	40	50	214	–	72	38	+	–	+	38
North America	153	+	+	156	28	+	–	+	28	+	–	–	+	+
Rest of the World	80	54	+	72	+	+	–	+	185	77	+	–	+	77
TOTAL	**99**	**103**	**+**	**100**	**37**	**63**	**116**	**+**	**61**	**42**	**81**	**+**	**144**	**44**

+: not disclosed, PPA relating to a capacity < 0.2 GW.

2.1.4.3 ELECTRICITY STORAGE

Electricity storage is a major challenge for the future of power grids and a vital add-on to renewables, which are intermittent by nature. Large-scale electricity storage is essential to promote the growth of renewables and help them capture a significant share of the electricity mix. TotalEnergies is positioned on electrical energy storage through its wholly-owned subsidiary Saft

Saft, which TotalEnergies acquired in 2016, is a century-old French company that specializes in the design, manufacture and sale of high-tech batteries for industry.

Saft develops batteries that use nickel, lithium-ion and primary lithium technologies. The company is active in transportation (aeronautics, rail and off-road electric mobility), industrial infrastructure, meters and the Internet of things, civil and military electronics, aerospace, defense and energy storage. Building on the strength of its technological know-how, and through its energy storage activities, Saft is well placed to benefit from the growth in renewables beyond its current activities, by offering massive storage capacities, combined with the generation of electricity from renewables. This is one of Saft’s main sources of growth.

In 2021, Saft continued to develop its business, particularly in energy storage and mobility, with :

- the full commissioning of the largest energy storage site in France, in Dunkirk, with a storage capacity of 61 MW/61 MWh(1). This site is made up of 27 2.5 MWh containers, designed and assembled by Saft Groupe;
- the commissioning of a 13 MW/4 MWh stationary energy storage system for Australia's largest hybrid renewable energy microgrid at the Agnew gold mine;

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(1) This means that the site has the capacity to store and deliver 61 MW of electrical power for one hour.

- the signing of a Memorandum of Understanding between Total Eren and the government of Kazakhstan for the construction of a 1 GW wind farm, combined with 500 MW/1 GWh of energy storage;
- the award of a contract by KSC Group, a Russian rail systems supplier, for the delivery of a second batch of nickel battery systems for the emergency traction system of the Moscow metro;
- the world speed record (456 km/h) set by the Voxan Wattman electric motorcycle, equipped with high-performance lithium-ion cells designed and manufactured by Saft.

At year-end 2021, Saft was present in 19 countries (historically in Europe and the United States) and had over 4,000 employees. Saft is expanding, especially in South America and Asia, and has 16 production sites and approximately 30 sales offices.

In parallel, TotalEnergies also develops other electrical energy storage projects through partnerships. In September 2021, Stellantis, TotalEnergies and Mercedes-Benz entered into agreement to welcome Mercedes-Benz in the ACC (Automotive Cells Company) Allliance, the joint venture created in 2020 to design and manufacture batteries for electric vehicles. In that context, the partners have undertaken to bring the industrial capacity of ACC to at least 120 GWh by 2030.

In 2021, the ACC alliance made significant process. ACC can rely on cutting-edge R&D, notably provided by Saft. In September 2021, ACC inaugurated its R&D center in Bruges near Bordeaux, with the objective of developing and producing the first prototype cells and modules for batteries. The pilot plant built on the site of Saft's factory in Nersac, France, will aim to validate the mass series production of lithium-ion cells. In 2022, construction is expected to start on the first large-scale plant in the Hauts-de-France region of France, and production is due to start in 2023. By 2024, the construction of a second plant based in Kaiserslautern, Germany, should begin (production will start in 2025), to reach the production target of more than 120 GWh by 2030, *i.e.*, a target of 2.5 million batteries for electric vehicles per year.

In addition, the strong growth of renewables is changing the balance of grid operators. Consequently, TotalEnergies offers them services to manage the flexibility required to balance production and consumption. In 2021, TotalEnergies started the largest battery-based electricity storage facility in France (61 MW), and has a portfolio under development that could provide 1 GW of storage capacity by 2025.

2.1.5 Natural gas and electricity marketing and trading

2.1.5.1 NATURAL GAS AND ELECTRICITY MARKETING

EUROPE

With a portfolio of 5 million BtB and BtC customer sites (gas and electricity) **in France**, 8.8 million BtB and BtC client sites **in Europe** and 56.6 TWh of electricity and 101.2 TWh of gas supplied in 2021, TotalEnergies has become a leading player in the sale of natural gas and electricity to both the residential and professional markets (business and industrial segments).

TotalEnergies is now aiming for 8 million BtB and BtC customers sites (gas and electricity) in France and 13 million client sites (gas and electricity) in Europe across every segment, and in particular a 15% market share in France and Belgium in the residential segment by 2025.

TotalEnergies markets natural gas and electricity in the residential and professional segments in France through its subsidiary TotalEnergies Electricité et Gaz France (a merger of the TotalEnergies Énergie Gaz, TotalEnergies Spring France and Direct Énergie entities), in **Belgium**, through TotalEnergies Power & Gas Belgium subsidiary (formerly Lampiris SA), and in **Spain**, where it serves both professional and residential customers following its acquisition of EDP’s operations in Spain in 2020.

TotalEnergies also markets natural gas and electricity on the professional market in the **United Kingdom** and **the Netherlands**.

(million of sites BtB and BtC)	2021	2020	2019
Europe	**8.8**	8.3	5.8
France	5.4	4.8	4.5
Belgium	1.0	1.0	1.0
United Kingdom	0.3	0.2	0.2
Germany	0.0	0.1	0.0
Netherlands	0.1	0.1	0.1
Spain	2.1	2.1	0.0

(in TWh of electricity supplied)	2021	2020	2019
Europe	**56.6**	47	46
France	33.4	27	26.5
Belgium	4.5	4.2	4
United Kingdom	12.6	9.3	11
Germany	0.0	4	2
Netherlands	0.8	0.5	0.5
Spain	5.2	3	2

(in TWh of gas supplied)	2021	2020	2019
Europe	**101.2**	96	95
France	31.5	27	25
Belgium	10.3	9	9
United Kingdom	50.2	43	43
Germany	0.0	12	14
Netherlands	3.9	4	4
Spain	5.3	1	0

REST OF THE WORLD

In **Argentina**, TotalEnergies markets the natural gas that it produces. In 2021, 4.44 Gm³ of gas was sold, compared to 4.3 Gm³ in 2020 and 2019.

In **India**, in 2021, Adani TotalEnergies Gas Limited – of which TotalEnergies acquired 37.4% in 2020 – added 14 new city gas distribution concessions to the 38 concessions it already holds

2.1.5.2 NATURAL GAS AND ELECTRICITY TRADING

TotalEnergies is active in the trading of natural gas and electricity in Europe and North America. It sells its output to third parties and supplies its subsidiaries.

In **Europe**, TotalEnergies sold 75 Gm³ of natural gas in 2021, compared to 89 Gm³ in 2020 and 70.3 Gm³ in 2019. TotalEnergies also delivered 111 TWh of electricity in 2021, compared to 90 TWh in 2020 and 66 TWh in 2019, mainly from external sources.

In **North America**, TotalEnergies sold 27 Gm³ of natural gas in 2021 from its own production or from external resources, compared to 21 Gm³ in 2020 and 17.4 Gm³ in 2019.

2.1.6 LPG, Petcoke and Sulfur trading and transportation

2.1.6.1 LPG, PETCOKE AND SULFUR TRADING

TotalEnergies is also active in markets other than natural gas, LNG and electricity, such as LPG, petcoke and sulfur.

In 2021, TotalEnergies traded and sold 6.4 Mt of LPG (propane and butane) worldwide, compared to 6.2 Mt in 2020 and 6.4 Mt in 2019. About 22% of those quantities came from fields or refineries operated by the Company. This trading activity was conducted using 10 long-term chartered vessels. In 2021, 275 journeys were necessary for transporting the negotiated quantities, including 192 journeys by TotalEnergies' long-term chartered vessels and 83 journeys by spot-chartered vessels.

TotalEnergies sells petcoke produced by the Port Arthur refinery in the United States and the Jubail refinery in Saudi Arabia. Petcoke is sold to cement producers and electricity producers, mainly in China, India, as well as in Mexico, Brazil, other Latin American countries and Turkey. In 2021, 2.5 Mt of petcoke was sold on the international market, compared to 2.3 Mt in 2020 and 2.5 Mt in 2019.

TotalEnergies also sells sulfur, mainly from the production of its refineries. It sold 2 Mt of sulfur in 2021, compared to 1.8 Mt in 2020 and 1.6 Mt in 2019.

In 2015, TotalEnergies ceased its coal production activities, and it stopped selling and trading coal in 2016.

2.1.6.2 TRANSPORT OF NATURAL GAS

TotalEnergies holds interests in gas pipelines (refer to point 2.3.10 of this chapter) located in Brazil and Argentina.

2.1.7 Promotion of innovation in electricity sector

As part of its transformation into a multi-energy company, TotalEnergies is launching "TotalEnergies On", its startup acceleration program at Station F, the world's largest startup campus, located in Paris.

The objective of this program is to identify and support startups developing digital solutions in the field of electricity, whether it is renewable production, storage, trading, sales, decentralized network management, or electric mobility. Once they have been selected, TotalEnergies will be able to acquire an equity stake in the most promising ones.

This new program replaces the activity of TotalEnergies Ventures (TEV), which was the venture capital arm of TotalEnergies.

2.1.8 Energy efficiency services

GreenFlex is a wholly owned subsidiary offering services designed to improve the energy and environmental performance of its customers. GreenFlex has more than 800 customers and employs 440 people at the end of 2021.

2.2 Exploration & Production segment

The Exploration & Production (EP) segment encompasses the oil and natural gas exploration and production activities (excluding LNG(1)) in about 50 countries. Since September 1, 2021, the Carbon Capture and Storage and Nature-Based Solutions activities have been affiliated to the EP segment.

Main indicators

2.3 Mboe/d
of hydrocarbons produced in 2021

$18.7 G
DACF(2) in 2021

$6.7 G
of organic investments(3) in 2021

Production

Hydrocarbon production	2021	2020	2019
EP *(kboe/d)*	2,290	2,341	2,454
Liquids *(kb/d)*	1,437	1,474	1,601
Gas *(Mcf/d)*	4,662	4,727	4,653

[REDACTED SECTION: CERTAIN TEXT HAS BEEN REDACTED.]

2.2.1 Presentation of the segment

The Exploration & Production segment (EP) is responsible for exploring, developing and producing oil and gas fields to help meet global energy demand while reducing greenhouse gas (GHG) emissions associated with fossil fuel production. In order to ensure the coherence of its business in light of the challenges posed by climate change, EP is focused on targeting low cost or breakeven projects and low GHG emissions for its oil investments and expanding its production of natural gas. It was in this spirit that the carbon neutrality activities were affiliated with the EP segment in September 2021.

In a context of highly volatile oil and gas prices, EP's strategy is to run an oil and gas production business model that is responsible, profitable and resilient, and consistent with TotalEnergies' climate ambition.

This strategy is deployed in accordance with these three primary axes:

– Responsibility: safety is a core value for the Company and is at the heart of everything EP does. EP's operations are also focused on minimizing its environmental impact, in particular by contributing significantly to greenhouse gas emissions reductions across the Company's operated facilities.

– Profitability: the objective of EP is to ensure that good investment discipline is maintained by being selective in its approvals of new projects and to create as much value as possible from the assets through operational excellence (continuing efforts to cut costs, improve the availability of facilities and start major projects on time and within budget).

– Resilience: EP continues to manage its portfolio dynamically, by restructuring or disposing of its lowest-performing assets and high grading the portfolio by accessing new resources through both exploration and the acquisition of resources that have already been discovered, drawing on the Company's competitive advantages with regards to its geographical presence and technical expertise, and by prioritizing to low-cost, low breakeven, low carbon projects. EP also strives to maintain significant flexibility in its future investments so that it can resist and react in a low oil and gas price environment over an extended period of time.

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(1) Since January 1, 2019, the LNG Upstream and midstream activities, which previously reported to the Exploration & Production segment, now report to the Integrated Gas, Renewables & Power segment.

(2) DACF = debt adjusted cash flow. The operating cash flow before working capital changes w/o financial charges of the segment is defined as cash flow from operating activities before changes in working capital at replacement cost, without financial charges except those related to lease agreements.

(3) Organic investments = net investments, excluding acquisitions, divestments and other operations with non-controlling interests (refer to point 1.6.1. of chapter 1).

TotalEnergies' climate ambition for 2050 leads EP to:

- Concentrate oil investments on projects with low technical costs (below $20/boe) or a low breakeven point (below $30/b);
- Develop the production of gas, which is the fossil fuel with the lowest level of emissions;
- Ensure that new oil and gas projects contribute to lowering the Company's average intensity of GHG emissions (Scope 1+2) in their category;
- Integrate now for all countries a CO_2 price that reaches $\$_{2030}100$/t in 2030 and beyond for any investment decision.

2.2.2 Carbon neutrality

TotalEnergies aims to achieve carbon neutrality (zero net emissions) by 2050, together with society.

In concrete terms, TotalEnergies has made a series of commitments to limit the environmental impact of its operations, for which EP is in line or ahead of schedule with its goals.

- Reduce GHG emissions (Scope 1+2) from operated facilities by 15% by 2025. By 2030, the objective is a reduction of at least 40% in net emissions(1) compared to 2015 for the operated activities;
- Reduce methane absolute emissions from operated oil and gas assets by 50% between 2020 and 2025, and by 80% between 2020 and 2030;
- Maintain the intensity of methane emissions below 0.1% of commercial gas produced on operated gas facilities;
- Reduce routine flaring on operated facilities to less than 0.1 Mm^3/d by 2025, with the goal of eliminating it by 2030.

To this end, in September 2021, TotalEnergies created a new division Carbon Neutrality within EP tasked with developing a global approach that will help to achieve TotalEnergies' carbon neutrality goals. This division covers several activities.

- Carbon Footprint Reduction (CFR) within the EP scope :
- Carbon Capture and Storage (CCS) and Nature-Based Solutions (NBS) within the Company scope.

The carbon neutrality approach deployed by EP in support of the Company's carbon neutrality target, is based on three key factors: "Avoid, Reduce, Compensate".

- Avoid GHG emissions by prioritizing decisions to produce the most virtuous reserves in terms of carbon footprint and by designing "low carbon" infrastructures and procedures;
- Reduce GHG emissions by developing and deploying a systematic approach at EP to identify and implement the best available technologies to reduce GHG emissions (Scope 1+2) and, if necessary, store captured CO_2 in underground storage;
- Compensate GHG emissions by developing natural carbon sinks (nature-based solutions) that will compensate emissions reduced to the bare minimum.

In addition, this division develops CO_2 storage services for customers who need to store CO_2.

This new division brings together all carbon neutrality-related activities within EP, generating synergies between the CFR, CCS and NBS entities, while providing a coherent, efficient, sustainable and responsible approach in support of the carbon neutrality targets set by TotalEnergies.

2.2.2.1 REDUCTION OF THE CARBON FOOTPRINT

The Carbon Footprint Reduction (CFR) entity, created in September 2019 to consolidate EP's efforts to contribute to TotalEnergies' GHG reduction targets, manages the reduction of emissions from upstream oil & gas assets, both operated and non-operated, using several levers: eliminating flaring and methane emissions, improving energy efficiency and electrifying processes.

The CFR entity guides and implements the best available technologies alongside the subsidiaries, to develop GHG reduction projects for all operated assets. The entity also proactively coordinates targeted actions to encourage its operator partners to also implement reduction projects. The CFR entity coordinates the implementation of the OGMP2.0 (Oil and Gas Methane Partnership 2.0), to which TotalEnergies subscribed in November 2020.

In addition to the constant efforts to reduce emissions from existing assets, the carbon footprint reduction program also aims to develop a collective low-carbon emissions culture in the upstream operations and a low carbon approach to new assets and developments, while mobilizing stakeholders and partners to reduce GHG emissions. The organization relies on a network of contacts who act as focal points in EP subsidiaries and One Tech.

In 2021, EP continued to make progress, with more than 300 emission-reduction projects already underway or planned that are contributing to achieving the 2025 and 2030 goals of emission reduction.

2.2.2.2 CARBON CAPTURE, STORAGE AND UTILIZATION

TotalEnergies is seeking to develop new businesses that will enable its industrial, residential and power-generating customers to capture, store and reuse their CO_2 emissions. To do that, it is testing new industrial solutions at its own facilities.

TotalEnergies believes that Carbon Capture, Utilization and Storage (CCUS) is one of the elements needed for the fight against climate change. It is particularly interested in the development of new business and industrial models associated with this value chain. TotalEnergies is currently investing $100 million per year in this area.

TotalEnergies intends to participate directly or indirectly (via the OGCI fund in particular) in the implementation of large-scale pilot projects related to CCUS. Thus, in May 2020, TotalEnergies made an investment decision with its partners to develop the transportation and storage components (Northern Lights) of the world's first commercial CO_2 capture, transportation and storage project, up to 1.5 Mt CO_2/year capacity. Following the vote of the Norwegian parliament, the Government of the Kingdom of Norway announced its support for the project. The project's goal is to store the emissions from two industrial sites near Oslo, Norway, and will also be able to collect emissions from other emitters.

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(1) The calculation of net emissions takes into account natural carbon sinks such as forest regenerative agriculture and wetlands.

In the Netherlands, TotalEnergies is studying the injection of CO_2 using the wells and platforms that it operates. The project aims to store the CO_2 safely and permanently in depleted offshore gas reservoirs at a depth of about 4 kilometers. TotalEnergies and its partners have signed an agreement in 2021 called Aramis for the transportation of CO_2. This project allows the joint development of new CO_2 transportation infrastructure from Rotterdam to storage in depleted offshore gas fields.

TotalEnergies has pledged to study additional projects as well, including initiatives for decarbonizing its own sites, in collaboration with other manufacturers and partners, in line with carbon neutrality commitments made by its host countries, notably in Europe. In the United Kingdom, TotalEnergies is part of the Northern Endurance Partnership (NEP). This project consists of collecting CO_2 in the industrial regions of Teesside and Humberside, transporting it offshore and storing it in a saline aquifer at respectively 85 km and 145 km offshore.

New CO_2 capture technologies are being tested in partnerships in the United States and Canada.

2.2.2.3 NATURAL CARBON SINKS

While TotalEnergies' priority is to first avoid, and then to reduce its emissions, the net emissions targets for Scope 1+2 take into account the contribution of nature-based carbon sink projects, including sequestration projects such as reforestation or regenerative agriculture or conservation projects that protect environments where significant amounts of carbon are already stored.

TotalEnergies intends to invest an average of $100 million per year between 2020 and 2030 with a view to achieving a stock of 100 Mt CO_2, resulting in a sustainable carbon sink capacity of at least 5 Mt of CO_2/year starting in 2030, which will be certified according to high standards of environmental and social management. The projects, which respect the regeneration cycles of the resources, assist in providing social, economic and environmental co-benefits to local communities, on which the projects generally rely.

In March 2021, TotalEnergies and Forêt Ressources Management have signed a partnership agreement with the Republic of the Congo to plant a 40,000-hectare forest on the Batéké Plateaux. The new forest is expected to create a carbon sink to sequester more than an estimated 10 million tons of CO_2 over 20 years. The tree planting operations of the BACaSi project (Batéké Carbon Sink) started in November 2021.

In November 2021, TotalEnergies signed a partnership agreement with the Government of Suriname to provide support for forest preservation in the country as carbon sinks.

Furthermore, TotalEnergies also announced in November 2021 two partnerships with AgriProve to develop underground carbon sinks over 20,000 hectares in Australia, and Corporate Carbon to contribute to prevent savanna fires.

2.2.3 Activities by geographical zone

The information below describes the Exploration & Production segment’s main activities by geographical zone, without giving details of all of the assets held by TotalEnergies. The capacities referred to herein are expressed on a 100% basis, regardless of TotalEnergies’ interest in the asset. TotalEnergies' average annual and daily production of liquids and gas by country for 2021, 2020 and 2019 are presented in the tables “Production by geographical zone” in section 2.3.3 of this chapter. For information as of December 31, 2021 concerning TotalEnergies’ interest in each asset (TotalEnergies’ share in %) and to determine whether the Company operates the asset as the case may be, see the table entitled “Producing assets by geographical zone” in point 2.3.3 of this chapter.

2.2.3.1 AFRICA (EXCLUDING NORTH AFRICA)

In **Nigeria**, the Company’s production is in majority offshore. TotalEnergies is the operator of five production licenses (OMLs) out of the 33 licenses in which TotalEnergies has an interest.

TotalEnergies has offshore operations on the following licenses:

- On OML 130 (24%, operator), with the Akpo and Egina fields. Development studies of the Preowei field continued in 2021, after the authorities approved the field development plan in 2019;
- On OML 99 (40%, operator), following the final investment decision on the Ikike field made in January 2019, the project is currently underway: the production expected in 2021 was delayed due to the COVID-19 pandemic and is now expected in 2022;
- On OML 139 (18%), the plan to develop the Owowo discovery is under examination. This discovery is near the OML 138 license (20%), where the Usan field is in production;
- On OML 118 (12.5%), on which the license and the Production Sharing Contract (PSC) have been renewed for a duration of 20 years in January 2021.

TotalEnergies is also present onshore, notably through the SPDC joint venture (10%), which has 19 production licenses (of which 16 are located onshore) following the sale of interests in OML 17 in January 2021.

In **Angola**, where TotalEnergies is the largest operator[1], the Company’s production comes from Blocks 17, 32, 0, 14 and 14K:

- On the deep offshore Block 17 (38%, operator), the Company’s main asset in Angola, four major hubs : Girassol, Dalia, Pazflor and CLOV are in production. The three projects (Zinia Phase 2, CLOV Phase 2 and Dalia Phase 3, all launched in 2018) are satellite developments of the Pazflor, CLOV and Dalia FPSOs. The Zinia Phase 2 and CLOV Phase 2 short-cycle projects went into production in 2021. Following the agreement signed in December 2019 with state-owned Sonangol and the National Oil, Gas and Biofuels Agency (ANPG), all Block 17 production licenses were extended until 2045, effective April 2020. Since then, Sonangol has held a 5% interest in Block 17 and will gain an additional 5% interest in 2036. Since the arrival of Sonangol in Block 17, TotalEnergies, which retains the role of operator, has a 38% interest. Other satellite projects were approved at the end of 2019, consisting of infill wells, some of which were drilled and brought on stream in 2021 to consolidate production in Pazflor, Rosa, Girassol and Dalia. Two exploration wells are expected to be drilled in 2022-2023;

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(1) TotalEnergies data.

- On the deep offshore Block 32 (30%, operator), production de Kaombo project started in 2018 with the start-up of the Kaombo Norte FPSO. The second FPSO, Kaombo Sul, started up in 2019. The discoveries in the central and northern parts of the Block (outside Kaombo) offer additional potential currently being assessed. Drilling is progressing with 47 wells drilled by the end of 2021, out the 59 initially planned, and a dedicated drilling rig for Block 32 is expected in 2022.
- On Block 0 (10%), production comes from different fields. Drilling was temporarily halted in April 2020 because of the COVID-19 pandemic and is expected to resume in 2022;
- On Block 14 (20%)(1), production comes from the Tombua-Landana and Kuito fields as well as the BBLT project, comprising the Benguela, Belize, Lobito and Tomboco fields;
- On Block 14K (36.75%) is the offshore unitization area between Angola (Block 14) and the Republic of the Congo (Deep-sea license). Through Angola Block 14 BV, TotalEnergies holds interests (10%) in the Lianzi field located in Block 14K.

  TotalEnergies announced in January 2022 the sale of all its interests on these two Blocks 14 and 14K, under a sales agreement, to the Angolan company Somoil, 100% of its interests in the company Angola Block 14 B.V., that it held with its co-shareholder. TotalEnergies held an interest of 50.01 % in Angola 14 B.V.. The transaction is subject to the approval of the Angolan authorities. Net production from Angola Block 14 B.V. was 9,000 barrels of oil equivalent per day in 2021.

In 2020, TotalEnergies completed its acquisition of holdings in Blocks 20/11 (50%) and 21/09 (80%) in the Kwanza basin, off Luanda's coast, with the aim of developing a new production hub. TotalEnergies has become operator for development of the two blocks, where several discoveries have been made. On the Block 20/11, the drilling of an appraisal well took place in 2021 on the Golfinho field and the development studies are in progress.

TotalEnergies has an exploration license for Block 48 (40%, operator), on which an exploration well (Ondjaba-1) was drilled in 2021 and the results are being assessed. In the context of the Bid Round 2019, TotalEnergies obtained a license on Block 29, with an effective contract date of August 2021. The first exploration period of a duration period of 4 years includes the drilling of an exploration well.

In the **Republic of the Congo**, the Company's production comes from the TotalEnergies EP Congo subsidiary, owned by TotalEnergies (85%) and QatarEnergy (15%).

Two significant assets operated by TotalEnergies E&P Congo are in production in the Haute-Mer license (53.5%, operator): the Moho Bilondo field and the Moho Nord field. The decline of those fields has begun, but the combined production of these two fields is in line with forecasts, at a level of 120 kboe/d.

TotalEnergies EP Congo notified its partners of its withdrawal from the Loango II and Zatchi II licenses (also known as "Madingo"), which became effective on September 30, 2021.

Block 14K (36.75%) is the offshore unitization area between Angola (Block 14) and the Republic of the Congo (Deep-sea license). Through TotalEnergies EP Congo, TotalEnergies holds a 26.75% interest in the Lianzi field located in Block 14K.

The license for the operation of Djeno (63%), the sole oil terminal in the country, expired in November 2020 and negotiations concerning the new license are ongoing. TotalEnergies EP Congo continues to operate the oil terminal as part of an interim agreement during the negotiation phase. The new terminal concession should come into effect in 2022.

The Republic of the Congo awarded three new exploration licenses to TotalEnergies in February 2020: Marine XX, deep offshore, as well as Nanga and Mokelembembe, both located onshore. An exploration well is planned on the Marine XX license in 2022. A notification of exit from the Mokelembembe licence was sent to the authorities in December 2021.

In **Gabon**, production comes from TotalEnergies' stake in TotalEnergies EP Gabon(2), the operator (100%) of the offshore fields in the Anguille and Torpille sectors, the onshore fields in the Mandji Island sector and the Cap Lopez oil terminal. TotalEnergies EP Gabon also holds interests in the licenses in the Grondin (65.28%) and Hylia (37.50%) sectors.

In December 2021, TotalEnergies EP Gabon finalized the sale to Perenco Oil & Gas Gabon of its interests in seven mature non-operated offshore fields as well as its interests and operatorship in the Cap Lopez oil terminal. Following this transaction, TotalEnergies EP Gabon's activities are focused on the Anguille-Mandji and Torpille-Baudroie-Mérou operated assets.

In **Uganda**, TotalEnergies is a partner, with a 56.67% interest, in the project to develop the Lake Albert oil resources located in Blocks EA1, EA2 and EA3, following its acquisition of Tullow's interest in the project in November 2020 and the entry of UNOC, Uganda's national oil company, with a 15% interest in those blocks. TotalEnergies is also a shareholder in East African Crude Oil Pipeline Ltd (EACOP), the company responsible for developing and operating the pipeline of close to 1,450 kilometer that will transport the crude oil to a storage and offloading terminal in Tanga, Tanzania.

The project approved by the Board of Directors during its meeting held on December 16, 2020, after taking into consideration the societal and environmental challenges plans a production capacity of 230 kb/d through the joint development of the resources in Blocks EA1 and EA2, operated by TotalEnergies (the Tilenga project), and those in Block EA3, operated by CNOOC (the Kingfisher project). It will include drilling of approximatively 450 onshore wells and construction of two crude oil processing facilities. The final investment decision was announced in February 2022 and production is expected to start in 2025.

In **South Africa**, TotalEnergies operates five deep offshore exploration licenses: the South Outeniqua Block (100%), Block 11B/12B (45%), the ODB Block (48.6%, following the partial transfer of a 29.2% interest to Qatar Energy in 2021), the DOWB Block (50%, following the partial transfer of a 30% interest in 2021), as well as Block 5/6/7 (40%) in the Orange basin. TotalEnergies sold its interest in the East Algoa license (30%) in 2020. This transaction was approved by governmental authorities in December 2021.

On offshore Block 11B/12B, following the discovery of condensate gas in January 2019 by the first exploration well Brulpadda-1Ax, TotalEnergies conducted 3D and 2D seismic acquisitions. A second discovery of gas and condensates, adjacent to Brulpadda, was made in October 2020 and named Luiperd. TotalEnergies is currently negotiating the conditions for the marketing of the gas and condensates with the South African authorities to allow for the rapid development of the discovery.

In **Namibia**, TotalEnergies operates two deep offshore exploration licenses in Blocks 2912 (38%) and 2913B (40%). The interests of TotalEnergies in these Blocks were respectively reduced to 38% and 40% after the interest disposals in 2020. Following the drilling of the exploration well started in November 2021 on the Venus prospect, on block 2913B, TotalEnergies announced a significant discovery of light oil and associated gas in February 2022.

In **Mauritania**, the effort to rationalize the exploration acreage mining segment continues. TotalEnergies returned Block C9 in January 2020, following the drilling of a dry well in 2019, and Block C7 in June 2020 and Block C18 in December 2020.

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(1) Interest held through Angola Block 14 BV (TotalEnergies 50.01%).

(2) TotalEnergies EP Gabon is a company under Gabonese law. Its shares are listed on Euronext Paris and owned by TotalEnergies (58.28%), the Republic of Gabon (25%) and the public (16.72%).

TotalEnergies is continuing exploration activities on two remaining blocks: C15 (90%) and C31 (90%), where a 3D seismic survey was completed in 2020. The first exploration phase of these two blocks was able to be extended by 9 months until the end of October 2022 to finalize the interpretation of the seismic data and to assess the benefits of proceeding into the second period.

In **Senegal**, TotalEnergies is pursuing exploration activities on two operated offshore blocks, Rufisque Offshore Profond (ROP) (60%) and Ultra Deep Offshore (UDO) (70% following the partial sale of a 20% interest in October 2020). A 3D seismic survey was completed on the UDO Block in late 2020 - early 2021 and its interpretation is in progress.

In **Kenya**, TotalEnergies holds interests in onshore (10BA, 10BB and 13T) and offshore (L11A, L11B and L12) exploration licenses. In September 2021, TotalEnergies finalized the sale to QatarEnergy of part of its interests in these offshore licenses, where an exploration well started in December 2021. On the Blocks 10BB and 13T where several oil discoveries have been made, the partners are evaluating possible options for a potential commercial development.

In **Côte d'Ivoire**, TotalEnergies operates one exploration license on the offshore Block CI-705 (45%). The Barracuda-1 exploration well was drilled in August 2021 on Block CI-705 with negative results. TotalEnergies returned the CI-605 offshore Block (90%) in August 2021 and the CI-706 offshore Block (45%) in December 2021.

In **São Tomé et Principe,** TotalEnergies holds two exploration licenses granted in 2019, one for Block ST-1 and the other for Blocks JDZ-7, 8, 11 in the joint development area between São Tomé et Principe and Nigeria. Two 3D seismic surveys were carried out in 2021 on these respective blocks.

In the **Democratic Republic of the Congo**, after the completion of seismic survey work, TotalEnergies informed the authorities of its withdrawal from Block III in January 2019.

In **Ghana**, TotalEnergies announced its decision not to continue the acquisition of Anadarko Petroleum Corporation's assets (24% of the Jubilee field and 17% of the champ Ten field) in 2020.

2.2.3.2 AMERICAS

In the **United States**, TotalEnergies' oil and gas production in the Gulf of Mexico comes from its interests in the Tahiti (17%) and Jack (25%) deep offshore fields.

TotalEnergies has an interest in the Anchor project (37.14%). The development of Anchor, with a planned plateau production capacity of 80 kboe/d, is continuing, with production scheduled to begin in 2024.

TotalEnergies announced in February 2022 its decision not to sanction the North Platte project (60%), to withdraw with immediate effect, and resign as operator which will be effective following a short transition period to ensure an orderly hand-over of operator.

On the Ballymore discovery (40%), the FEED studies launched in the first half of 2021 are continuing.

In the third quarter of 2021, TotalEnergies sold its 25% stake in shale gas acreage located mainly in Ohio that is part of the Utica Shale.

In **Canada**, production consists of bituminous oil sands. TotalEnergies has a 50% interest in Surmont, a Steam-Assisted Gravity Drainage (SAGD) production project, and a 24.58% interest in the Fort Hills mining extraction project, both in the province of Alberta. In 2021, Surmont returned to its pre-COVID-19 pandemic production levels and benefited fully from the sharp rise in oil prices. In 2021, Fort Hills produced at half-capacity and started its ramp up to full capacity in mid-December 2021. In keeping with its climate ambition, TotalEnergies approves no new project to increase capacity on these Canadian oil sands assets.

In **Argentina**, TotalEnergies operated approximately 25% of the country's gas production in 2021.

In Tierra del Fuego, on the CMA-1 concession, TotalEnergies operates the Ara and Cañadon Alfa Complex onshore fields and the Hidra, Carina, Aries and Vega Pleyade offshore fields (with 37.5% working interests).

In the onshore Neuquén Basin, TotalEnergies holds interests in nine licenses and operates five of them, including Aguada Pichana Este and San Roque. In addition to conventional oil and gas production, TotalEnergies operates three shale gas and shale oil projects. The first is in the Aguada Pichana Block, in the gas window of Vaca Muerta; the second is in the Rincón la Ceniza Block, in the gas and condensate window of Vaca Muerta (45%); and the third is in the Aguada San Roque Block in the oil window of Vaca Muerta (24.71%).

Following positive results of the gas pilot and a reduction in drilling costs, the first development phase of Aguada Pichana was launched. As part of the project, the partners agreed to split the Block into two blocks, East and West, raising TotalEnergies' interest to 41% in the eastern unconventional portion of the Block (Vaca Muerta) while maintaining its original 27.27% interest in the conventional portion of the Block (Mulichinco), and keeping its role as operator of both blocks. In exchange, TotalEnergies limited its interest, now non-operated, in the Aguada Pichana Oeste Block to 25% where a pilot project has entered into production. The operator plans to drill about 60 wells and build a new pipeline and a processing plant between 2021 and 2024. A second development phase was launched in 2018 on Aguada Pichana Este.

The gas and condensate pilot project in the Rincón la Ceniza Block was completed in 2019 with promising results. The appraisal well drilled in 2016 on the neighboring La Escalonada Block to test the oil window of the formation has also shown good productivity. This well was connected to the Rincón la Ceniza facility in 2019. Two additional wells drilled on the Rincón la Ceniza Block have confirmed the oil potential of those two blocks.

In exploration, TotalEnergies is operator for three exploration licenses in conventional offshore: CAN 111 and CAN 113 (50%) and MLO 123 (37.5%) since 2019.

In **Bolivia**, TotalEnergies has interests in six licenses, five of which are in production: San Alberto (15%), San Antonio (15%), Block XX Tarija Oeste (Itau) (41%), Aquio and Ipati (50%, operator) which includes the Incahuasi field. The connection of the ICS-3 well in 2018 and the ICS-5 well in 2021, and the increase in the capacity of the treatment plant to 390 Mcf/d, are expected to sustain production from this field in the long term.

On the Azero exploration license (50%, operator), the drilling of the NCZ-X1 exploration well proved dry and has been plugged and abandoned.

In **Brazil**, production comes from the Libra (20%), Lapa (45%, operator) and Iara (22.5%) Blocks. TotalEnergies' acquisition of an additional 10% interest in Lapa under the agreement signed in December 2018, increased TotalEnergies' interest in the asset from 35% to 45% in 2021.

The Mero field, on the Libra Block, is located in the Santos Basin, approximately 170 kilometers off the coast of Rio de Janeiro. Production began in 2017 with the Pioneiro de Libra FPSO (with capacity of 50 kb/d) designed to carry out the long-term production testing needed to optimize future development phases.

At year-end 2021, the Mero development project involves four FPSOs: Mero 1, approved in 2017, with a liquids processing capacity of 180 kb/d, scheduled for start-up in 2022; Mero 2, approved in 2019, (liquids processing capacity of 180 kb/d), scheduled for start-up in 2023; Mero 3 (liquids processing capacity of 180 kb/d), approved in August 2020 and scheduled for start-up in 2024; and Mero 4 (liquids processing capacity of 180 kb/d), for which the investment decision was made in August 2021, with a start-up scheduled for 2025.

At Iara, production from the P-68 FPSO (capacity of 150 kb/d) started in November 2019. It is designed for the development of the Berbigão and Sururu-West fields. Production at the Atapu field began in June 2020 with the P-70 FPSO (capacity of 150 kb/d). The P-68 FPSO is in the process of ramping up to capacity. The P-70 FPSO has been producing at full capacity since July 2021.

In December 2021, TotalEnergies, as part of the Transfer of Right Surplus bid round, was awarded two new non-operated Production Sharing Contracts on Atapu (22.5%) and Sepia (28%) blocks. These contracts are expected to be executed during the second quarter of 2022. Both blocks are already in production and it is expected to launch the development of a second FPSO for each block.

At Lapa, a drilling campaign was conducted from June 2019 to June 2020 in the northeastern area of the field to increase the FPSO's production (capacity of 100 kb/d) by adding two injector wells and replacing two productive wells. Final investment decision of the South West section of Lapa, with two productive wells and one injector well, is expected in 2022.

In exploration, at the 16th ANP oil auction in October 2019, TotalEnergies and its partners QatarEnergy and Petronas won the Block C-M-541, located in the deep offshore of the Campos pre-salt basin in very deep water. The drilling of the first exploration well on this block started at the end of 2021. In addition, TotalEnergies holds an interest in an exploration license located in the Barreirinhas basin. In 2021, TotalEnergies transferred its interests in the five Foz do Amazonas exploration blocks to Petrobras. In 2021, TotalEnergies and Equinor have decided to leave the ES-669 exploration block in the Espirito Santo basin. TotalEnergies (45%, operator) and its partners decided not to renew the CE-M-661 exploration license in the Ceará basin that expired in 2021.

As part of their strategic alliance, TotalEnergies and Petrobras have formally agreed to promote closer technical cooperation between the two companies, specifically through a joint assessment of the exploration potential of promising areas in Brazil and through the development of new technologies, particularly in deep offshore.

TotalEnergies holds an interest in the Gato de Mato field discovered in 2012. The field's resources were confirmed with the GDM#4 well, drilled in 2020. The development studies continued in 2021.

TotalEnergies signed an agreement in 2021 to sell its 28.6% interest in the BM-C-30 Block where the Wahoo discovery is located. TotalEnergies also owns an interest in Itaipu (40%) field in the Campos basin's BM-C-32 Block, currently being evaluated. In 2020, TotalEnergies (70%, operator) and its partner notified the ANP of their intention to relinquish the license for the Xerelete field.

In **Venezuela**, TotalEnergies, through its affiliate Total Venezuela, transferred at the end of July 2021 its non-operated minority participation of 30.32% in Petrocedeño S.A. to Corporación Venezolana del Petróleo, S.A, a subsidiary of PdVSA. TotalEnergies also initiated a process to sell its interest of 69.50% in the Yucal Placer field. This field is operated by the company Ypergas S.A (30%), which uses the national pipeline network to deliver gas to PDVSA Gas (a subsidiary of PDVSA) for local consumption. TotalEnergies also initiated a process to return the license of Plataforma Deltana block 4 (49%).

To date, TotalEnergies has organized the management of its assets with a view to ensure their compliance with the applicable Sanctions Regimes.

On December 31, 2021, less than 0.5% of TotalEnergies combined oil and gas production came from Venezuela in 2021 (refer to point 3.2.1 of chapter 2).

In **Suriname**, TotalEnergies has an interest in Block 58 (50%, operator). Two exploration wells were drilled in 2021: Keskesi East-1 and Bonboni-1. Three appraisal wells, Sapakara West-2, Sapakara South-1 and Keskesi South-1, were also drilled. In addition to Maka Central-1, Sapakara West-1 and Kwaskwasi-1 appraisal plans, a fourth appraisal plan for Keskesi-1 was submitted to the Suriname government in 2021. A successful flow test was conducted on the Sapakara South-1 appraisal well in late 2021. In February 2022, TotalEnergies announced a new significant oil and associated gas discovery at the Krabdagu-1 well in the central area of Block 58. Flow tests are to be conducted on the well to assess the resources and productivity.

In June 2021, TotalEnergies (40%, operator) and QatarEnergy were announced as having made the most favorable bids for shallow water offshore Blocks 6 and 8. Formal award is subject to negotiation of a Production Sharing Contract and a Joint Operating Agreement. Paradise Oil Company, a subsidiary of the state-owned company, Staatsolie is also expected to be a partner. The award of these two new operated blocks located in shallow waters and adjacent to Block 58 will allow TotalEnergies to strengthen its presence in Suriname. These two licenses are expected be the subject of a 3D seismic campaign to confirm their potential.

In **Mexico**, TotalEnergies holds licenses in seven offshore exploration blocks in the Gulf of Mexico: Block 2 (50%, operator), located in the Perdido Basin; Blocks 1 (33.33%) and 3 (33.33%), located in the Salina Basin; Block 15 (50%(1), operator); and Blocks 32 (50%), 33 (35%, operator) and 34 (27.5%), located in the shallow waters of the Campeche Basin. TotalEnergies has initiated the process to relinquish Block 2. The operator of Block 3 has also initiated the relinquishment of the block.

In **Guyana**, TotalEnergies (60%) jointly holds with QatarEnergy (40%) 25% interests of the Kanuku and Orinduik Blocks. The drilling of an exploration well is planned on the Kanuku Block in 2022. In addition, TotalEnergies holds interests in the Canje Block (35%) on which three exploration wells were drilled in 2021: Bulletwood, Jabillo and Sapote.

2.2.3.3 ASIA-PACIFIC

In **Kazakhstan**, oil and gas production comes mainly from the Kashagan field operated by the North Caspian Operating Company (NCOC) in the North Caspian license (16.81%). The capacity of the first phase of the Kashagan field and the associated processing plant, which started in 2016, reached 400 kb/d, although production was capped at 332 kb/d in 2021 to comply with the production quotas adopted by OPEC+. In December 2020, an additional phase was approved to increase the oil and gas production capacity of 25 kb/d and increasing the gas reinjection gas capacity to 600 Mcf/d. In the Dunga field (60%, operator), works of the phase 3 of development continued in 2021.

In **Thailand**, the production of condensates and natural gas comes from the Bongkot (33.33%) offshore gas and condensates field and is purchased in its entirety by PTT, the state-owned oil and gas company. Several new wells were drilled in 2021 to maintain the production plateau. The licenses associated to the Block 15 and the Blocks 16 & 17 will expire in April 2022 and March 2023 respectively.

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(1) The transaction for the entry of QatarEnergy on blocks 15, 33 and 34 was finalized in 2021 and brought TotalEnergies' interest in these blocks to 50%, 35% and 27.5%.

In **China**, production comes from the South Sulige Block (49%) in the Ordos Basin of Inner Mongolia, where tight gas development wells are being drilled. A new development plan to increase production from 3 Bcm/year to 4 Bcm/year, is currently going through the approval process.

TotalEnergies holds a 49% interest and is operator of the Taiyang exploration Block located in the China Sea in both Chinese and Taiwanese waters. Two 2D seismic surveys were completed in 2018 and 2019. Operations have been suspended since 2020 due to the COVID-19 pandemic.

In **Myanmar**, the Yadana, Sein and Badamyar fields (31.24%, operator), located on the offshore Blocks M5 and M6, produce gas which is primarily delivered to PTT to be used in Thai power plants. These fields also supply the domestic market through an offshore pipeline built and operated by MOGE, Myanmar's state-owned company. A 3D seismic survey (5,700 square kilometers) was conducted on Block M5 in 2019.

In January 2022, TotalEnergies announced that it withdraws from Myanmar.

Following the coup d'état of February 1, 2021, TotalEnergies has firmly condemned the violence and human rights abuses perpetuated in the country. In order to maintain a source of electricity to the people of Yangon and western Thailand, and to protect the Company's employees from forced labor. TotalEnergies decided to continue gas production while halting ongoing projects. But, the impossibility - in spite of the Company's efforts - to meet the expectations of the stakeholders regarding the cessation of payments linked to gas sales, and the deterioration of the human rights situation and the rule of law in Myanmar, led TotalEnergies to reassess the situation, which no longer allows the Company to make a sufficiently positive contribution to this country and to decide on January 21, 2022 to initiate the process of withdrawing from contracts, effective July 2022.

In January 2022, TotalEnergies also notified its decision to withdraw from the A6 exploration license (40%) located in deep offshore waters west of Myanmar.

In **Brunei**, production comes from the Maharaja Lela Jamalulalam offshore gas and condensates field on Block B (37.5%, operator); the gas is delivered to the Brunei LNG liquefaction plant.

In March 2020 TotalEnergies completed its sale of Total E&P Deep Offshore Borneo BV, a wholly owned affiliate that holds an 86.95% interest in Block CA1, located 100 kilometers off the coast of Brunei.

In **Indonesia**, production comes from the Ruby gas field on the Sebuku license (15%).

In **Papua New Guinea**, TotalEnergies holds interests in the PPL339 (35%), PPL589 (100%) and PPL576 (100%) exploration licenses.

In **Malaysia,** TotalEnergies holds interests in exploration licenses with an offshore exploration well scheduled for 2022 in the province of Sabah.

In **Cambodia,** TotalEnergies is working to implement an agreement signed with the Cambodian government in 2009 to conduct exploration in Block 3, which is located in an area of the Gulf of Thailand claimed by both the Cambodian and Thai governments. The agreement remains subject to the development of an appropriate contractual framework by the two countries.

In **Tadjikistan,** TotalEnergies holds a 33.35% interest in an exploration license without activity.

2.2.3.4 EUROPE

In **Russia**, oil and gas production comes mainly from its interests held in the Termokarstovoye (49%) and Kharyaga (20%) fields and from the shareholding in PAO Novatek (19.4%).

Russia is a country subject to international economic sanctions. For further information, see point 3.2 of chapter 3.

In **Norway**, production comes from many fields located in different areas from south to north:

- Ekofisk (39.9%), Eldfisk (39.9%), Embla (39.9%), Tor (48.2%) and Flyndre (6.26%); the redevelopment of Tor was finalized in 2021 while the development of the Tommeliten Alpha field (20.23%), Ekofisk satellite, was approved in 2021;
- the giant Johann Sverdrup field (8.44%), whose production started in October 2019; Phase 2 is under development;
- Skirne (40%), Atla (40%) et Heimdal (16.76%);
- Oseberg (14.7%), Tune (10%) and Islay (5.51%); the Oseberg compression and electrification project was approved in 2021;
- Troll (3.69%) and Kvitebjørn (5%); Phase 3 of Troll started in August 2021;
- Åsgard (7.68%), Tyrihans (23.15%) and Kristin (6.00%) in the Haltenbanken region.

As part of the continuous optimization of its portfolio, TotalEnergies sold its interests in the Gimle (4.9%), Sindre (4.95%) and Nokken (5%) assets in May 2021.

In the **United Kingdom**, production comes from fields in different areas:

- In the northern zone of the North Sea, production comes from the Alwyn North (100%) and Dunbar (100%) fields, as well as from the satellites linked to them;
- In the Central Graben area, TotalEnergies operates the Elgin/Franklin complex (46.17%) which includes the West Franklin (46.17%) and Glenelg (58.73%) fields. TotalEnergies also operates the Culzean gas and condensates field (49.99%), which came on stream in June 2019. In addition, TotalEnergies announced an oil and natural gas discovery on the Isabella prospect (30%), located close to existing infrastructure operated by TotalEnergies. Finally, the second well for the appraisal of the Glengorm (25%) discovery made in 2019 was drilled and was unsuccessful;
- In the West of Shetland area, TotalEnergies holds interests (60%) and operates the producing Laggan, Tormore, Edradour and Glenlivet fields. In January 2022, TotalEnergies signed an agreement to sell part of its interests (20%) in these fields. The transaction remains subject to the approval of the competent authorities;
- In the Quad 9 area in the eastern North Sea, TotalEnergies operates the Gryphon (86.5%), Maclure (38.19%), South Gryphon (89.88%) and Tullich (100%) fields.

In 2020, TotalEnergies sold its interests (20%) in the PEDL 273, 305 and 316 shale gas exploration and production licenses and no longer holds any onshore mining acreage in the United Kingdom. In addition, TotalEnergies finalized the sale of several non-strategic offshore assets located in the eastern and central sections of the North Sea, which include the following fields: Dumbarton, Balloch, Lochranza and Drumtochty (100%), Flyndre (65.94%), Affleck (66.67%), Golden Eagle (31.56%), Scott (5.16%) and Telford (2.36%). The Cawdor license (60.6%) had expired before the sale was finalized.

In **Denmark**, TotalEnergies is operator of the Danish Underground Consortium (DUC) (43.2%). The production comes from DUC's two main assets: the Dan/Halfdan and Gorm/Tyra fields. Production on the Tyra field was halted in September 2019 as part of a redevelopment project, whose objective is to extend the lifetime of both the Tyra field and its satellite fields.

Due to the COVID-19 pandemic, the production restart initially planned in 2022, is expected to take place in 2023. While the field's installations are shut down, the gas is being exported from the facilities at the Dan/ Halfdan fields.

In **Italy**, TotalEnergies operates the Tempa Rossa field (50%) located on the Gorgoglione concession (Basilicata region). Production at Tempa Rossa started in December 2019 and reached its planned capacity of 50 kboe/d in October 2020.

In the **Netherlands**, production originates from the assets held in 22 offshore production licenses, of which 18 are operated. As part of the continuous improvement of its North Sea portfolio, in March 2021, TotalEnergies finalized the sale of its 22.46% interest in the K9ab-A Unit.

In **Azerbaijan**, the development of the Absheron gas and condensates field (50%) in the Caspian Sea, which is operated by JOCAP (Joint Operating Company of Absheron Petroleum, a company jointly held by TotalEnergies and SOCAR), is underway, with a view to supplying the domestic market. The drilling operations completed in November 2019 confirmed the deposit's significant potential. The first development phase production capacity is estimated to be 35 kboe/d.

In **Bulgaria**, TotalEnergies operates the deep offshore Han Asparuh exploration block (57.14%). A 3D seismic survey was conducted in 2020, following which geological interpretation work was carried out in 2021; the drilling of a new exploration well is being considered.

In **Greece**, TotalEnergies holds since 2019 two exploration licenses: West Crete and South West Crete (40%, operator) on which it has no activity.

2.2.3.5 MIDDLE EAST AND NORTH AFRICA

In the **United Arab Emirates**, TotalEnergies' production, mainly oil, is sourced from different concessions.

Since 2018, TotalEnergies has held a 20% interest in the Umm Shaif/ Nasr offshore concession where the production ramp-up continued in 2021 and a 5% interest in the Lower Zakum offshore concession to be operated for a forty-year period by ADNOC Offshore, following the previous Abu Dhabi Marine Areas Ltd. (ADMA) offshore concession. The license for the Abu Al Bukoosh offshore field, which TotalEnergies has operated since 1972, expired in March 2021 and the facilities are now operated by ADNOC Offshore.

In addition, TotalEnergies owns a 10% interest in the ADNOC Onshore concession, which encompasses Abu Dhabi's 15 major onshore fields; the license was extended for 40 years in 2015. The development activities on the Bab se and Bu Hasa fields continued in 2021.

TotalEnergies also holds a 10% interest in ADNOC Gas Processing, a company that produces natural gas liquids (NGLs) and condensates from the associated gas produced by ADNOC Onshore, and a 24.5% interest in Dolphin Energy Ltd., which sells gas from the Dolphin Block in Qatar to the United Arab Emirates and Oman. Dolphin Energy's operations have not been affected by the change in diplomatic relations between the United Arab Emirates and Qatar.

In 2018, the state-owned Abu Dhabi National Oil Company (ADNOC) signed an agreement with TotalEnergies granting it a 40% interest in the Ruwais Diyab Unconventional Gas Concession. TotalEnergies became the operator in 2019. After testing the three existing exploration wells, TotalEnergies drilled two appraisal wells in 2020 and two other exploration wells in 2021. Testing and fracturing operations ended in Summer 2021. Gas exports to the domestic market started in June 2021.

In **Qatar**, production comes mainly from TotalEnergies' interests in the Al Khalij offshore field (40%, operator) and the Al Shaheen field (30%). The latter field, located offshore 80 kilometers north of Ras Laffan, is operated by the North Oil Company, which is owned by TotalEnergies (30%) and QatarEnergy (70%). The field development continues with phases 1 and 2b1. Phase 2b3 was approved in 2021. TotalEnergies has held a 25-year interest in the Al Shaheen field since 2017. TotalEnergies also holds a 24.5% interest in the offshore Dolphin Block, producing gas that is sold in the United Arab Emirates and Oman. Dolphin Energy's operations have not been affected by the change in diplomatic relations between the United Arab Emirates and Qatar.

In **Libya**, production comes in part from the Al Jurf fields located in the offshore areas 15, 16 and 32 (75%) and from the El Sharara fields located in the onshore areas 129-130 (30%) and 130-131 (24%). In those onshore areas, production was suspended on several occasions between July 2018 and October 2020 for reasons of safety and lack of access to export facilities. The Mabruk fields (75%), located in the onshore areas 70 and 87, have been shut down since the end of 2014.

Additionally, in March 2018 TotalEnergies acquired Marathon Oil Libya Limited, which holds a 16.33% interest in the onshore Waha concessions. That acquisition received final approval from the competent authorities in December 2019. Production at the Waha fields was suspended from January to October 2020 for reasons of safety and lack of access to export facilities. The Waha production restarted in November 2020 and the access to export facilities was restored.

In November 2021, TotalEnergies signed various agreements for the sustainable development of the country's natural resources and to increase its interest from 16.33% to 20.41% in the Waha onshore concession. Following the approval by the Council of Ministers in November 2021, the increase in interests remains subject to the finalization of the documentation.

In **Algeria**, production comes fromTotalEnergies' interests in the TFT II and Timimoun gas fields and the oil fields in the Berkine basin (Blocks 404a and 208).

Under the terms of the comprehensive partnership agreement signed in 2017 with the authorities, two new concession agreements and corresponding gas sales agreements came into effect for TFT II (26.4%) in 2018 and for TFT SUD (49%) in 2019. The acquisition of REPSOL's shares was finalized in June 2021 and TotalEnergies' interest in TFT II was consequently increased to 49%. A concession agreement and a gas sales agreement for Timimoun (37.75%) also took effect in 2018, replacing the previous contracts from 2012. Production at Timimoun began in 2018.

In addition, TotalEnergies owns a 12.25% interest in the Hassi Berkine, Ourhoud and El Merk onshore oil fields, which are already in production.

In **Oman**, TotalEnergies is present in oil production in Block 6 (4%). The sale of its 2% interest in Block 53 was finalized in 2020. In addition, in 2020 also, TotalEnergies signed a concession agreement with the Oman government to explore the resources in the onshore Block 12, located in the Greater Barik area.

In **Iraq**, the TotalEnergies' production comes primarily from its 22.5% interest in the risk service contract for the Halfaya field, located in Missan province. A contract was awarded in 2019 for the treatment of the associated gas and the recovery of the LPG and condensates. Production is still being affected by the application of the production quotas adopted by OPEC+.

TotalEnergies also holds an 18% stake in the Sarsang field in Iraqi Kurdistan, which is in production.

In September 2021, TotalEnergies signed major agreements with the Iraqi authorities for the sustainable development of natural resources in the Basra region. These agreements cover

- The construction of a new gas gathering network and treatment units to supply the local power stations, with TotalEnergies also bringing its expertise to optimize the oil and gas production of the Ratawi field, by building and operating new capacities.
- The construction of a large-scale seawater treatment unit to increase water injection capacities in southern Iraq fields without increasing water withdrawals as the country is currently facing a water-stress situation. This water injection is required to maintain pressure in several fields and as such will help optimizing the production of the natural resources in the Basra region.
- The construction and operation of a photovoltaic power plant with a capacity of 1 GW to supply electricity to the grid in the Basra region.

In **Yemen**, TotalEnergies has interests in both the onshore Block 5 (Marib basin, Jannah license, 15%) and four onshore exploration licenses, for which a case of force majeure has been declared.

In **Iran**, TotalEnergies ceased all operational activity prior to the re-imposition of US secondary sanctions on the oil industry as of November 5, 2018.

In **Syria**, TotalEnergies discontinued its activities connected with oil and gas production since December 2011.

In **Cyprus**, TotalEnergies is present in the offshore Blocks 6 (50%) and 11 (50%, operator) and entered the exploration Blocks 2 (20%), 3 (30%), 7 (50%, operator), 8 (40%) and 9 (20%) in October 2019.

In **Lebanon**, TotalEnergies has been operator since February 2018 of the two offshore exploration Blocks 4 and 9 (40%, operator). The first exploration well was drilled on Block 4 in 2020 and declared as a dry well.

In **Egypt**, TotalEnergies is present in the offshore exploration Block 7 (25%) where drilling led to a gas discovery in July 2020 and entered the offshore Block 3 (35%) as operator in December 2020.

2.3 Upstream oil and gas activities

TotalEnergies' Upstream oil and gas activities include the oil and gas exploration and production activities of the Exploration & Production and the Integrated Gas, Renewables & Power (iGRP) segments. They are conducted in about 50 countries.

Main indicators

2.8 Mboe/d of hydrocarbons produced in 2021

12.1 Bboe of proved reserves of hydrocarbons as of December 31, 2021(1)

5.3 $/boe Production costs (ASC932) in 2021

19 kg/boe Intensity of GHG emissions of Upstream oil & gas Activities(2) based on equity share in 2021

17 kg/boe Intensity of GHG emissions of operated Upstream oil & gas activities in 2021

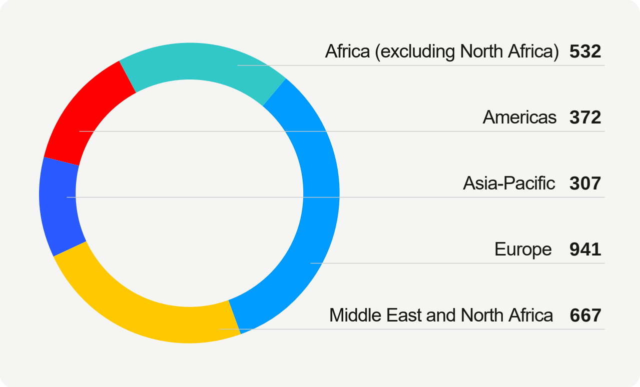
Production(3)

Hydrocarbon production	2021	2020	2019
Combined production *(kboe/d)*	2,819	2,871	3,014
Oil (including bitumen) *(kb/d)*	1,274	1,298	1,431
Gas (including Condensates and associated NGL) *(kboe/d)*	1,545	1,573	1,583

Hydrocarbon production	2021	2020	2019
Combined production *(kboe/d)*	2,819	2,871	3,014
Liquids *(kb/d)*	1,500	1,543	1,672
Gas *(Mcf/d)*	7,203	7,246	7,309[a]

(a) Data restated.

Hydrocarbon production by geographical zone *(kboe/d)*



In 2021, hydrocarbon production was 2,819 kboe/d, down 2% year-on-year comprised of:

- +3% due to start-ups and ramp-ups; including North Russkoye in Russia, Iara in Brazil and Johan Sverdrup in Norway, as well as the resumption of production in Libya,
- +3% due to the increase in gas demand and OPEC+ quotas,
- -1% due to portfolio effect, notably the disposals of assets in the UK and the CA1 block in Brunei,
- -1% due to the price effect,
- -3% due to planned maintenance and unplanned downtime, notably in the UK and Norway (Snøhvit),
- -3% due to the natural field decline.

Thanks to the decrease in capital investment, which peaked in 2013, TotalEnergies has regained some flexibility. In 2021, TotalEnergies finalized acquisitions in Brazil, in Algeria, in Oman and was able to seize opportunities including the signing of agreements to acquire assets in Oman, in Brazil, in Iraq and in Libya, which remain subject to the approval of the competent authorities. TotalEnergies also launched new projects, taking advantage of the low level of costs. In order to continue high-grading its portfolio, TotalEnergies also performed asset sales in various geographical areas.

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(1) Based on a Brent crude price of $69.23/b (reference price in 2021), according to the rules established by the Securities and Exchange Commission (refer to point 2.3.1 of this chapter).

(2) Excluding LNG assets. The GHG emissions intensity of Upstream oil & gas activities is reported on the asset scope, depending on the share of TotalEnergies stake in each asset, wether or not it is operated by the Company.

(3) TotalEnergies production = EP production + iGRP production.

Technical costs

	2021	2020	2019
Production costs *($/bep)*	5.3	5.1	5.4
Exploration costs *($/bep)*	0.9	1.0	1.0
DD&A *($/bep)*	11.5	11.9	12.9
Technical costs *($/bep)*[(a)]	17.7	18.0	19.3

(a) Technical costs for the consolidated subsidiaries, calculated in accordance with ASC 932[(1)] standards, excluding non-recurrent items (refer to point 9.1.5 of chapter 9).

Production costs for the consolidated subsidiaries, calculated in accordance with ASC 932[(2)] standards, were $5.3/boe in 2021, compared to $5.1/boe in 2020.

Liquids and gas sale price

Price realizations[(a)]	2021	2020	2019
Average liquids sales price *($/b)*	65.0	37.0	59.8
Average gas sales price *($/Mbtu)*	6.60	2.96	3.88

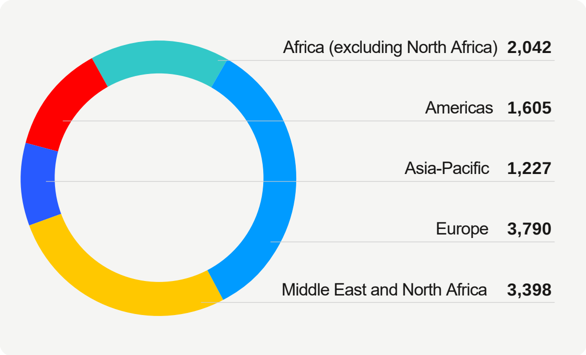
(a) Consolidated subsidiaries.

Proved reserves

As of December 31	2021	2020	2019
Hydrocarbon reserves *(Mboe)*	12,062	12,328	12,681
Oil (including bitumen) *(Mb)*	5,050	5,003	5,167
Gas (including Condensates and associated NGL) *(Mboe)*	7,012	7,325	7,514

As of December 31	2021	2020	2019
Hydrocarbon reserves *(Mboe)*	12,062	12,328	12,681
Liquids *(Mb)*	5,843	5,804	6,006
Gas *(Bcf)*	33,450	35,220	36,015

Hydrocarbon proved reserves by geographical zone *(Mboe)*



Proved reserves of hydrocarbons based on SEC rules (Brent at $69.23/b in 2021) were 12,062 Mboe as of December 31, 2021. The proved reserve replacement rate[(3)], based on SEC rules (Brent at $69.23/b in 2021), was 74% in 2021 and 100% over three years.

2.3.1 Oil and gas reserves

The definitions used for proved, proved developed and proved undeveloped oil and gas reserves are in accordance with the United States Securities & Exchange Commission (SEC) Rule 4-10 of Regulation S-X as amended by the SEC Modernization of Oil and Gas Reporting release issued on December 31, 2008. Proved reserves are estimated using geological and engineering data to determine with reasonable certainty whether the crude oil or natural gas in known reservoirs is economically producible under existing regulatory, economic and operating conditions.

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(1) FASB Accounting Standards Codification 932, Extractive industries – Oil and Gas.

(2) FASB Accounting Standards Codification 9*32, Extractive industries – Oil and Gas.

(3) Variation of reserves, excluding productions: (revisions + discoveries & extensions + acquisitions - disposals)/productions for the period.

TotalEnergies' oil and gas reserves are consolidated annually, taking into account among other factors, levels of production, field reassessments, additional reserves from discoveries and extensions, disposals and acquisitions of reserves and other economic factors.

Unless otherwise indicated, any reference to TotalEnergies' proved reserves, proved developed reserves, proved undeveloped reserves and production reflects the Company's entire share of such reserves or such production. TotalEnergies' worldwide proved reserves include the proved reserves of its consolidated entities as well as its proportionate share of the proved reserves of equity affiliates. The reserves estimation process involves making subjective judgments. Consequently, estimates of reserves are not exact measurements and are subject to revision under well-established control procedures.

The reserves booking process requires, among other actions:

- that an internal peer review of technical evaluations is carried out to ensure that the SEC definitions and guidance are followed; and
- that management makes the necessary funding commitments to their development prior to booking.

For further information concerning the reserves and their evaluation process, refer to points 9.1 and 9.2 of chapter 9.

PROVED RESERVES FOR 2021, 2020 AND 2019

In accordance with the amended Rule 4-10 of SEC Regulation S-X, proved reserves as of December 31 are calculated using a 12-month average price determined as the unweighted arithmetic average of the first-day-of-the-month price for each month of the relevant year, unless prices are defined by contractual arrangements, excluding escalations based upon future conditions. The average reference prices for Brent crude for 2021, 2020 and 2019 were, respectively, $69.23/b, $41.32/b, and $62.74/b.

As of December 31, 2021, TotalEnergies' combined proved reserves of oil and gas were 12,062 Mboe (66% of which were proved developed reserves). Liquids (crude oil, condensates, natural gas liquids and bitumen) represented approximately 48% of these reserves and natural gas 52%. These reserves were located in Europe (mainly in Norway, the United Kingdom and in Russia), Africa (mainly in Angola, Mozambique, Nigeria, Republic of Congo and Uganda), the Americas (mainly in Argentina, Brazil, Canada, and the United States), the Middle East and North Africa (mainly in Algeria, Libya, Oman, Qatar, United Arab Emirates, and Yemen), and Asia-Pacific (mainly in Australia and Kazakhstan).

Gas and associated products (condensates and natural gas liquids) represent approximately 58% of the reserves while crude oil and bitumen account for the remaining 42%.

Discoveries of new fields and extensions of existing fields added 1,446 Mboe to TotalEnergies' proved reserves during the three years 2019, 2020 and 2021 before deducting production and sales of reserves and without adding any reserves acquired during this period. Net reserves revisions during this three-year period were 1,128 Mboe, mainly due to fields performance and to the net impact of the changes in hydrocarbon prices in 2019 (decrease), in 2020 (decrease) and in 2021 (increase); this price variations led either to a decrease or increase in reserves, resulting from the shorter or longer producing life of certain producing fields and from partial debooking or rebooking of proved undeveloped reserves due to economic reasons, partially offset by any increase or decrease in reserves on fields with production sharing or risked service contracts.

As of December 31, 2021 TotalEnergies' combined proved reserves of oil and gas stood at 12,062 Mboe (of which 7,980 Mboe were proved developed reserves) compared to 12,328 Mboe (of which 7,985 Mboe were proved developed reserves) as of December 31, 2020.

RESERVE SENSITIVITY TO OIL AND GAS PRICES

Changes in the price used as a reference for the proved reserves estimation result in non-proportionate inverse changes in proved reserves associated with production sharing and risked service contracts (which together represent approximately 24% of TotalEnergies' reserves as of December 31, 2021). Under such contracts, TotalEnergies is entitled to a portion of the production, the sale of which is meant to cover expenses incurred by TotalEnergies. The more the oil prices decrease, the more the number of barrels necessary to cover the same amount of expenses. Moreover, the number of barrels economically producible under these contracts may vary according to criteria such as cumulative production, the rate of return on investment or the income-cumulative expenses ratio. This increase in reserves is partly offset by a reduction of the duration over which fields are economically producible. However, the effect of a reduction of the duration of production is usually inferior to the impact of the drop in prices in production sharing contracts or risked service contracts and consequently lower prices usually lead to an increase in TotalEnergies' reserves, and vice versa. In Canada, a decrease in the reference price per barrel leads to a decrease in the level of royalties and, therefore, an increase of the reserves.

Finally, for any type of contract, a significant decrease in the reference price of petroleum products that negatively impacts projects' profitability may lead to a reduction in proved reserves, and vice versa.

2.3.2 Exploration

TotalEnergies evaluates exploration opportunities based on a variety of geological, technical, political, economic (including tax and contractual terms), environmental and societal factors.

The exploration strategy deployed aims at prioritizing the drilling of the most attractive targets, focusing on resources with regards to low technical cost, low breakeven oil price, and low CO_2 intensity. Accordingly, the Company has allocated exploration investments between Mature areas (35%; with relatively low level of geological risk, situated nearby existing producing fields and infrastructures), Emerging provinces (50%; in under-explored areas where the petroleum system is proven and hydrocarbons are present), and in Frontier basins (where the highest resource potential exists).

This has led to numerous material discoveries in 2020 notably in Suriname (oil and gas condensate found in Maka Central, Sapakara West, Kwaskwasi on Block 58, 50%), South Africa (gas condensate found in Luiperd, 45%), UK (Isabella oil and gas discovery on license P1820, 30%), and Egypt (Bashrush gas discovery in North El Hammad license, 25%).

Additional discoveries and appraisal have been made in 2021 and early 2022, notably in Suriname (Sapakara South appraisal well and Krabdagu-1 exploration well, both on Block 58), in the United Arab Emirates (DE-09 well in Ruwais Block 1 unconventional gas license, 40%), in Norway (Tyrihans Nord Ile in 6407/1 license, 23%) and in Namibia (exploration well on Venus Prospect, on block 2913B, 40%).

In line with the Company's strategy, TotalEnergies has increased further the selectivity of its exploration investments with a greater focus on oil prospects with low technical cost, low GHG emission and short timeline to production, and on gas targets in areas where they can constitute the feedstock of existing LNG infrastructures and future projects. Therefore, the Company's exploration expenditure in 2021 was reduced to $0.8 billion, mainly in Suriname, Guyana, Angola and Brazil, compared to $1.0 billion in 2020 and $1.55 billion in 2019.

2.3.3 Hydrocarbon production

The average daily production of liquids and natural gas was 2,819 kboe/d in 2021, compared to 2,871 kboe in 2020 and 3,014 kboe/d in 2019.

Gas and associated products (condensates and natural gas liquids) represented approximately 55% of TotalEnergies' overall hydrocarbon production in 2021, compared to 55% in 2020 and 53% in 2019. Crude oil and bitumen represented 45% in 2021, compared to 45% in 2020 and 47% in 2019.

The tables on the following pages set forth TotalEnergies' annual and average daily production of liquids and natural gas by geographic zone and for each of the last three fiscal years.

Consistent with industry practice, TotalEnergies often holds a percentage interest in its fields with the balance being held by joint-venture partners (which may include other international oil companies, state-owned oil companies or government entities). TotalEnergies entities may frequently act as an operator (the party responsible for technical production) on the acreage in which it holds an interest. For further information, refer to the table on producing assets by geographical zone below.

In 2021, as in 2020 and 2019, the Trading & Shipping unit of the Refining & Chemicals segment marketed substantially all of TotalEnergies' liquids production (refer to the table regarding Trading & Shipping's crude oil sales and supply and petroleum products sales in Section 2.4.2.1 of this chapter).

PRODUCTION BY GEOGRAPHICAL ZONE

The following table sets forth TotalEnergies' annual liquids and natural gas production by geographical zone.

	2021			2020			2019		
	Liquids Mb(a)	Natural Gas Bcf(b)(c)	Total Mboe	Liquids Mb(a)	Natural gas Bcf(b)(c)	Total Mboe	Liquids Mb(a)	Natural gas Bcf(b)(c)	Total Mboe
Africa (excluding North Africa)	**145**	**248**	**194**	**179**	**262**	**231**	**204**	**269**(d)	**257**
Angola	55	47	64	68	53	78	75	51(d)	85
Republic of the Congo	32	11	34	41	11	43	47	12	49
Gabon	8	2	9	9	2	10	11	2	12
Nigeria	50	188	87	61	196	100	71	204	111
Americas	**65**	**396**	**136**	**58**	**401**	**129**	**61**	**405**	**133**
Argentina	2	151	30	3	156	31	3	160	32
Bolivia	2	87	18	2	81	16	2	70	15
Brazil	18	1	18	13	1	13	6	1	6
Canada	33	–	33	29	–	29	35	–	35
Colombia							<1	–	<1
United States	9	137	33	11	148	37	13	154	40
Venezuela	1	20	4	<1	15	3	2	20	5
Asia-Pacific	**40**	**418**	**113**	**39**	**410**	**111**	**38**	**393**	**106**
Australia	11	167	42	12	168	43	10	151	38
Brunei	1	18	4	1	22	5	3	26	8
China	<1	47	9	<1	46	9	<1	39	6
Indonesia	<1	4	1	<1	4	1	<1	4	1
Kazakhstan	25	26	30	23	25	28	22	25	27
Myanmar	–	46	6	–	46	6	–	46	6
Thailand	3	110	21	3	99	19	3	102	20

	2021			2020			2019		
	Liquids Mb(a)	Natural Gas Bcf(b)(c)	Total Mboe	Liquids Mb(a)	Natural gas Bcf(b)(c)	Total Mboe	Liquids Mb(a)	Natural gas Bcf(b)(c)	Total Mboe
Europe	**109**	**1,260**	**343**	**116**	**1,273**	**352**	**108**	**1,288**	**347**
Denmark	9	19	12	9	20	13	12	42	20
Italy	7	1	7	6	1	6	<1	–	<1
Norway	49	168	80	47	172	79	38	197	75
Netherlands	<1	27	5	<1	31	5	–	33	6
United Kingdom	17	217	58	26	260	74	29	218	69
Russia	27	828	181	28	789	175	29	798	177
Middle East and North Africa	**188**	**306**	**243**	**173**	**306**	**228**	**200**	**313**	**257**
Algeria	10	48	19	9	40	16	13	48	22
United Arab Emirates	99	16	102	95	17	99	104	19	108
Iraq	5	1	5	9	1	9	7	1	7
Libya	29	8	30	15	4	16	28	5	29
Oman	9	26	14	9	28	14	10	24	14
Qatar	36	207	73	36	216	74	38	216	77
TOTAL PRODUCTION	**547**	**2,628**	**1,029**	**565**	**2,652**	**1,051**	**611**	**2,668(d)**	**1,100**
INCLUDING SHARE OF EQUITY AFFILIATES	**75**	**1,037**	**267**	**74**	**1,006**	**260**	**79**	**1,015(d)**	**267**
Angola	1	29	7	2	35	8	2	33(d)	8
United Arab Emirates	9	14	11	8	13	11	9	14	12
Oman	9	26	14	9	29	14	9	24	13
Qatar	29	140	54	29	141	54	30	146	57
Russia	26	828	180	26	788	173	27	798	175
Venezuela	1	<1	1	<1	<1	<1	2	<1	2

(a) Liquids include crude oil, bitumen, condensates, and natural gas liquids (NGL).

(b) Including fuel gas (179 Bcf in 2021, 183 Bcf in 2020 and 194 Bcf in 2019).

(c) Gas conversion ratio: 1 boe = 1 b of crude oil = 5,458 cf of gas in 2021 (5,453 cf in 2020 and 5,454 cf in 2019).

(d) Data restated.

The following table sets forth TotalEnergies' average daily liquids and natural gas production by geographical zone.

	2021			2020			2019		
	Liquids kb/d(a)	Natural gas Mcf/d(b)(c)	Total kboe/d	Liquids kb/d(a)	Natural gas Mcf/d(b)(c)	Total kboe/d	Liquids kb/d(a)	Natural gas Mcf/d(b)(c)	Total kboe/d
Africa (excluding North Africa)	**398**	**681**	**532**	**488**	**717**	**629**	**558**	**737(d)**	**705**
Angola	150	128	175	184	146	212	205	140(d)	232
Republic of the Congo	88	32	94	111	29	117	128	32	134
Gabon	23	4	24	26	7	27	31	7	33
Nigeria	137	517	239	167	535	273	194	558	306
Americas	**179**	**1,086**	**372**	**158**	**1,095**	**353**	**168**	**1,111**	**365**
Argentina	7	413	81	7	427	84	7	438	86
Bolivia	6	238	49	6	220	45	5	193	39
Brazil	48	3	49	34	4	35	16	2	16
Canada	91	–	91	81	–	81	98	–	98
Colombia							<1	–	<1
United States	25	377	92	29	404	101	36	423	111
Venezuela	2	55	10	1	40	7	6	55	15

	2021			2020			2019		
	Liquids kb/d(a)	Natural gas Mcf/d(b)(c)	Total kboe/d	Liquids kb/d(a)	Natural gas Mcf/d(b)(c)	Total kboe/d	Liquids kb/d(a)	Natural gas Mcf/d(b)(c)	Total kboe/d
Asia-Pacific	**107**	**1,145**	**307**	**105**	**1,121**	**302**	**103**	**1,077**	**293**
Australia	31	459	116	33	459	118	29	415	106
Brunei	1	50	11	3	61	15	7	72	21
China	<1	129	24	<1	126	23	<1	106	19
Indonesia	<1	11	2	<1	10	2	<1	10	2
Kazakhstan	67	71	81	62	69	76	59	68	74
Myanmar	–	125	16	–	126	16	–	126	16
Thailand	8	300	57	7	270	52	8	280	55
Europe	**300**	**3,453**	**941**	**318**	**3,478**	**963**	**295**	**3,528**	**949**
Denmark	24	52	34	26	54	36	34	114	56
Italy	18	3	19	15	2	16	<1	–	<1
Norway	135	462	220	130	470	217	104	539	204
Netherlands	<1	73	13	<1	87	15	<1	90	16
United Kingdom	48	594	159	70	710	201	79	598	189
Russia	75	2,269	496	77	2,155	478	78	2,187	484
Middle East and North Africa	**516**	**838**	**667**	**474**	**835**	**624**	**548**	**857**	**702**
Algeria	28	132	51	26	108	45	35	132	59
United Arab Emirates	272	42	280	261	47	270	286	51	295
Iraq	13	3	14	23	3	24	19	3	20
Libya	80	23	84	41	10	43	78	15	80
Oman	25	72	39	25	78	39	26	65	38
Qatar	98	566	199	98	589	203	104	591	210
TOTAL PRODUCTION	**1,500**	**7,203**	**2,819**	**1,543**	**7,246**	**2,871**	**1,672**	**7,310(d)**	**3,014**
INCLUDING SHARE OF EQUITY AFFILIATES	**206**	**2,842**	**732**	**202**	**2,748**	**712**	**216**	**2,781(d)**	**731**
Angola	4	78	19	5	94	23	5	90(d)	22
United Arab Emirates	24	40	31	22	36	29	24	39	32
Oman	25	72	39	24	78	38	25	66	37
Qatar	80	385	149	78	386	148	83	400	155
Russia	71	2,267	492	72	2,154	473	73	2,185	479
Venezuela	2	<1	2	1	<1	1	6	1	6

(a) Liquids include crude oil, bitumen, condensates, and natural gas liquids (NGL).

(b) Including fuel gas (490 Mcf/d in 2021, 500 Mcf/d in 2020 and 531 Mcf/d in 2019).

(c) Gas conversion ratio: 1 boe = 1 b of crude oil = 5.458 cf of gas in 2021 (5,453 cf of gas in 2020 and 5,454 cf in 2019).

(d) Data restated.

PRODUCING ASSETS BY GEOGRAPHICAL ZONE

The table below sets forth, as of December 31, 2021(1) and by geographical zone, TotalEnergies' producing assets, the year in which TotalEnergies' activities started in the country, the interest held in the asset (TotalEnergies' share in %) and, where appropriate, whether TotalEnergies operates the asset.

Africa (excluding North Africa)	Exploration & Production segment	iGRP segment
Angola (1953)	**Operated:** Girassol, Dalia, Pazflor, CLOV (Block 17) (38.00%), Kaombo (Block 32) (30.00%)	
	Non-operated: Cabinda Block 0 (10.00%), Kuito, BBLT, Tombua-Landana (Block 14) (20.00%)[a], Lianzi (Block 14K) (10.00%)[a]	**Non-operated:** Angola LNG (13.60%)
Gabon (1928)	**Operated:** Anguille Marine (100.00%), Anguille Nord Est (100.00%), Baliste (100.00%), Baudroie Marine (100.00%), Baudroie Nord Marine (100.00%), Grand Anguille Marine (100.00%), Lopez Nord (100.00%), Mérou Sardine Sud (100.00%), N'Tchengue (100.00%), Port Gentil Océan (100.00%), Torpille (100.00%), Torpille Nord Est (100.00%)	
Nigeria (1962)	**Operated:** OML 99 Amenam-Kpono (30.40%), OML 100 (40.00%), OML 102 (40.00%), OML 130 (24.00%)	**Operated:** OML 58 (40.00%)
	Non-operated: Shell Petroleum Development Company (SPDC 10.00%), OML 118 – Bonga (12.50%), OML 138 (20.00%)	**Non-operated:** Nigeria LNG (15.00%)
Republic of the Congo (1968)	**Operated:** Moho Bilondo (53.50%), Moho Nord (53.50%), Nkossa (53.50%), Nsoko (53.50%), Sendji (55.25%), Yanga (55.25%)	
	Non-operated: Lianzi (26.75%)	

(a) Interest held through Angola Block 14 BV (TotalEnergies 50.01%).

Americas	Exploration & Production segment	iGRP segment
Argentina (1978)	**Operated:** Aguada Pichana Este – Mulichinco (27.27%), Aguada Pichana Este – Vaca Muerta (41.00%), Aguada San Roque (24.71%), Rincon La Ceniza (45.00%), La Escalonada (45%), Aries (37.50%), Cañadon Alfa Complex (37.50%), Carina (37.50%), Hidra (37.50%), Kaus (37.50%), Vega Pleyade (37.50%)	
	Non-operated: Aguada Pichana Oeste (25.00%), Aguada de Castro (25.00%)	
Bolivia (1995)	**Operated:** Incahuasi (50.00%)	
	Non-operated: San Alberto (15.00%), San Antonio (15.00%), Itaú (41.00%)	
Brazil (1999)	**Operated:** Lapa (45.00%)	
	Non-operated: Libra (20.00%), Iara (22.50%)	
Canada (1999)	**Non-operated:** Surmont (50.00%), Fort Hills (24.58%)	
United States (1957)	**Non-operated:** Tahiti (17.00%), Jack (25.00%)	**Operated:** several assets in the Barnett Shale zone (93% on average)
Venezuela (1980)	**Non-operated:** Yucal Placer (69.50%)	

Asia-Pacific	Exploration & Production segment	iGRP segment
Australia (2006)		Not operated: several assets in the GLNG UJV (27.50%)[b], Ichthys (26.00%)
Brunei (1986)	**Operated:** Maharaja Lela Jamalulalam (37.50%)	
China (2006)	**Non-operated:** South Sulige (49.00%)	
Indonesia (1968)	**Non-operated:** Block Sebuku (15.00%)	
Kazakhstan (1992)	**Operated:** Dunga (60.00%)	
	Non-operated: Kashagan (16.81%)	
Myanmar (1992)	**Operated:** Blocks M5/M6 (Yadana, Sein, Badamyar) (31.24%)	
Thailand (1990)	Non-operated: Bongkot (33.33%)	

(b) TotalEnergies' interest in the unincorporated joint-venture.

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(1) TotalEnergies' interest in the local entity is approximately 100% in all cases except for TotalEnergies EP Gabon (58.28%), TotalEnergies EP Congo (85.00%) and certain entities in Abu Dhabi and Oman (see notes b through i below).

Europe	Exploration & Production segment	iGRP segment
Denmark (2018)	**Operated:** Danish Underground Consortium (DUC) zone (43.20%), comprising the Dan/Halfdan, Gorm and Tyra fields, and all their satellites	
Italy (1960)	**Operated:** Tempa Rossa (50.00%)	
Norway (1965)	**Operated:** Skirne (40.00%), Atla (40.00%)	
	Non-operated: Johan Sverdrup (8.44%), Åsgard (7.68%), Ekofisk (39.90%), Eldfisk (39.90%), Embla (39.90%), Tor (48,20%), Flyndre (6.26%), Heimdal (16.76%), Islay (5.51%)(c), Kristin (6.00%), Kvitebjørn (5.00%), Oseberg (14.70%), Oseberg East (14.70%), Oseberg South (14.70%), Troll (3.69%), Tune (10.00%), Tyrihans (23.15%)	**Non-operated:** Snøhvit (18.40%)
Netherlands (1964)	**Operated:** F6a oil (65.68%), J3a (30.00%), K1a (40.10%), K3b (56.16%), K4a (50.00%), K4b/K5a (36.31%), K5b (50.00%), K6 (56.16%), L1a (60.00%), L1d (60.00%), L1e (55.66%), L1f (55.66%), L4a (55.66%)	
	Non-operated: E16a (16.92%), E17a/E17b (14.10%), J3b/J6 (25.00%), Q16a (6.49%)	
United Kingdom (1962)	**Operated:** Alwyn North (100.00%), Dunbar (100.00%), Ellon (100.00%), Forvie North (100.00%), Grant (100.00%), Jura (100.00%), Nuggets (100.00%), Islay (94.49%)(c), Elgin-Franklin (46.17%), West Franklin (46.17%), Glenelg (58.73%), Culzean (49.99%), Laggan Tormore, Edradour and Glenlivet (all 60.00%), Gryphon (86.50%), Maclure (38.19%), South Gryphon (89.88%), Tullich (100.00%), Ballindalloch (91.8%)	
	Non-operated: Bruce (1.00%), Markham unitized field (7.35%), Harding (30.00%)	
Russia (1991)	**Non-operated:** Kharyaga (20.00%), Termokarstovoye (49.00%)(d), several fields through its interest in PAO Novatek (19.4%)	**Non-operated:** Arctic LNG 2 (10.00%)(e), Yamal LNG (20.02%)(f)

(c) The Islay field extends partially into Norway. TotalEnergies EP UK holds a 94.49% interest and TotalEnergies EP Norge 5.51%.
(d) Direct TotalEnergies' interest of 49% in ZAO Terneftegas.
(e) Direct TotalEnergies' interest of 10% in LLC Arctic LNG 2.
(f) Direct TotalEnergies' interest of 20.02% in OAO Yamal LNG.

Middle East and North Africa	Exploration & Production segment	iGRP segment
Algeria (1952)	**Non-operated:** TFT II (49%), Timimoun (37.75%), 404a & 208 (12.25%)	
United Arab Emirates (1939)	**Non-operated:** ADNOC Onshore (10.00%), ADNOC Offshore: Umm Shaif/Nasr (20.00%), Lower Zakum (5.00%), ADNOC Gas Processing (15.00%)	**Non-operated:** ADNOC LNG (5.00%)
Iraq (1920)	**Non-operated:** Halfaya (22.50%)(g), Sarsang (18.00%)	
Libya (1959)	**Non-operated:** zones 15, 16 & 32 (75.00%)(h), zones 129 & 130 (30.00%)(h), zones 130 & 131 (24.00%)(h), zones 70 & 87 (75.00%)(h), Waha (16.33%)	
Oman (1937)	**Non-operated:** various onshore fields (Block 6) (4.00%)(i)	**Non-operated:** Oman LNG (5.54%), Qalhat LNG (2.04% through Oman LNG)
Qatar (1936)	**Operated:** Al Khalij (40.00%)	
	Non-operated: North Field-Block NF Dolphin (24.50%), Al Shaheen (30.00%)	**Non-operated:** North Field-Qatargas 2 Train 5 (16.70%)

(g) TotalEnergies' interest in the joint venture.
(h) TotalEnergies' interest in the foreign consortium.
(i) TotalEnergies' indirect interest (4.00%) in the concession through its 10.00% stake in Private Oil Holdings Oman Ltd.

2.3.4 Delivery commitments

The majority of TotalEnergies' natural gas production is sold under long-term contracts. However, most of its North American and United Kingdom production, and part of its production from Norway and Russia, is sold in the spot market.

The long-term contracts under which TotalEnergies sells its natural gas usually provide for a price related to, among other factors, average crude oil and other petroleum product prices, as well as, in some cases, a cost-of-living index. Though the price of natural gas tends to fluctuate in line with crude oil prices, a slight delay may occur before changes in crude oil prices are reflected in long-term natural gas prices.

Some of TotalEnergies' long-term contracts, such as in Russia, Australia, Nigeria, Qatar and Bolivia, specify the delivery of quantities of natural gas that may or may not be fixed and determinable. Such delivery commitments vary substantially, both in duration and scope, from contract to contract throughout the world. For example, in some cases, contracts require delivery of natural gas on an as-needed basis, and, in other cases, contracts call for the delivery of varied amounts of natural gas over different periods of time. Nevertheless, TotalEnergies estimates the fixed and determinable quantity of gas to be delivered over the period 2022-2024 to be 5,066 Bcf. TotalEnergies expects to satisfy most of these obligations through the production of its proved reserves of natural gas, with, if needed, additional sourcing from spot market purchases (refer to points 9.1 and 9.2 of chapter 9).

2.3.5 Contractual framework of Upstream oil and gas production activities

Licenses, permits and contracts governing the ownership of oil and gas interests by TotalEnergies' entities have terms that vary from country to country and are generally granted by or entered into with a government entity or a state-owned company or sometimes with private owners. These agreements usually take the form of concessions or production-sharing contracts.

In the framework of oil concession agreements, the oil company (or consortium) owns the assets and the facilities and is entitled to the entire production. In exchange, the operating risks, costs and investments are the oil company's or the consortium's responsibility and it agrees to remit to the relevant host country, usually the owner of the subsoil resources, a production-based royalty, income tax, and possibly other taxes that may apply under local tax legislation.

The production sharing contract (PSC) involves a more complex legal framework than the concession agreement. It defines the terms and conditions of production sharing and sets the rules governing the cooperation between the company (the contractor) or consortium (the contracting group) in possession of the license and the host country, which is generally represented by a state-owned company. The latter can thus be involved in operating decisions, cost accounting and production allocation. The contractor (or contractor group) undertakes the execution and financing, at its own risk, of all exploration, development or operational activities. In exchange, it is entitled to a portion of the production, known as "cost oil", the sale of which is intended to cover its incurred expenses (capital and operating costs). The balance of production, known as "profit oil", is then shared in varying proportions, between the contractor (or the contracting group), on the one hand, and the host country or state-owned company, on the other hand.

Today, concession agreements and PSCs can coexist, sometimes in the same country. Even though there are other contractual models, TotalEnergies' license portfolio is comprised mainly of concession agreements.

On most licenses, the partners and authorities of the host country, often assisted by international accounting firms, perform joint venture and PSC cost audits and ensure the observance of contractual obligations.

In some countries, TotalEnergies has also signed contracts called "risked service contracts", which are similar to PSCs. However, the profit oil is replaced by a defined or determinable cash monetary remuneration, agreed by contract, which depends in particular on field performance parameters such as the amount of barrels produced.

Oil and gas exploration and production activities are subject to authorization granted by public authorities (licenses), which are granted for specific and limited periods of time and include an obligation to relinquish a large portion, or the entire portion in case of failure, of the area covered by the license at the end of the exploration period.

TotalEnergies pays taxes on income generated from its oil and gas production and sales activities under its concessions, PSCs and risked service contracts, as required by local regulations. In addition, depending on the country, TotalEnergies' production and sales activities may be subject to a number of other taxes, fees and withholdings, including special petroleum taxes and fees. The taxes imposed on oil and gas production and sales activities are generally substantially higher than those imposed on other industrial or commercial businesses.

2.3.6 Oil and gas acreage

As of December 31 *(in thousands of acres)*		2021 Undeveloped acreage[(a)]	2021 Developed acreage
Africa (excluding North Africa)	Gross	86,711	955
	Net	44,739	214
Americas	Gross	16,265	922
	Net	6,738	460
Asia-Pacific	Gross	38,168	902
	Net	19,886	280
Europe (excluding Russia)	Gross	19,401	805
	Net	8,299	202
Russia(b)	Gross	63,074	769
	Net	8,696	157
Middle East and North Africa	Gross	53,232	3,454
	Net	11,704	590
TOTAL	**GROSS**	**276,851**	**7,807**
	NET(c)	**100,062**	**1,903**

(a) Undeveloped acreage includes licenses and concessions.
(b) Undeveloped acreage in Russia includes all the PAO Novatek licenses in which TotalEnergies holds an indirect interest.
(c) Net acreage equals the sum of TotalEnergies' equity interests in gross acreage.

2.3.7 Productive wells

As of December 31 *(number of wells)*		2021 Gross productive wells	2021 Net productive wells(a)
Africa (excluding North Africa)	Liquids	1,381	371
	Gas	82	16
Americas	Liquids	309	121
	Gas	2,748	1,876
Asia-Pacific	Liquids	129	65
	Gas	3,494	1,094
Europe (excluding Russia)	Liquids	615	207
	Gas	254	84
Russia	Liquids	389	65
	Gas	903	166
Middle East and North Africa	Liquids	11,483	812
	Gas	176	60
TOTAL	**LIQUIDS**	**14,306**	**1,641**
	GAS	**7,657**	**3,296**

(a) Net productive wells correspond to the sum of TotalEnergies' equity interests in gross productive wells.

2.3.8 Productive and dry wells drilled

	2021			2020			2019		
As of December 31 *(number of wells)*	Net productive wells drilled (a)(b)	Net dry wells drilled(a)(c)	Total net wells drilled (a)(c)	Net productive wells drilled (a)(b)(d)	Net dry wells drilled(a)(c)(d)	Total net wells drilled (a)(c)(d)	Net productive wells drilled (a)(b)	Net dry wells drilled(a)(c)	Total net wells drilled (a)(c)
Exploration									
Africa (excluding North Africa)	1.1	0.8	1.9	0.4	–	0.4	1.1	0.6	1.7
Americas	2.0	1.8	3.8	2.6	0.5	3.1	1.4	2.2	3.6
Asia-Pacific	–	–	–	–	0.7	0.7	–	–	–
Europe (excluding Russia)	0.2	1.2	1.4	0.3	0.5	0.8	1.3	0.6	1.9
Russia	–	–	–	–	–	–	–	–	–
Middle East and North Africa	0.8	–	0.8	0.3	0.4	0.7	1.0	1.4	2.4
TOTAL	**4.1**	**3.8**	**7.9**	**3.6**	**2.1**	**5.7**	**4.8**	**4.8**	**9.6**
Development(e)									
Africa (excluding North Africa)	4.8	–	4.8	8.0	–	8.0	17.4	–	17.4
Americas	123.3	–	123.3	256.3	–	256.3	64.3	–	64.3
Asia-Pacific	127.3	–	127.3	114.9	–	114.9	170.1	–	170.1
Europe (excluding Russia)	13.8	–	13.8	7.7	–	7.7	9.1	–	9.1
Russia	28.7	–	28.7	21.6	–	21.6	26.2	–	26.2
Middle East and North Africa	54.6	0.2	54.8	56.4	–	56.4	69.6	–	69.6
TOTAL	**352.5**	**0.2**	**352.7**	**464.9**	**–**	**464.9**	**356.7**	**–**	**356.7**
TOTAL	**356.6**	**4.0**	**360.6**	**468.5**	**2.1**	**470.6**	**361.5**	**4.8**	**366.3**

(a) Net wells equal the sum of TotalEnergies' equity interests in gross wells.

(b) Includes certain exploratory wells that were abandoned, but which would have been capable of producing oil in sufficient quantities to justify completion.

(c) For information: service wells and stratigraphic wells are not reported in this table.

(d) Includes 1.7 extension wells in 2019.

(e) Include completion and recompletion activities.

2.3.9 Wells in the process of being drilled (including wells temporarily suspended)

	2021	
As of December 31 *(number of wells)*	Gross	Net(a)
Exploration		
Africa (excluding North Africa)	2	0.7
Americas	2	0.9
Asia-Pacific	–	–
Europe (excluding Russia)	–	–
Russia	–	–
Middle East and North Africa	–	–
TOTAL	**4**	**1.6**
Other wells(b)		
Africa (excl. North Africa)	53	8.1
Americas	49	19.4
Asia-Pacific	528	159.9
Europe (excluding Russia)	20	8.4
Russia	65	14.0
Middle East and North Africa	264	37.2
TOTAL	**979**	**247.0**
TOTAL	**983**	**248.6**

(a) Net wells equal the sum of TotalEnergies' equity interests in gross wells. Includes wells for which surface facilities permitting production have not yet been constructed. Such wells are also reported in the table "Number of net productive and dry wells drilled" above, for the year in which they were drilled.

(b) Other wells are development wells, service wells and stratigraphic wells.

2.3.10 Interests in pipelines

The table below shows the main interests held by TotalEnergies entities[1] in pipelines, as of December 31, 2021.

Pipeline(s)	Origin	Destination	(%) interest	Operator	Liquids	Gas
Africa (excluding North Africa)						
Nigeria						
O.U.R	Obite	Rumuji	40.00	X		X
NOPL	Rumuji	Owaza	40.00	X		X
Americas						
Argentina						
TGM	Aldea Brasilera (Entre Rios)	Paso de Los Libres (Argentina--Brazil border)	32.68			X
Brazil						
TSB	Paso de Los Libres (Argentina--Brazil border)	Uruguayana (Brazil)	25.00			X
	Porto Alegre	Canoas	25.00			X
Asia-Pacific						
Australia						
GLNG	Fairview, Roma, Scotia, Arcadia	GLNG (Curtis Island)	27.50			X
Myanmar						
Yadana	Yadana field	Ban-I Tong (Thai border)	31.24	X		X
Europe						
Azerbaijan						
BTC	Baku (Azerbaijan)	Ceyhan (Turkey, Mediterranean)	5.00		X	
Norway						
Frostpipe (inhibited)	Lille-Frigg, Froy	Oseberg	36.25		X	
Heimdal to Brae Condensate Line	Heimdal	Brae	16.76		X	
Kvitebjorn Pipeline	Kvitebjorn	Mongstad	5.00		X	
Norpipe Oil	Ekofisk Treatment Center	Teesside (United Kingdom)	34.93		X	
Oseberg Transport System	Oseberg, Brage and Veslefrikk	Sture	12.98		X	
Troll Oil Pipeline I and II	Troll B and C	Vestprosess (Mongstad refinery)	3.71		X	
Netherlands						
WGT K13-Den Helder	K13A	Den Helder	4.66			X
WGT K13-Extension	Markham	K13 (via K4/K5)	23.00			X
United Kingdom						
Alwyn Liquid Export Line	Alwyn North	Cormorant	100.00	X	X	
Bruce Liquid Export Line	Bruce	Forties (Unity)	1.00		X	
Graben Area Export Line (GAEL) Northern Spur	ETAP	Forties (Unity)	9.58		X	
Graben Area Export Line (GAEL) Southern Spur	Elgin-Franklin	ETAP	32.09		X	
Ninian Pipeline System	Ninian	Sullom Voe	16.36		X	
Shearwater Elgin Area Line (SEAL)	Elgin-Franklin, Shearwater	Bacton	25.73			X
SEAL to Interconnector Link (SILK)	Bacton	Interconnector	54.66	X		X
Middle East and North Africa						
United Arab Emirates						
Dolphin	North Field (Qatar)	Taweelah-Fujairah-Al Ain (United Arab Emirates)	24.50			X

All interests in the oil and gas pipelines included above are also included in the Exploration & Production segment, excluding those in the assets situated in Australia, which belong to the iGRP segment.

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(1) Excluding equity affiliates, except for the Yadana and Dolphin pipelines.

2.4 Refining & Chemicals segment

Refining & Chemicals' activities include refining, base petrochemicals (olefins and aromatics); polymer derivatives (polyethylene, polypropylene, polystyrene and hydrocarbon resins), including biopolymers and recycled polymers obtained from chemical or mechanical recycling, and biofuels from the transformation of biomass and, since January 1, 2022, specialty fluids, which were previously part of the Marketing & Services segment. The Refining & Chemicals activities also include the processing of elastomers by Hutchinson.

The Refining & Chemicals segment also includes the Trading-Shipping activities.

Main indicators

Among the world's **10** largest integrated producers(1)

1.8 Mb/d Refining capacity at year-end 2021

One of the **leading** traders of oil and refined products worldwide

-3 Mt CO_2e **excluding COVID-19 effect** decrease of the CO_2 emissions Scope 1+2 during year 2021

$1.5 B Organic investments(2) in 2021 for Refining & Chemicals activities

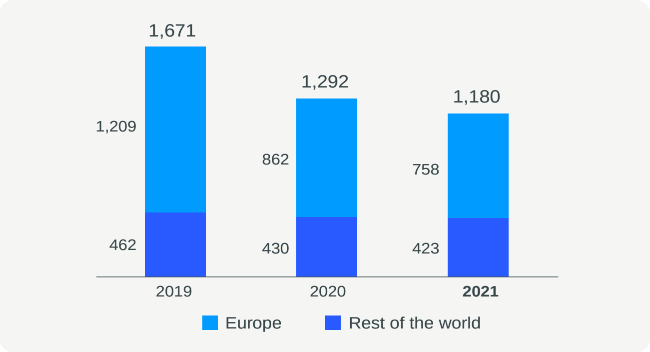
Main objectives / ambitions

2 to 3 Mt/year of production of renewable diesel by 2025

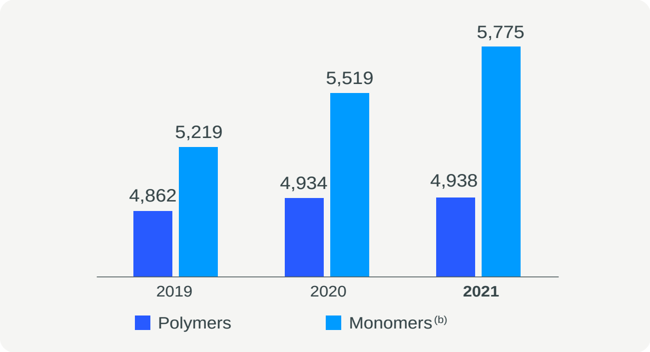
175 Kt/year of bioplastics production capacity by 2024

Ambition to produce **30%** of its polymers from recycled or renewable material by 2030

Refinery throughput(a) *(in kb/d)*



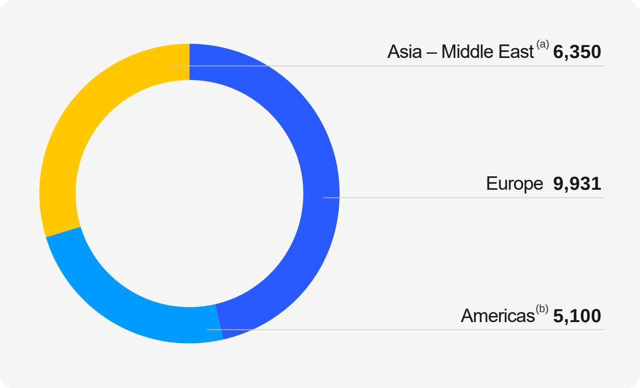
Production of petrochemicals *(in kt)*



(a) Includes refineries in Africa that are reported in the Marketing & Services segment.

(b) Olefins.

Petrochemicals production capacity by geographical area *(kt)*



(a) Including interest in Qatar, 50% of Hanwha Total Petrochemicals Co. Limited and 37.5% of SATORP in Saudi Arabia.

(b) Including 50% of the joint-venture between TotalEnergies and Borealis.

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(1) Based on publicly available information, refining and petrochemical production capacities at year-end 2019.

(2) Organic investments = net investments, excluding acquisitions, divestments and other operations with non-controlling interests (refer to point 1.6.1 of chapter 1).

Refinery throughput decreased by 9% in 2021. The rebound of demand was compensated by the prolonged shutdown of the Donges refinery for economic reasons, the shutdown of the Grandpuits refinery in view of its conversion into a zero-oil platform and the sale of the Lindsey refinery in the United Kingdom, as well as by the planned shutdown of the Leuna refinery in Germany at Q2 2021

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[REDACTED SECTION: CERTAIN TEXT HAS BEEN REDACTED.]

Monomer production increased by 5% in 2021 year-on-year, supported by demand, and notably as a result of the restart of the Port-Artthur steam cracker in the US, in maintenance in 2020.

2.4.1 Refining & Chemicals

The Refining & Chemicals strategy inegrates the constant requirement for safety, a core value of TotalEnergies, is embedded in the Company's climate ambition to achieve carbon neutrality (net zero emissions) by 2050. It does so through controlling the CO_2 emissions of its operations (Scope 1+2), developing low-carbon solutions, particularly in the biomass (Scope 3), and adapting its activities in Europe in line with the net zero emission objective set by the European Union.

This strategy involves:

- continuously improving the competitiveness of refining and petrochemicals activities by making optimal use of production assets, concentrating investments on its large, integrated platforms and reducing CO_2 emissions linked to its operations;
- growing petrochemicals, mainly in the United States and the Middle East, by exploiting the proximity of cost-effective oil and gas resources in order to supply growing markets, particularly in Asia; and
- developing low carbon activities on the one hand, in biofuels (bio-jet in particular), synthetic fuels produced from CO_2 and green hydrogen, biopolymers and plastic recycling solutions, and, on the other hand, in materials that help enhance the energy efficiency of TotalEnergies' customers, particularly in the automotive market.

2.4.1.1 REFINING AND PETROCHEMICALS

TotalEnergies has interests in 16 refineries (of which eight are operated by TotalEnergies companies, including a biorefinery at La Mède), located in Europe, the Middle East, the United States, Asia and Africa. As of December 31, 2021, TotalEnergies' refining capacity was 1,793 kb/d, compared to 1,967 kb/d at year-end 2020 and 1,959 kb/d at year-end 2019. The refining capacity of the Refining & Chemicals segment totaled 1,785 kb/d at year-end 2021 (or 99% of TotalEnergies' total capacity(1)).

TotalEnergies" petrochemicals operations are located in Europe, the United States, Qatar, South Korea and Saudi Arabia. With the vast majority of its sites either adjacent to or connected by pipelines to TotalEnergies refineries, the petrochemical operations are closely integrated with its refining operations, thereby maximizing synergies.

At year-end 2021, TotalEnergies' global petrochemicals capacity (olefins, aromatics and polymers) was 21,381 kt, compared to 21,299 kt at end 2020 and 21,200 kt at end 2019.

For the main sites of Refining & Chemicals at year-end 2021, please refer to paragraph 1.8.3 of chapter 8.

ACTIVITIES BY GEOGRAPHICAL AREA

Europe

TotalEnergies continues to reduce its refining capacity in Europe. The sale of the company holding the assets of the Lindsey refinery in the United Kingdom, announced in July 2020, came into effect in the first quarter of 2021. TotalEnergies also announced in September 2020 the conversion of its Grandpuits refinery in the Paris region into a zero-crude platform, thanks to an investment totaling more than €500 million.

Consequently, the processing of crude oil stopped at the beginning of 2021. The converted site will focus on four new industrial activities: the production of renewable diesel primarily intended for the aviation industry, the production of bioplastics, plastics recycling, and the operation of two photovoltaic solar power plants.

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(1) The balance of the refining capacity is reported in the Marketing & Services segment.

Western Europe represents 68% of TotalEnergies' refining capacity, i.e., 1,227 kb/d at the end of 2021, compared to 1,437 kb/d at the end of 2020 and the end of 2019. TotalEnergies operates five refineries in Europe (one in Antwerp, Belgium, three in France, at Donges, Feyzin and Gonfreville, and one in Leuna, Germany) and one biorefinery in La Mède, France, pending the start-up of the Grandpuits zero oil platform, and holds a 55% interest in the Zeeland refinery in Flessingue, the Netherlands.

TotalEnergies is the second largest refiner and the second largest petrochemist in Western Europe(1).

TotalEnergies' main petrochemical sites in Europe are located in Belgium, in Antwerp (steam crackers, aromatics, polyethylene) and Feluy (polyolefins, polystyrene), and in France, in Carling (polyethylene, polystyrene, polypropylene compounds), Feyzin (steam cracker, aromatics), Gonfreville (steam crackers, aromatics, styrene, polyolefins, polystyrene) and Lavéra (steam cracker, aromatics, polypropylene). Europe accounts for 46% of TotalEnergies' petrochemicals capacity, i.e., 9,931 kt at year-end 2021, compared to 10,096 kt at year-end 2020 and 10,203 kt at year-end 2019:

– In **France**, TotalEnergies continues to improve its operational efficiency by adapting to demand for petroleum products in Europe.

  In 2021, TotalEnergies continued the conversion project of its Grandpuits refinery into a zero-crude platform, focusing on new energies and low carbon activities, announced in September 2020: production of biofuels, primarily intended for the aviation industry, production of bioplastics, plastics chemical recycling.

  On the La Mède site, production continues to grow at France's first biorefinery, which started in mid-2019 with a capacity of 500 kt/y of renewable diesel. In 2021, the site started producing sustainable aviation biofuels(2) from used cooking oil contributing to developing a French sustainable aviation fuel production chain and thus to the decarbonization of air transport.

  Also on the La Mède site, in 2021, the 30 kt/year regeneration unit for hydrocarbon residues from shipping owned by the Ecoslops Provence joint venture, in which TotalEnergies holds a 25% interest, started.

  In addition, in January 2021, TotalEnergies signed a cooperation agreement with Engie to design, develop, build and operate the largest green hydrogen production site in France. Located on the La Mède biorefinery site and powered by solar power farms with a total capacity of more than 100 MW, the 40 MW electrolyzer should produce 5 t/d of green hydrogen, thus avoiding 15 kt/year of CO_2 emissions.

  On the Gonfreville platform, TotalEnergies and Air Liquide have joined forces to decarbonize the site's hydrogen production. The project consists of transferring the 255 t/d hydrogen production unit owned by TotalEnergies to Air Liquide, which will operate it, in order to provide in the end to TotalEnergies the eventual supply of blue hydrogen by jointly implementing a CO_2 capture and storage solution. The ultimate goal of this project is to reduce the CO_2 emissions from hydrogen production on the site by approximately 650,000 t/year by 2030.

  The Donges refinery, which was temporarily shut down at the end of 2020 due to a sharp slump in refining margins as a result of the COVID-19 pandemic, and then underwent a major scheduled shutdown, is scheduled to restart before April 2022. In addition, the project to modernize the site is continuing with the construction of a gas oil desulfurization unit coupled with the railroad bypass project, representing a total investment of more than €400 million for TotalEnergies. This unit is expected to improve the refinery's competitiveness by producing fuel containing less sulfur that meets European standards.

  In petrochemicals, TotalEnergies reconfigured the Carling platform in Lorraine. New hydrocarbon resins and polypropylene production units for vehicle use have been operating at the site since the shutdown of its steam cracking activities in 2015.

– In **Belgium**, TotalEnergies operates the Antwerp platform, where a major upgrade completed in 2017 has improved the site's conversion rate. The upgrade also increased the flexibility of the site's steam crackers, which can process ethane and gases recovered from the refining process. In polymers, the new activities launched as part of a project to modernize the Feluy site (production of high value-added polypropylene, catalyst production workshop, polystyrene recycling unit) have started, while one of the three existing polypropylene units, which mainly produced polypropylene for commodities and had been in service for 40 years, was dismantled in 2020.

– In **Germany**, TotalEnergies operates the Leuna refinery, where an innovative project is underway to convert vacuum residue into diesel and methanol. In 2021, TotalEnergies teamed up with the German company Sunfire to produce synthetic methanol from renewable energy and concentrated industrial CO_2.

– In the **United Kingdom**, the sale of the interest in the company holding the assets of the Lindsey refinery was completed in February 2021.

North America

TotalEnergies' main sites in North America are located in Texas, at Port Arthur (refinery, steam cracker), Mont Belvieu (propylene splitter), Bayport (polyethylene) and La Porte (polypropylene), and in Louisiana, at Carville (styrene, polystyrene).

At Port Arthur, TotalEnergies has a refinery with a capacity of 178 kb/d and a 40% shareholding in BASF TotalEnergies Petrochemicals (BTP), which owns and mainly operates a steam cracker with the capacity to produce more than 1 Mt/y of ethylene, of which more than 85% from ethane, propane and butane, which are produced in abundance locally. TotalEnergies, which owned 40% of a 60 kb/d condensate splitter, acquired BASF's 60% stake in the splitter in January 2021. This transaction means that TotalEnergies holds a 100% stake and has strengthened synergies with the refinery.

In Mont Belvieu, TotalEnergies owns 33% of a propylene splitter, with a capacity of 410 kt/y in TotalEnergies' share, which purifies propylene from the refining process into propylene for the production of polypropylene on the La Porte site.

At La Porte, TotalEnergies holds a 100% interest in a large polypropylene plant, with a capacity of 1.2 Mt/y.

At Carville, TotalEnergies operates a styrene plant with a capacity of 1.2 Mt/y, through a joint venture (50% with SABIC), and a polystyrene unit with a capacity of 600 kt/y, which is 100% owned.

Lastly, the equally shared joint venture created in 2018 between TotalEnergies and Borealis continued the construction on the Port Arthur site of a new ethane cracker with an ethylene production capacity of 1 Mt/y for an investment of $1.7 billion. The commissioning phase has led to technical adjustments and the start up of this new cracker is expected to occur in 2022. The joint venture has also started building a new polyethylene unit downstream of the cracker, at the Bayport site. Representing an investment of $1.4 billion, this integrated development should more than double the site's polyethylene production capacity to about 1 Mt/y and maximize synergies with existing assets at Port Arthur and Bayport.

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(1) Based on publicly available information on refining and petrochemical production capacities at year-end 2020.

(2) Sustainable Aviation Fuel (SAF) is a concrete alternative to fossil aviation fuel. It significantly reduces CO_2 emissions from air transport. It can already be used, without changing the existing logistics infrastructures, aircraft or engines.

Asia, Middle East and Africa

TotalEnergies holds interests in first-rate platforms that are ideally positioned, with easier access to feedstock under competitive conditions, enabling it to pursue its development in order to supply growth regions.

In **Saudi Arabia**, TotalEnergies has a 37.5% shareholding in SATORP (Saudi Aramco Total Refining and Petrochemical Company), which operates the Jubail refinery. Located close to Saudi Arabia's heavy crude oil fields, the refinery increased its capacity in 2020 from 440 kb/d to 460 kb/d. The refinery's configuration enables it to process heavy crudes and produce fuels and other light products that meet very strict specifications and are mainly intended for export. The refinery is also integrated with petrochemical units: a 800 kt/y paraxylene unit, a 200 kt/y propylene unit, and a 140 kt/y benzene unit. In addition, TotalEnergies and Saudi Aramco signed a development agreement in 2018 for the construction of a world-scale petrochemicals complex adjacent to the refinery. This project will include a mixed-feed steam cracker (50% ethane and refinery gases) in 2026, with a capacity of 1.65 Mt/y and polyethylene units with a capacity of 1 Mt/y, for a total investment of about $6.5 billion.

In **South Korea**, TotalEnergies owns a 50% interest in Hanwha Total Petrochemical Co. (HTC), which operates a petrochemicals site in Daesan (condensate splitter, steam cracker, styrene, paraxylene, polyolefins). Investments totaling $750 million, decided in 2017, increased ethylene production capacity by 30% in 2019 and polyethylene production capacity by more than 50% in 2020. The commissioning of a new polypropylene line in the first half of 2021 has increased the site's production capacity by 60% to 1.1 Mt/year. HTC is positioned on high value-added sustainable applications and specialty markets, such as underfloor heating pipes or automotive, contributing in particular to making vehicles lighter. The simultaneous start-up of a fourth propane furnace increased the ethylene production capacity by 10% to 1.5 Mt/y.

In **Qatar**, TotalEnergies holds interests(1) in two ethane-based steam crackers (Qapco, Ras Laffan Olefin Cracker-RLOC) and four polyethylene lines operated by Qapco in Mesaieed, including a linear low-density polyethylene plant with a capacity of 550 kt/y (Qatofin) and a 300 kt/y low-density polyethylene line (Qapco). TotalEnergies also holds a 10% interest in the Ras Laffan condensate refinery, with a total capacity of 300 kb/d.

In **Algeria**, in early 2019, TotalEnergies created the STEP joint venture (Sonatrach Total Entreprise de Polymères, in which Sonatrach holds 51% and TotalEnergies 49%) to implement a petrochemical project in Arzew, in north western Algeria. The project includes plans for the start-up in 2025 of a propane dehydrogenation plant and a polypropylene production unit with a capacity of 550 kt/y.

In the rest of Africa, TotalEnergies also has interests in four refineries (South Africa, Cameroon, Côte d'Ivoire and Senegal). Refining & Chemicals provides technical assistance for two of these refineries: the Natref refinery with a capacity of 109 kb/d in South Africa and the SIR refinery with a capacity of 80 kb/d in Côte d'Ivoire.

CRUDE OIL REFINING CAPACITY

The table below sets forth TotalEnergies' crude oil refining capacity[a]:

As of December 31 *(kb/d)*	2021	2020	2019
Refineries operated by TotalEnergies companies			
Normandy-Gonfreville (100%)	253	253	253
Donges (100%)	219	219	219
Feyzin (100%)	109	109	109
Grandpuits (100%)	–	101	101
Antwerp (100%)	338	338	338
Leuna (100%)	227	227	227
Lindsey-Immingham (100%)[b]	–	109	109
Port Arthur refinery and condensate splitter (100%)[c]	238	202	202
SUBTOTAL	**1,384**	**1,558**	**1,558**
Other refineries in which TotalEnergies has interests[d]	409	409[e]	401
TOTAL	**1,793**	**1,967**	**1,959**

(a) Capacity data based on crude distillation unit stream-day capacities under normal operating conditions, less the average impact of shutdowns for regular repair and maintenance activities.

(b) In February 2021, TotalEnergies finalized the sale of its interest in the Lindsey refinery in the United Kingdom.

(c) The increase in refining capacity between 2020 and 2021 resulted from the acquisition of BASF's 60% interest in the condensate splitter.

(d) TotalEnergies' share as of December 31, 2021, in the eight refineries in which it has interests ranging from 7% to 55% (one each in the Netherlands, South Korea, Qatar and Saudi Arabia and four in Africa). TotalEnergies sold its interest in the Wepec refinery in China in 2019.

(e) The increase of the refining capacity between 2019 and 2020 results in the debottlenecking of Jubail refinery (Saudi Arabia) the overall capacity of which increased in 2020 from 440 to 460 kb/d, representing +8 kb/d in TotalEnergies' share.

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(1) TotalEnergies holdings: Qapco (20%); Qatofin (49%); RLOC (22.5%).

REFINERY AND BIOREFINERY PRODUCTION

The table below sets forth TotalEnergies' net share[a] of the refined quantities produced by TotalEnergies' refineries, by product category:

(kb/d)	**2021**	2020	2019
Gasoline	228	252	286
Aviation fuel[b]	67	78	187
Diesel and heating oils	524	549	670
Heavy fuels	44	53	82
Renewable diesel and ETBE	9	6	5
Other products[c]	265	270	377
TOTAL	**1,137**	**1,208**	**1,606**

(a) For refineries not 100% owned by TotalEnergies, the production shown is TotalEnergies' equity share in the site's overall production.
(b) Avgas (aviation fuel specially designed for piston engined-aircraft), jet fuel and kerosene.
(c) Mainly refining bases, petcoke, naphta, refinery propylene and other petrochemical bases.

The difference with refinery throughput and the refined volumes is due to self-consumption of crude oil and losses during the refining process.

UTILIZATION RATE

The table below sets forth the average utilization rates of TotalEnergies' refineries:

	2021	2020	2019
On crude and other feedstock[a][b]	66%	66%	83%
On crude[a][c]	64%	61%	80%

(a) Including interest of refineries in which TotalEnergies has an interest.
(b) Crude + crackers' feedstock/distillation capacity at the beginning of the year.
(c) Crude/distillation capacity at the beginning of the year.

PETROCHEMICALS: BREAKDOWN OF MAIN PRODUCTION CAPACITIES

	2021				2020	2019
As of December 31 *(in kt)*	**Europe**	**North America[a]**	**Asia and Middle East[b]**	**Worldwide stock**	Worldwide	Worldwide
Olefins[c]	4,176	1,555	1,958	7,689	7,864	7,863
Aromatics[d]	2,971	1,512	2,562	7,045	7,018	6,995
Polyethylene	1,120	223	1,095	2,438	2,438	2,223
Polypropylene	1,250	1,200	620	3,070	2,840	2,990
Polystyrene	414	610	0	1,024	1,024	1,013
Other[e]	0	0	116	116	116	116

(a) Including 50% of the joint-venture between TotalEnergies and Borealis.
(b) Including interests in Qatar, 50% of Hanwha Total Petrochemicals Co. Ltd. in South Korea and 37.5% of SATORP in Saudi Arabia.
(c) Ethylene + propylene + butadiene.
(d) Including styrene monomer.
(e) Mainly monoethylene glycol (MEG), polylactic acid polymer (PLA) and cyclohexane.

PETROCHEMICALS PRODUCTION AND UTILIZATION RATE

	2021	2020	2019
Monomers[a] *(kt)*	5,775	5,519	5,219
Polymers *(kt)*	4,938	4,934	4,862
Steam cracker utilization rate[b]	90%	83%	83%

(a) Olefins.
(b) Based on olefins production from steamcrackers and their treatment capacity at the start of the year.

DEVELOPING NEW WAYS TO PRODUCE FUELS AND POLYMERS

TotalEnergies is exploring new ways to unlock the value of carbon resources. These projects are part of TotalEnergies' commitment to building a diversified energy mix generating lower CO_2 emissions. TotalEnergies is also pursuing several industrial and exploratory projects in biomass conversion.

In 2021, TotalEnergies produced 450 kt of biofuels and other chemical bio-components, mainly at La Mède. In addition, TotalEnergies produced, in 2021, 60 kt of recycled or biosourced polymers, and has the ambition to produce 30% recycled or renewable polymers by 2030.

Biofuels production

Biofuels reduce CO_2 emissions by at least 50% compared to their equivalent fossil fuels(1). In addition, demand for these products is supported by government policies aimed at achieving carbon neutrality (net zero emissions).

The growth of biofuel market is driven by the renewable diesel segment, produced by hydrotreating vegetable oils or waste and residues such as animal fat and used cooking oil. This segment is expected to grow by more than 10% per year(2), since renewable diesel can be incorporated into diesel without any blending limitation and certified as aviation fuel. TotalEnergies has set the objective to become a leader in renewable diesel with 2 to 3 Mt/y in 2025, by capturing synergies with existing assets (converting existing assets, co-processing, developing on existing platforms).

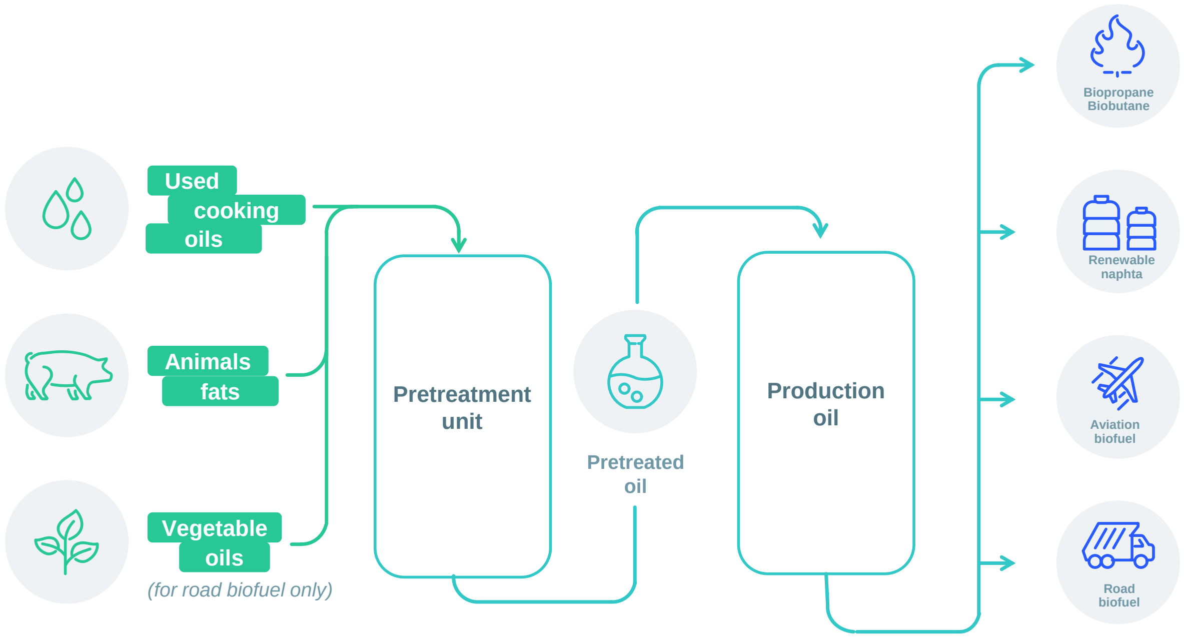
In Europe, TotalEnergies produces biofuels, primarily renewable diesel and ether (ETBE) produced from ethanol and isobutene for incorporation into gasoline.

Since mid-2019, the La Mède biorefinery produces renewable diesel and petrochemical bio-feedstocks. On October 1, 2021, a commercial flight from Nice to Paris was operated using 30% sustainable aviation fuel (SAF) produced by TotalEnergies from used cooking oil at the La Mède biorefinery and the Oudalle plant.

In addition, as part of the announced conversion of the Grandpuits refinery into a zero-crude platform, TotalEnergies plans to build and start up in 2024 a renewable diesel production unit with a capacity of 400 kt/y, mainly biojet fuel for the aviation industry but also renewable diesel for road transport and bionaphtha for use in biopolymer production.

In September 2021, TotalEnergies and engine manufacturer Safran entered a strategic partnership to jointly develop technical and commercial solutions to meet the challenges of decarbonizing the aviation sector. This partnership aims to achieve aircraft engine compatibility with the incorporation of up to 100% SAF. In September 2021, Safran Helicopter Engines scored a first by completing a helicopter engine test campaign with 100% sustainable aviation fuel (SAF), produced by TotalEnergies from residues and waste from the circular economy, and more specifically used cooking oil.

RENEWABLE DIESEL PROCESS



E-fuels production

In January 2022, TotalEnergies, Masdar and Siemens Energy signed a collaboration agreement to co-develop a demonstrator plant for green hydrogen production to convert carbon dioxide into sustainable aviation fuel. The plant is expected to be established in Masdar City, Abu Dhabi's flagship sustainable urban development.

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(1) Source: European directive RED (Renewable Energy Directive) I & II.

(2) Source:TotalEnergies Energy Outlook 2021.

Biomass conversion research programs

In 2021, TotalEnergies continued extensive research activity that targeted the emergence of new solutions in the field of biofuels. TotalEnergies and Veolia joined forces at the La Mède site in a research project to accelerate the development of CO_2-based microalgae production with a view to producing new-generation, low-carbon biofuels.

The experimental phase of the BioTfueL project, which aims to develop second-generation biofuels based on lignocellulosic biomass, was completed in June 2021. The demonstration unit at the TotalEnergies site in Dunkirk was shut down. It was used to gasify more than 1,000 tons of torrefied biomass and to produce advanced biofuels.

In the longer term, TotalEnergies is also studying the potential for developing a cost-effective phototrophic process(1) for producing biofuels through bioengineering of microalgae and microalgae cultivation methods. It has several European partners in this field (CEA, Wageningen).

On its R&D platform in Solaize (France), TotalEnergies continues to develop new biocomponents derived from the transformation of the biomass by using a methodology based on predictive modeling and chemical conversion into high added-value biomolecules.

In 2020, TotalEnergies sold its remaining interest in Amyris Inc., an American NASDAQ-listed company that specializes in the production of farnesene.

Biopolymer production

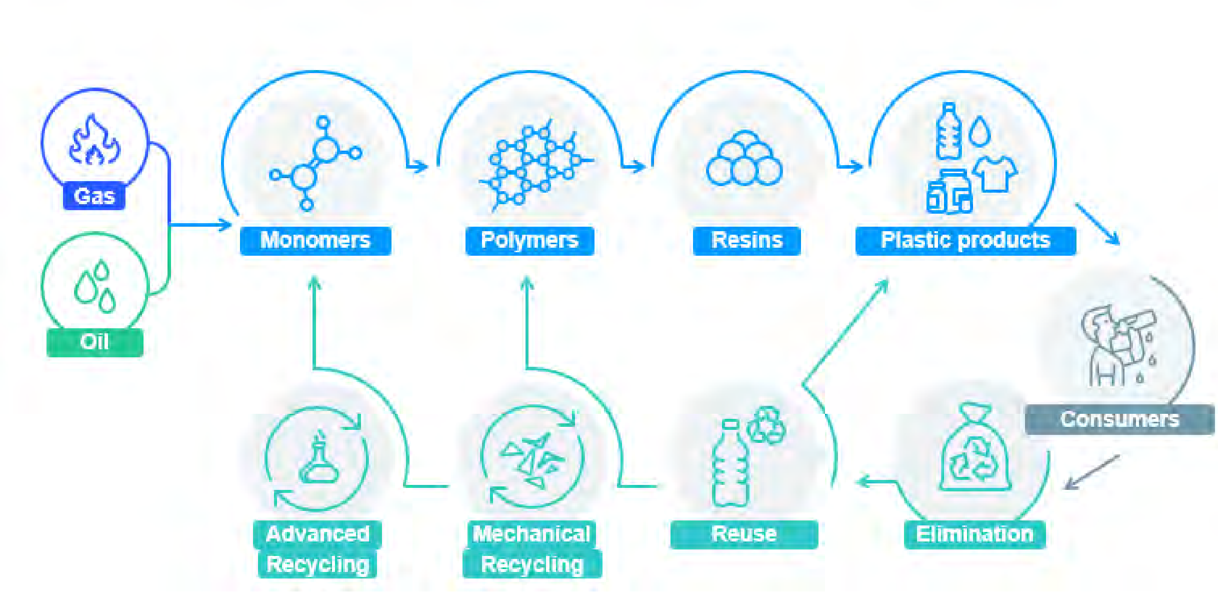
TotalEnergies is actively involved in developing activities associated with the conversion of biomass to polymers. The main area of focus is developing drop-in solutions for direct substitutions to fossil feedstock, by incorporating biomass into TotalEnergies' existing units, for example vegetable oil or hydrogenated residues in a steam cracker and developing the production of new molecules such as polylactic acid polymer (PLA) from sugar.

TotalEnergies holds a 50% interest in Total Corbion PLA B.V. (Total Corbion PLA), a joint venture set up in 2017 with Corbion. The plant in Thailand has a PLA production capacity of 75 kt/y. As part of the announced conversion of the Grandpuits refinery, the Total Corbion PLA joint venture plans to build a second bioplastics plants at this site, with an ultimate production capacity of 100 kt/y. With the start-up of this second plant expected for 2024, Total Corbion PLA expects to become one of the world's biggest producers of PLA.

Plastics recycling and the circular economy

TotalEnergies is firmly committed to developing plastics recycling in order to address the issue of end-of-life of plastics and aims to produce 30% of its polymers from recycled or renewable materials by 2030. To achieve this, TotalEnergies has, at the same time, invested in both the advanced and mechanical recycling pathways. Mechanical recycling, for which the technology is mature, requires highly processed feedstock and cannot be used for every form of plastic, and particularly most applications involving contact with food. By contrast, advanced recycling, which returns plastic to its original monomers, can meet the needs of every market but requires more capital-intensive technology and is only at the industrial development stage.

PLASTIC RECYCLING PROCESS



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(1) Organisms that use light energy to synthesize their food.

MECHANICAL RECYCLING

In 2019, TotalEnergies acquired the French company Synova, which is one of the French leaders in the production of recycled polypropylene made from plastics from industrial waste, selective collection of household waste or even automotive parts such as bumpers. In October 2021, the commissioning of two new production lines on the Tillières-sur-Avre site in France doubled TotalEnergies' recycled polypropylene production capacity to 45 kt/year in order to meet the growing demand for increasingly high-performing, environmentally-friendly polymers for high-performance recycled materials, particularly from automotive suppliers and carmakers.

In the United States, TotalEnergies signed an agreement in May 2020 to develop a strategic partnership in plastic recycling with PureCycle Technologies, a company that has developed an innovative technology to produce virgin-like recycled polypropylene. Under the terms of agreement, TotalEnergies has pledged to purchase part of the output of PureCycle Technologies' future facility in the United States and to assess the interest of developing a new plant together in Europe.

ADVANCED RECYCLING

In synergy with refining and petrochemicals activities, advanced recycling addresses the issues of the circular economy, and in particular the use of plastics in food-related applications.

In 2020 in Europe, TotalEnergies and its partner Plastic Energy announced the construction of France's first advanced recycling plant, with the capacity to process 15 kt/y of plastic waste, a project that is part of the conversion of the Grandpuits refinery in the Paris region. This plant will convert plastic waste via pyrolysis into feedstock for the production of polymers that will have the same properties as virgin polymers and will notably be suitable for use in food-sector or medical applications. Start-up is expected in early 2023.

In October 2021 in the United States, TotalEnergies, Plastic Energy and Freepoint Eco-Systems signed a strategic partnership to set-up a chemical recycling unit in Texas, built by Plastic Energy and Freepoint Eco-Systems, to transform 33 kt/y of plastic waste into a raw material called Tacoil, then transformed by TotalEnergies into polymers with properties identical to those of virgin polymers, including compatibility with food use.

In December 2021, Plastic Energy and TotalEnergies signed a similar business partnership for a new pyrolysis unit, with a capacity of 33 kt/y of end-of-life plastic waste, built by Plastic Energy and based in Sevilla, Spain.

In February 2022, TotalEnergies and Honeywell announced a strategic agreement to promote the development of advanced plastic recycling. Under this agreement, Honeywell will agree to supply TotalEnergies with Recycled Polymer Feedstock (RPF) produced by the recently announced Honeywell and Sacyr advanced recycling plant, to be built in Andalucía, Spain. This plant, expected to start-up in 2023, is planned to process and convert yearly 30,000 tons of mixed plastic waste into RPF, that may otherwise be destined for landfill or incineration. TotalEnergies will purchase and convert this raw material into virgin-quality polymers, which could be used for food-grade packaging and other high demanding applications.

R&D AND PARTNERSHIPS

TotalEnergies is a founding member of the Alliance to End Plastic Waste, numbering around 40 companies in the plastics and consumer goods value chain. The commitment of these companies represents more than $1 billion, with the target of reaching $1.5 billion by 2025, to help end plastic waste in the environment, especially in oceans, and to promote recycling solutions for end-of-life plastics by supporting a circular economy approach.

In 2020, TotalEnergies announced the creation of a consortium with leading actors in the packaging value chain (Citeo, Recycling Technologies, a provider of plastic recycling technologies, food industry leaders Mars and Nestlé) to study the technical and economic feasibility of recycling complex waste, such as small, flexible and multi-layered food-grade packaging.

In December 2021, TotalEnergies and Plastic Omnium signed a strategic partnership to jointly develop recycled polypropylene plastics that meet the demanding standards of automotive body parts, particularly in terms of aesthetics and safety. Under the terms of this agreement, the partners will pool their innovation and engineering skills to design new types of recycled polypropylenes that are more efficient and environmentally friendly, while providing concrete answers to the challenges of the end-of-life of plastics.

2.4.1.2 ELASTOMER PROCESSING (HUTCHINSON)

The elastomer transformation specialist Hutchinson is one of the world leaders in anti-vibratory systems, fluid management, precision sealing and bodywork sealing. These solutions are used worldwide, especially in the automotive, aeronautical and industrial manufacturing sectors (defense, railroads, energy).

Hutchinson draws on wide-ranging expertise and employs its know-how from the custom design of materials to the integration of connected solutions: structural sealing solutions, precision sealing, management of fluids, materials and structures, anti-vibration systems and transmission systems.

Hutchinson has been heavily impacted by the drop in demand as a consequence of the health crisis, due to its exposure to the automobile and air transport sectors. Revenues stabilized in 2021; the continued implementation of the measures initiated in 2020 to lower the breakeven point of its activities, should enable Hutchinson to return to pre-crisis levels of earnings in 2022.

As of December 31, 2021, Hutchinson has 85 production sites across the world (of which 54 are in Europe and 18 are in North America) and approximately 38,000 employees.

2.4.2 Trading & Shipping

The activities of Trading & Shipping are focused primarily on serving the needs of TotalEnergies, and mainly include:

- selling and marketing the TotalEnergies' crude oil production;
- providing a supply of crude oil for TotalEnergies' refineries;
- importing and exporting the appropriate petroleum products for TotalEnergies' refineries to be able to adjust their production to the needs of local markets;
- chartering appropriate ships for these activities; and
- trading in various derivatives markets.

In addition, with its acquired expertise, Trading & Shipping is able to expand its scope of operations beyond its primary scope of activities.

Trading & Shipping conducts its activities worldwide through various subsidiaries that are wholly owned by TotalEnergies and are established in strategically important oil markets in Europe, Asia and North America.

For additional information on the trading activities of the Integrated Gas, Renewables & Power segment, see section 2.1.

2.4.2.1 TRADING

After rising sharply in 2021, reaching $85/b in November 2021, the price of oil rose above $90/b for the first time since 2014 at the beginning of 2022. This increase in price was driven by the global demand recovery and OPEC+ discipline in a context of constrained supply, given the low level of investment in hydrocarbons since 2015. It was exacerbated by low oil inventories. The price of oil has increased sharply since the end of February 2022 with the outbreak of the Ukraine crisis and will probably remain very volatile in 2022.

TotalEnergies is one of the world's largest traders of crude oil and petroleum products on the basis of volumes traded(1). The table below presents Trading's worldwide crude oil sales and supply sources and petroleum products sales for each of the past three years. Trading of physical volumes of crude oil and petroleum products amounted to 6.3 Mb/d in 2021, compared to 5.9 Mb/d in 2020 and 6.9 Mb/d in 2019.

TRADING'S CRUDE OIL SALES AND SUPPLY, AND PETROLEUM PRODUCT SALES[a]

(kb/d)	**2021**	2020	2019
TotalEnergies' worldwide liquids production	1,500	1,543	1,672
Purchases from Exploration & Production	1,241	1,286	1,357
Purchases from external suppliers	2,803	2,502	3,156
TOTAL OF TRADING'S CRUDE SUPPLY	**4,044**	**3,788**	**4,513**
Sales to Refining & Chemicals and Marketing & Services segments	953	975	1,356
Sales to external customers	3,091[b]	2,813[b]	3,157[b]
TOTAL OF TRADING'S CRUDE SALES	**4,044**	**3,788**	**4,513**
PETROLEUM PRODUCTS SALES BY TRADING	**2,262**	**2,095**	**2,393**

(a) Including condensates.
(b) Including inventory variations.

Trading operates extensively in physical and derivatives markets, both organized and over the counter. In connection with its Trading activities, TotalEnergies uses derivative energy instruments (*futures, forwards, swaps and options*) in order to adjust its exposure to fluctuations in the price of crude oil and petroleum products. These transactions are entered into with a wide variety of counterparties.

For additional information concerning derivatives transactions by Trading & Shipping, refer to Note 16 (Financial instruments related to commodity contracts) to the Consolidated Financial Statements (refer to point 8.7 of Chapter 8).

All of TotalEnergies' Trading activities are subject to a strict risk management policy and trading limits.

2.4.2.2 SHIPPING

The transportation of crude oil and petroleum products necessary for the activities of TotalEnergies is coordinated by Shipping. These requirements are fulfilled through the balanced use of spot and time-charter markets. Excess transport capacity can be sub-chartered to third parties. Shipping maintains a rigorous safety policy rooted primarily in the strict selection of chartered vessels that meet the highest international standards.

In 2021, Shipping chartered approximately 2,700 voyages (compared to 2,750 in 2020 and 3,000 in 2019) to transport 120 Mt of crude oil and petroleum products, compared to 119 Mt in 2020 and 140 Mt in 2019. As of December 31, 2021, the mid-term and long-term chartered fleet numbered 47 vessels (including 10 LPG vessels), compared to 58 in 2020 and 57 in 2019. The average age of the fleet is approximately six years (the average age of the fleet chartered by TotalEnergies including LNG carriers being approximately seven years).

In 2020, TotalEnergies joined the Getting to Zero Coalition and supports the maritime industry's decarbonization by collaborating with companies across the maritime, energy, infrastructure and finance sectors. Joining the Coalition marked a further step in TotalEnergies' commitment alongside its customers in the maritime sector and illustrates the Company's strategy to support them in their own emissions reductions.

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(1) TotalEnergies data.

In addition, TotalEnergies is a signatory of the Sea Cargo Charter, an initiative launched in 2020 by the largest shipping companies to create a consistent, transparent method for measuring emissions in support of efforts to decarbonize the shipping industry. The charter establishes a common baseline for determining, on the basis of defined standards, whether shipping activities are aligned with the International Maritime Organization's climate ambitions. Its primary goal is to set up ongoing measurements of greenhouse gas emissions, in order to reduce them by at least 50% between now and 2050 through concrete steps taken by each actor.

In addition, TotalEnergies has been a strategic partner of the Maersk Mc-Kinney Møller Center for Zero Carbon Shipping since February 2021. Through this collaboration, TotalEnergies is accelerating its R&D program in carbon-neutral shipping solutions, in line with its commitment to work with its major customers to achieve carbon neutrality (net zero emissions). This partnership allows TotalEnergies to join forces with leading players across the shipping sector to develop new low carbon alternative fuels as well as carbon neutrality solutions.

TotalEnergies is pursuing its strategy to reduce emissions from shipping by adding its first dual fuel LNG Very Large Crude Carriers (VLCCs) to its chartered fleet in March 2022. It is the first of a planned series of six new dual fuel tankers, equipped with the latest technologies to provide best-in-class performance and lowest greenhouse gas emissions. The next five dual fuel LNG tankers will join TotalEnergies' time-chartered fleet in 2022 and 2023.

The supply of LNG for these six vessels will be provided in close collaboration with the business unit Marine Fuels, dedicated to worldwide bunkering activities.

As part of its Shipping activity, TotalEnergies uses freight rate derivative contracts to adjust its exposure to market fluctuations.

2.5 Marketing & Services segment

Marketing & Services is contributing to the transformation of TotalEnergies and is proactively supporting its customers in their transition to more sustainable energy and mobility. Marketing & Services includes the worldwide supply and marketing of oil products and services, low-carbon fuels and new energies for mobility.

Main indicators

2nd largest retail distribution among majors outside of North America(1)

4th worldwide distributor of inland lubricants(2)

Close to 16,000 branded service stations(3) on December 31, 2021

More than 25,000 Operated charging points on December 31, 2021

400 NGV stations on December 31, 2021(4)

Our objectives

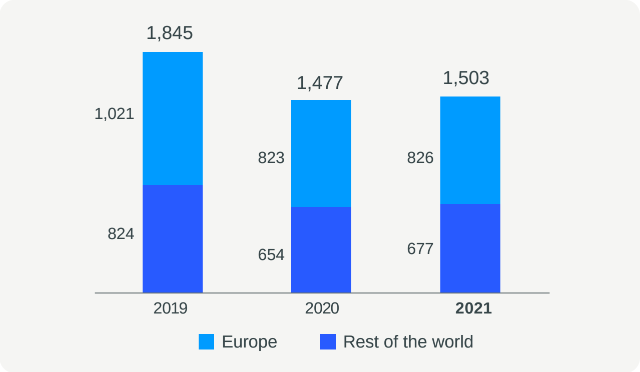
150,000 operated charging points by 2025

500 stations equipped with high-powered charging by 2025

450 NGV stations in operation by 2025

Up to 150 hydrogen operated(5) stations geared towards road transport vehicles in Europe by 2030

Petroleum products sales(a) *(in kb/d)*



(a) Excludes trading and bulk Refining sales.

Sales of petroleum products show growth of 2% in 2021, thanks to the improvement in the health situation and the global economic rebound. This increase reflects mainly the recovery in network activity and, at year-end 2021, of the aviation activity.

[REDACTED SECTION: CERTAIN TEXT HAS BEEN REDACTED.]

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(1) Source IHS 2021, number of service stations for TotalEnergies, BP, Chevron, ExxonMobil and Shell.

(2) Source: IHS 2021, taking into account market shares.

(3) TotalEnergies, Access, Elf, Elan and AS24. Including third party-owned service stations.

(4) Excluded NASDAQ-listed Clean Energy Fuels Corp. stations, in which TotalEnergies held a 19.09% interest, as of December 31, 2021.

(5) Directly or through shareholdings.

2.5.1 Presentation of the segment

The Marketing & Services (M&S) business segment is dedicated to the development of TotalEnergies' petroleum products distribution activities and related services, low-carbon fuels and new energies for mobility.

TotalEnergies, with a strong presence on the ground, has the ambition to be the trusted partner of all its customers, individuals and businesses alike, by listening to them and proactively supporting them in their own transition to more sustainable energies and mobility. TotalEnergies expects to achieve this ambition by creating solutions aimed at energy efficiency, new energies for mobility(1), the digital transformation and performance. To best meet its customers' current and future needs, M&S continues its efforts to develop new products and services, particularly for the new mobility solutions.

TotalEnergies is pursuing an essentially organic development strategy in order to deliver a profitable and sustainable performance. These investments, in the order of $1.1 billion, were mainly focused in 2021 on retail activity (including non-fuel activities). M&S is one of the main players in mobility in the key Western European markets(2). M&S also continues to develop its activities in Africa, where it is the market leader(3).

M&S deploys a dynamic portfolio management strategy by prioritizing value creation over volume growth and continues to develop its activities through targeted acquisitions and established partnerships, particularly with regard to new energies and major growth markets.

M&S's primary activities are:

- **Retail**, 2nd largest retail distribution network among majors outside of North America(4) with a network of close to 16,000 Company-branded service stations, constitutes the first pillar of M&S activities. The Company is present in the key Western European markets and continues to grow in Africa in close to 40 countries, as well as in major growth markets in the Middle East and Asia (Saudi Arabia, China) and the Americas (Brazil).

  TotalEnergies markets high-performance fuels and petroleum products, such as the EXCELLIUM-branded products. M&S is developing partnerships with leading restaurant chains and convenience stores that are owned by leading brands such as Bonjour, as well as new services that benefit from digital innovations to capture and retain new customers. TotalEnergies is also pursuing its growth in the car wash market through its Wash brand. These offers support customers in their mobility by providing "One Stop Shop" service stations with all the products and services they need. M&S serves the road freight transport sector through its AS 24 brand, including a fuel card accepted at more than 1,500 stations that serve heavy goods vehicles across Europe and are either owned by TotalEnergies or operated through partnerships. AS 24 also markets numerous services related to the mobility of transporters, in particular a satellite system for geolocalization and payment of the main European tolls, as well as a breakdown assistance service in all the countries where its customers travel. M&S is pursuing its solarization program, with more than 2,700 service stations equipped with solar panels at year-end 2021, compared with almost 2,000 at the end of 2020.
- **the new energies for mobility**, in which TotalEnergies expects to build leadership positions in the energy transition for electricity, natural gas and hydrogen.
  - With regard to electricity, the Company plans to operate 150,000 charge points in Europe by 2025, through concessions in major cities, fast charging stations in urban areas, charging facilities at professional customer locations and ultra-fast chargers along major highways. TotalEnergies Charging Services already operates more than 25,000 and offers optimized electric charging solutions for its customers.
  - In NGV, TotalEnergies is strengthening its offering in new energies for mobility by expanding the deployment of stations. At year-end 2021, TotalEnergies had more than 400 stations dispensing NGV to consumers and businesses in Asia, Africa and Europe. Moreover, Clean Energy Fuels Corp., in which TotalEnergies holds a 19.09% stake(5), had a network of more than 560 NGV service stations in the United States at year-end 2021 (compared to 550 in 2020 and 530 in 2019). In the area of shipping, in order to meet the requirements of emission standards and reduce the carbon footprint, TotalEnergies supports its customers through its business unit Marine Fuels, which offers a wide array of marine fuels and related services. The product portfolio has been adapted: it no longer integrates high sulphur fuel oil and focuses on the development of LNG. To meet the needs of its customers, the Company is strengthening its logistical capacities, in particular for LNG, in the Amsterdam-Rotterdam-Antwerp, Singapore and Oman areas, and in the Mediterranean. Moreover, in 2020, TotalEnergies joined the Getting to Zero Coalition which aims to introduce by 2030 commercially viable, zero-emission ocean-going vessels. Also in 2020, TotalEnergies joined the Coalition for the Energy of the Future, a group of 14 multinational firms since February 2021 that are pooling their expertise to accelerate the energy transition in transportation and logistics, through support for 9 concrete projects developed by 9 working groups. In February 2021, TotalEnergies also joined the Mærsk Mc-Kinney Møller Center for Zero Carbon Shipping as a strategic partner and is accelerating its R&D program for carbon-neutral shipping solutions. This partnership allows TotalEnergies to join forces with leading players across the shipping sector to develop new low-carbon alternative fuels and carbon-neutrality solutions (refer to point 2.4.2.2 of this chapter).
  - Concerning hydrogen, TotalEnergies is continuing to develop its position in mobility, particularly in Europe. Historically present in the H2 Mobility joint venture in Germany for light vehicles. TotalEnergies is also investing in the creation of a network of hydrogen supply stations for road transportation heavy duty vehicles and local authorities, with stations dedicated to buses in the Netherlands and Belgium. The Company aims to operate directly or through its holdings up to 150 truck-oriented hydrogen stations in Europe by 2030.

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(1) Electricity, Natural Gas for Vehicles (NGV), hydrogen, LNG bunker fuel.

(2) France, Germany, Belgium, Luxembourg and the Netherlands.

(3) Publicly available information, based on the number of Company-branded service stations in Africa in 2021.

(4) Source IHS 2021, number of service stations for TotalEnergies, BP, Chevron, ExxonMobil and Shell.

(5) TotalEnergies holds a 19.09% interest in NASDAQ-listed Clean Energy Fuels Corp. as of December 31, 2021.

- **The production and marketing of lubricants** represents a significant share of the adjusted net operating income of M&S. As the world's fourth-largest distributor of inland lubricants[(1)], TotalEnergies is growing its unit margins, in particular by increasing the proportion of sales of premium and specialty products. TotalEnergies' investment in R&D contributes to providing high-quality lubricants for its customers worldwide. TotalEnergies has 37 operated production sites (lubricants and greases) and a direct commercial presence on all continents and in most countries.

  To develop its sales of automotive lubricants, TotalEnergies is pursuing its business and technological partnerships with numerous automotive players, including manufacturers (such as Stellantis, Nissan, Mazda, Kia, Great Wall Motors, Maruti-Suzuki, Hitachi, Renault Trucks, CLAAS, Kubota, Komatsu), equipment manufacturers (such as ZF and Magna) or companies specializing in the distribution of spare parts (such as NEXUS). M&S is also developing a network of service centers[(2)] with more than 5,700 workshops in 2021.

  In industrial and specialty lubricants, TotalEnergies is finalizing the industrial and commercial integration of the acquisitions made in 2019 (acquisition of Houghton's steel and aluminum rolling activities in Europe and North America) and in 2020 (acquisition of the French company LUBRILOG, which specializes in the production of high-performance synthetic lubricants, with applications dedicated to the mining and cement sectors). In 2020, TotalEnergies also announced the launch of new digital services for machining professionals, such as Interactive Fluid (technology making it possible to monitor bath acidity and the concentration of soluble cutting fluids) and Lubpilot (a remote stock monitoring solution). Finally, in June 2021, TotalEnergies signed a 5-year partnership with AMADA Europe, a leading manufacturer of machine tools for sheet metal work, to supply original equipment lubricants, as well as a range of AMADA-branded lubricants in 14 countries.

  In marine lubricants, TotalEnergies is now the world's second-largest supplier[(3)] and continues to develop its service offering for shipping companies. In 2020, TotalEnergies accredited a new laboratory in the United States (Chicago) for customer oil[(4)] analyses. In addition, in May 2021, TotalEnergies announced an agreement to supply lubricants to the Plastic Odyssey ship, whose mission is to reduce plastic waste in the oceans.

  M&S is speeding up the roll-out of its environmental roadmap for lubricants, including in particular the marketing of ranges for electric vehicles since 2019 (Quartz EV Fluids and Rubia EV Fluids) and the global roll-out in 2021 of new, lighter packaging with reduced use of plastic to reduce the carbon footprint of lubricants. TotalEnergies is also working to reduce CO_2 emissions in its lubricant production plants and to reduce the environmental footprint of its customers, notably with the ECO_2 range of hydraulic fluids from the circular economy, which contribute to Sustainable Development Goal n°12 on waste reduction.

- **Distribution of products and services for businesses**. Benefiting from the diversity of its product ranges and its worldwide logistics network, TotalEnergies is a leading local supplier of products and multi-energy solutions (primarily bulk fuels, special fluids, liquefied petroleum gas, compressed natural gas, liquefied natural gas, bitumens and marine and aviation fuels) to more than a million customers, and to major multinational industrial groups. M&S offers a variety of cards that provide businesses of all sizes with fuel payment solutions, access to electric charging from numerous networks, and related services for managing their vehicle fleet. M&S is supporting its customers in the energy transition by offering services and solutions along the entire value chain, notably through new digital e-commerce, IoT[(5)] and energy consumption-monitoring platforms.

As part of its business, M&S owns stakes through its subsidiaries in four refineries in Africa. The activities of Refining & Chemicals activities are presented in point 2.4 of this chapter.

2.5.2 Sales of petroleum products

The following table shows M&S's sales of petroleum products[(a)] by geographical area as of December 31:

(kb/d)	**2021**	2020	2019
Europe	826	823	1,021
France	440	418	512
Europe, excluding France	386	405	509
Africa	405	377	444
Middle East[(b)]	42	47	34
Asia Pacific[(c)]	131	135	198
Americas	99	95	148
TOTAL	**1,503**	**1,477**	**1,845**

(a) In addition to M&S's petroleum product sales, TotalEnergies' sales also include international trading (1,696 kb/d in 2021, 1,498 kb/d in 2020 and 1,730 kb/d in 2019) and bulk Refining sales (383 kb/d in 2021, compared with 434 kb/d in 2020 and 536 kb/d in 2019).

(b) Including Turkey.

(c) Including the Indian Ocean islands.

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(1) Source IHS 2021, based on market shares.

(2) At year-end 2021, the network of quick oil change service centers consisted of independent garages and service stations bays providing quality automotive maintenance under the brands Quartz Auto Services, Rubia Truck Services and Hi-Perf Moto Services.

(3) Source IHS 2021.

(4) Lubricants.

(5) The Internet of Things: connected objects.

2.5.3 Service stations breakdown

The table below shows the geographical breakdown of the Company-branded[(a)] service stations:

As of December 31	2021	2020	2019
Europe[(b)]	5,741	5,649	5,632
of which France	3,479	3,418	3,480
Africa	4,586	4,683	4,543[c)]
Middle East	1,061	1,017	889
Asia Pacific[(d)]	2,135	2,037	2,042
Americas	964	964	968
AS 24 network (for heavy-duty vehicles)	1,461	1,244	986
TOTAL	**15,948**	**15,594**	**15,060**

(a) TotalEnergies, Access, Elf, Elan and AS 24, including service stations owned by third parties and those currently being converted. Turkey is included in the Middle East.
(b) Excluding the AS 24 network.
(c) Data restated due to a regularization of the counting of the number of service stations.
(d) Including the Indian Ocean islands.

2.5.4 Distribution of charging points for electric vehicles in Europe

As of December 31	2021	2020
France	9,918	10,560
Benelux	10,271	6,710
Germany	3,164	2,493
United Kingdom	1,797	1,642
Rest of Europe	584	249
TOTAL	**25,734**	**21,654**

2.5.5 Activities by geographical area

The information below describes M&S's principal activities by geographical zone and main area of business.

2.5.5.1 EUROPE

RETAIL

M&S is developing a range of innovative and diversified products and services in response to changing market trends in Western Europe. The network is made up more than 7,000 Company-branded service stations (including AS 24), mainly divided among its key markets – France, Germany, Belgium, the Netherlands and Luxembourg – where M&S reached an average market share of 16%[(1)] in 2021, like in 2020.

- In **France**, at the end of 2021, the service station network had a dense mesh of nearly 3,500 stations, including more than 1,900 TotalEnergies-branded stations, more than 700 Access stations (service stations combining low prices with fuel quality) and nearly 700 Elan stations (located in rural areas). TotalEnergies became the leading distributor of E85 superethanol in France in December 2020 in terms of the number of stations[(2)]: at the end of 2021, more than 800 stations offered this mostly renewable fuel.

  TotalEnergies has interests in 27 depots in France, seven of which are operated by TotalEnergies companies.
- In **Germany**, TotalEnergies is the country's third-largest operator[(3)] with nearly 1,200 Company-branded service stations at year-end 2021.
- In **Belgium**, TotalEnergies is the market leader[(3)] with more than 550 Company-branded service stations at year-end 2021.
- In **the Netherlands**, TotalEnergies is also growing, with close to 400 Company-branded service stations at year-end 2021.
- In **Turkey**, more than 550 service stations use the TotalEnergies brand name under the terms of a brand licensing agreement.

In road transport, TotalEnergies offers services specifically designed for this growing sector with its AS 24 brand, including a fuel card accepted at more than 1,500 specialized service stations for heavy-duty vehicles across Europe. This acceptance network has been extended by more than 200 stations in 2021, in particular in Italy and the Czech Republic. AS 24 is thus constantly expanding its regional presence along major international road corridors, primarily in Eastern Europe. AS 24 is supporting the energy transition in the freight transport sector by offering NGV and bio-NGV in several European countries, including France.

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(1) TotalEnergies data.
(2) Metropolitan France (excluding Corsica). Source : Syndicat National des Producteurs d'Alcool Agricole (SNPAA).
(3) Source IHS 2021, based on the number of stations nationwide.

AS 24 is also expanding its array of innovative mobility-related services, such as a satellite system for geolocalization and payment that can be used at Europe's biggest toll plazas, recovery assistance and a standalone system for locating trailers.

Benefiting from close proximity to its customers, the Company's branded service stations can meet their customers' daily needs with a multi-service and multi-product offering. Non fuel activities (food and drink, Bonjour boutiques, Wash centers (the leading car wash network in France(1)), local partners and cards) are growing steadily, contributing significantly to the generation of cash flow from the retail.

In the field of electro-mobility, the first 100% electric service station in France opened in May 2021, a precursor to the deployment of a network of high-power electric charging hubs with dedicated and mainly urban sites. In October 2021, the Company announced a commitment of up to €200 million in France to equip more than 150 of its stations on freeways and expressways with high-power charging stations for electric vehicles. This major investment is intended to support the growth of electric mobility in France. Thus, at year-end 2021, nearly 60 freeway stations and main roads in France had been equipped with high-power charging stations (from 50 to 175 kW). At year-end 2022, more than 110 TotalEnergies service stations on freeways and expressways are expected to be equipped with high-power charging stations (175 kW terminals).

By 2023 in Western Europe, TotalEnergies is targeting 200 high-power charging stations on main roads, plus 100 additional stations in urban areas, particularly in the form of charging hubs. In this way, TotalEnergies is confirming its ambition to offer its customers a high-power station every 150 kilometers.

NEW ENERGIES

Electricity

Beyond the network electrification activities and the development of dedicated charging hubs, TotalEnergies is expanding very quickly, particularly in the B2G(2) field in 2020. This development was materialized in 2020 with :

- one of Europe's largest public contracts(3) for electric vehicle charging by the metropolitan authority of Greater Amsterdam (*Metropoolregio Amsterdam Elektrisch* – MRA-E), that should make it possible for TotalEnergies to install and operate up to 20,000 new public charge points in the Netherlands(4).
- expansion of the Company's presence in Germany as well with its acquisition of the business unit Charging Solutions based in Munich, which specializes in EV charging infrastructure. With this latest deal, TotalEnergies took responsibility for a network of 2,000 charge points in Germany located at its business customers' sites; some are also open to the public.
- contract with the City of Paris to modernize and expand the city's network of public charging points for electric vehicles in the French capital. The Paris city council awarded a 10-year contract to TotalEnergies to manage its public charging network of approximately 2,300 charging points.
- acquisition of Blue Point London, which manages and operates Source London, the city's largest electric vehicle charging network with more than 1,600 on-street charging points.

Further, TotalEnergies has become the 9th member of the ChargeUp Europe alliance, the voice of the EV charging industry in Europe, actively contributing to discussions on policy initiatives at the EU level intended to encourage an efficient, effective and consumer-friendly roll-out of a charging infrastructure across the European Union.

This momentum has continued into 2021 with, in particular:

- In June, the Amsterdam city authority awarded the concession for the extension of its public charging network for electric vehicles (EV) to TotalEnergies. Under the terms of the contract, TotalEnergies will expand the current network in Amsterdam by installing 2,200 new EV charging points by the fall of 2022;
- a partnership with Uber to accelerate the transition of taxi drivers to electric mobility, through support for the conversion of their vehicles and easier access to charging stations. This partnership will initially target France, with the possibility of extending it to other European countries;
- In September, a contract with the city of Antwerp, Belgium's second largest city, to extend and develop its public network of charging stations for electric vehicles. As part of this exclusive contract, the largest awarded in the country by the end of 2021, TotalEnergies plans to expand the existing network in the city of Antwerp by installing new charging points in the city by 2024, including high-power 120 kW charging stations;
- In December, TotalEnergies won the contract with the city of Ghent. The Company will install and operate approximately 800 new public charging points in Belgium's third-largest city. These new charging stations, installed by TotalEnergies and operated for the next ten years, will be supplied with 100% renewable electricity generated by offshore wind power in the North Sea off the coast of Belgium.

At year-end 2021, TotalEnergies operated more than 25,000 charge points in Europe, and more than 110 service stations equipped with high-power charging stations in Germany, the Benelux countries and France.

Natural gas

TotalEnergies operates more than 200 NGV TotalEnergies and AS 24 filling stations; the majority of which were accessible to the public at year-end 2021. Its goal is to operate 450 NGV filling stations in Europe by 2025. TotalEnergies intends to accelerate growth in that network to quickly establish coverage that meets its customers' expectations and will initially target the road transport sector in its key markets (Germany, Belgium, France, Luxembourg, the Netherlands). In that perspective, in February 2021, TotalEnergies and Sigeif Mobilités (a local semi-public company created by Sigeif and Caisse des Dépôts) inaugurated the largest filling station in France exclusively dedicated to NGV and bioNGV.

In the field of natural gas for marine fuels, TotalEnergies received its first liquefied natural gas (LNG) bunker vessel in 2020, named *Gas Agility* and based in the Rotterdam region, the largest such vessel in the world by capacity (18,600 m^3). In 2020,*Gas Agility* completed the first bunkering of the world's largest LNG-fueled container ship, the *CMA CGM Jacques Saadé*, and in April 2021 completed the first marine LNG bunkering operation in France, again with the *CMA CGM Jacques Saadé*, with approximately 16,400 m^3 of LNG.

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(1) TotalEnergies data.

(2) Business to Government.

(3) Based on the number of charging points. TotalEnergies data.

(4) In the provinces of North Holland, Flevoland and Utrecht and with the exception of the municipalities of Amsterdam and Utrecht.

This operation was the first LNG bunkering operation carried out at the Flanders terminal concurrently with the usual port handling operations. In 2019, TotalEnergies announced the signing of a long-term charter contract for a second LNG bunker vessel, named *Gas Vitality*, which was delivered in late 2021 and is based in the Marseilles-Fos region in France. In January 2022, the CMA CGM BALI has been refueled by *Gas Vitality* with around 6,000 m^3 of a ship-to-ship transfer alongside the Eurofos container terminal, while the containership carried out cargo operations simultaneously. Following an agreement formalized by TotalEnergies and MSC Cruises in March 2021, this vessel will ensure in particular the annual supply of approximately 45,000 tons of LNG to MSC Cruises' upcoming LNG-powered cruise ships to make calls in the port of Marseilles. Concerning the two LNG bunker vessels, TotalEnergies has signed agreements to supply almost 0.6 Mt of LNG per year.

Biogas

Beyond the use of biogas for road transport, associated with CNG or LNG, TotalEnergies is investing in the development of a biogas sector for the shipping sector. TotalEnergies has thus teamed up with EveRé, a household waste treatment center in the Aix-Marseille region, the CMA CGM group, and Elengy, the operator of the Fos-sur-Mer LNG terminals, to study the feasibility of France's first liquefied biomethane (bioLNG) production project at the Grand Port Maritime de Marseille, to produce an alternative biofuel for mobility that will contribute to the decarbonization of shipping. Produced by transforming household waste from the Aix-Marseille Provence conurbation, this bioLNG aims to decarbonize maritime transport from the Grand Port Maritime de Marseilles, and will be used in particular for the CMA CGM group's liquefied natural gas-powered ships. This project is part of a circular economy approach, and the use of the city's household waste will reduce local air pollutants (NOx, SOx and fine particles) as well as the carbon footprint of the shipping sector.

Ammonia

In 2021, the business unit Marine Fuels co-signed a Memorandum of Understanding (MoU) with 34 players in international shipping to study the technical and economic feasibility of using ammonia as a marine fuel, more specifically for bulk carriers and deep-sea tankers, in a group led by Itochu.

Hydrogen

TotalEnergies continues to roll out filling stations as part of the H2 Mobility joint venture in Germany. This partnership brings together Air Liquide, Daimler, Linde, OMV, Shell and, since 2021, Hyundai, to develop the hydrogen mobility ecosystem in Germany. In 2021, the joint venture operated 90 stations, more than one quarter of which are based on the TotalEnergies service stations network.

In July 2021, M&S signed a memorandum of understanding with Hyzon Motors aimed at facilitating the transition of owners of heavy goods vehicles to hydrogen, by combining their existing infrastructures and technologies. By 2023, Hyzon should thus secure the production of 80 fuel cell trucks for French customers of TotalEnergies.

In November 2021, TotalEnergies and Daimler Truck AG joined forces to develop a hydrogen ecosystem for road transport in Europe. The partners will collaborate on the development of ecosystems for hydrogen-powered heavy goods vehicles to demonstrate the benefits and efficiency of clean hydrogen road transport. Their ambition is to play a leading role in the deployment of the hydrogen infrastructure for road transport. This collaboration includes hydrogen supply and logistics, hydrogen distribution in service stations, hydrogen truck development and building a customer base.

TotalEnergies is thus pursuing the development of distribution geared towards road transport vehicles while integrating the needs of local authorities, within the scope of France, Germany, Belgium, the Netherlands and Luxembourg, and aims to operate directly or indirectly up to 150 of these stations in Europe by 2030.

In May 2021, TotalEnergies acquired a 20% interest in HysetCo, which is developing hydrogen-powered urban mobility and notably owns four hydrogen distribution stations (8 new stations are planned by 2024) in Ile-de-France to refuel Parisian taxis, and is aiming for a leading position in hydrogen-powered professional mobility in Ile-de-France.

LUBRICANTS AND SPECIALTIES

Lubricants

As the third largest distributor(1) of inland lubricants in Europe, TotalEnergies is continuing to expand on the continent, where it has a direct commercial presence and 12 lubricants and greases production sites in France, Belgium, Turkey, Spain, Romania, United Kingdom and Germany. TotalEnergies is also a joint shareholder with Veolia in the Gonfreville l'Orcher site-based company OSILUB, which specializes in the specific patented re-refining and treatment of waste oils. Since 2019, TotalEnergies has offered a range of ECO$_2$ hydraulic fluids from the circular economy (re-refining and specific patented treatment of used oil) that enable companies to reduce their environmental footprint.

Sustainable aviation fuel

TotalEnergies produces and distributes Sustainable Aviation Fuels (SAF)(2). In October 2021, Air France, TotalEnergies, the Metropole and the Airport of Nice Côte d'Azur operated a flight from Nice to Paris fueled with 30% of SAF, made from waste and residues generated by the circular economy, that concretizes the ambition shared by public and private enterprises alike to meet the major dual challenge of decarbonizing air travel while continuing to support a vibrant economy and tourist industry in the regions.

COMMERCIAL SALES, MOBILITY AND OTHER SPECIALTIES

In Europe, TotalEnergies produces and markets bulk fuels and specialty products, special fluids and relies on its industrial facilities to produce specialty bitumen (Brunsbüttel in Germany, Preston in the UK).

TotalEnergies is a major player in professional mobility in Europe, with more than 3.7 million cards enabling companies of all sizes to improve fleet energy cost management and access an ever-increasing number of services.

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(1) Source IHS 2021.

(2) Sustainable Aviation Fuel.

In 2021, partnerships were set up with Carglass in France to cover the cost of windshields, with Norauto in France and with Auto5 in Belgium to cover the cost of tires and vehicle servicing for Fleet cardholders.

With its solutions, TotalEnergies assists companies in optimizing the costs related to their company fleets, irrespective of their engine type (conventional fuels, electricity, gas, etc.) and more broadly the costs related to employee mobility, while reducing their carbon footprint. TotalEnergies' offer includes a multi-energy and multi-service card, a powerful fleet management tool and an on-board telematics solution. In addition, TotalEnergies proposes an electric mobility offering tailored to users' needs, ranging from the installation and supervision of electric charging stations in companies, at employees' homes, on roads and in establishments open to the public, to the monetization of charging. In particular, the Fleet card can be used to charge electric vehicles at more than 245,000 charge points in Europe in numerous networks. TotalEnergies has strengthened its company vehicle fleet management services by incorporating a set of tools that combines digital data processing solutions, an app for drivers and an onboard telematics unit.

In addition, in June 2021 in France, TotalEnergies launched the Mobility Corporate card, which is an international Mastercard payment card designed for professionals on their travels at all times. Like the Fleet card, this card can be used to pay for fuel, electric recharging, parking, tolls, car washes and stores in the TotalEnergies network and partner networks. The Mobility Corporate card also allows holders to pay all their business expenses (hotels, restaurants, car rentals, cabs, car maintenance, etc.).

2.5.5.2 AFRICA

RETAIL

TotalEnergies is the leading retailer of petroleum products on the African continent, with a market share of 16%(1) in 2021, and it is pursuing a strategy in Africa to achieve profitable growth higher than that of the markets.

In 2021, the African retail network comprised close to 4,600 Company-branded service stations in close to 40 countries. In particular, TotalEnergies has major retail networks in South Africa, Nigeria, Egypt and Morroco. TotalEnergies is continuing a campaign launched in 2018 to expand its network of service stations in Angola, through its joint venture with the national company Sonangol and had close to 50 stations at year-end 2021. In December 2021, TotalEnergies is expanding in Mozambique with the acquisition of BP's retail network, wholesale fuel business and logistics assets. The transaction covers a network of 26 service stations, a portfolio of business customers and 50% in SAMCOL.

M&S is diversifying its offerings at service stations and providing a range of products and new services, including restaurants, convenience stores and car washes. To this end, TotalEnergies is developing partnerships to gradually introduce new e-payment solutions across the continent that can improve the customer experience at the point of sale. In 2019, M&S acquired a provider of fuel card software and organizational solutions, now renamed TotalEnergies Mobility Services International, that is active in the African market.

LUBRICANTS

TotalEnergies is the leading distributor of lubricants(2) on the African continent and continues to pursue its growth strategy. M&S operates nine lubricants production sites in Nigeria, Senegal, Egypt, Kenya, South Africa, Morroco and, since 2020, in Algeria, as well as in Tanzania, where TotalEnergies acquired a production facility in 2019. In late 2018, TotalEnergies signed a partnership with CFAO that was designed to boost its visibility in its car service centers network. In 2020, TotalEnergies and Belron teamed up to deliver a premium car glass repair and replacement service under a 10-year exclusive operating license for the Carglass brand granted to TotalEnergies. This service complements the car maintenance service offered in the Quartz Auto Services, Rubia Truck Services or Hi-Perf Moto Services centers, as well as the services offered with other large partner chains.

COMMERCIAL SALES, MOBILITY AND OTHER SPECIALTIES

TotalEnergies is a partner of choice, particularly among mining customers, in providing innovative energy solutions for fuel management, and offers hybrid solutions that incorporate solar energy into its existing portfolio of products and services.

In this way, M&S offers a diverse range of products and services aimed at business customers in Africa. Industrial customers receive TotalEnergies' support in maintaining their on-site facilities, such as in-service lubricant analyses. In mining, construction, agriculture and forestry, TotalEnergies offers its Optimizer digital platform, which enables customers to cut their costs by gaining better control over their energy consumption, thanks to data sent from sensors installed on their facilities and equipment.

2.5.5.3 ASIA-PACIFIC/MIDDLE EAST

M&S markets its products and services in more than 20 countries.

RETAIL

At the end of 2021, TotalEnergies had close to 2,500 service stations in the Asia-Pacific/Middle East region, with service station networks in Cambodia, China, Saudi Arabia, Jordan, Lebanon, Pakistan, the Philippines and the Pacific Islands. TotalEnergies pursues its growth in major markets, including China, in its traditional activities, as well as in new areas of mobility, and particularly in gas-powered and electric mobility. TotalEnergies continues to market the EXCELLIUM brand of premium fuel with additives offering higher energy efficiency.

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(1) Estimated market share. TotalEnergies data.

(2) TotalEnergies data.

In October 2021, Aramco and TotalEnergies launched the first two service stations in their joint distribution network in Saudi Arabia, following the signing of a 50/50 joint venture agreement by the two companies in 2019 to develop the distribution and sale of petroleum products and related services in Saudi Arabia. Under the terms of this agreement, the two partners acquired a network of 270 service stations that they are currently modernizing.

In 2020, Total China Investment Company Limited signed a memorandum of understanding with the Alibaba Group to pursue their strategic collaboration and leverage their respective resources to drive the digital transformation of the subsidiary's operations in China. The partnership will make it possible to provide digital infrastructure and support for TotalEnergies' service stations, lubricants and special fluids businesses in China.

NEW ENERGIES

Electricity

In July 2021, TotalEnergies signed an agreement with the Bolloré Group to acquire Blue Charge. Subject to the approval of the relevant authorities, TotalEnergies will take over the management and operation of Singapore's top electric vehicle charging network, with more than 1,500 charging points in the city-state. This urban charging network, which TotalEnergies will operate, represents nearly 85% of the charging points in operation in Singapore, which are accessible to electric vehicle owners and the BlueSG car-sharing service.

In September 2021, TotalEnergies and China Three Gorges Corporation (CTG, through its two subsidiaries CTG Capital and CTG Electric Energy) signed an agreement to create a joint venture for electric mobility in China. This new entity, owned equally by the two companies, will develop fast-charging infrastructures and services for electric vehicles in the Hubei province, with the goal of installing and operating more than 11,000 high-power charging points by 2025.

M&S continues to expand the electric mobility footprint in the region, with the installation of electric vehicle charging stations.

Natural gas

On the shipping front, TotalEnergies and Pavilion Energy Singapore signed in 2019 firm and definitive 10-year agreements to jointly develop an LNG bunkering supply chain in the port of Singapore. In 2020, TotalEnergies signed agreements to charter two very large crude carriers (VLCCs), scheduled for delivery in 2022, and four Aframax-type vessels, set for delivery in 2023, all powered by LNG that will be supplied by a Marine Fuels business unit, headquartered in Singapore.

In March 2021, the Maritime and Port Authority of Singapore (MPA) awarded a third LNG bunker supplier license to TotalEnergies Marine Fuels for a 5-year term starting January 1, 2022.

LUBRICANTS

The lubricants business is contributing to the growth of TotalEnergies in Asia-Pacific and the Middle East. Lubricant production capacity in the region spans 10 operated production sites, including plants based in Singapore, China and Dubai. TotalEnergies has entered global or regional partnerships with numerous car manufacturers and is expanding into other industries (in particular mining, energy, cement and textiles).

In June 2021, Great Wall Motor (GWM), one of China's leading automakers, and TotalEnergies signed two agreements to strengthen their partnership through future international commercial collaboration and R&D. With these agreements, both companies have confirmed their commitment to sustainable growth on the global market and their partnership in the development of products and services to best meet the expectations of their mutual customers.

In addition to its presence in e-commerce, TotalEnergies continues to actively develop its digital strategy, notably through partnerships with innovative Online to Offline (O2O) cloud platforms in order to expand its product and service offerings.

In September 2021, TotalEnergies and the Badminton World Federation (BWF) announced the renewal of their partnership for 5 years, until 2025. The agreement makes TotalEnergies the official energy and lubricants partner of these events and reinforces the Company's emphasis on customer focus.

As part of the growth of its e-commerce activity, TotalEnergies has approached major players in e-commerce (such as Tuhu in China or Open Bonnet in the United Arab Emirates), in order to develop its sales and offer new possibilities of service to its customers.

COMMERCIAL SALES, MOBILITY AND OTHER SPECIALTIES

TotalEnergies has signed several partnership agreements with industrial customers, enabling it to expand its operations in multiple markets, such as mining and construction, across several countries in the region.

In Asia, TotalEnergies supplies lubricants and services to nearly 50 mining sites, including leading industry players operating in Australia, Indonesia, Mongolia, New Caledonia, Papua New Guinea and the Philippines.

In specialty products, TotalEnergies is present on the LPG market in Bangladesh, India, New Caledonia and Vietnam. Its LPG network includes a network of more than 80 service stations that supply only LPG fuel.

In 2020, TotalEnergies and Indian Oil formed an equally owned joint venture in India for specialty bitumen products.

2.5.5.4 AMERICAS

In retail, TotalEnergies had close to 1,000 Company-branded service stations at year-end 2021.

TotalEnergies continues to expand its fuel and biofuel distribution business in Brazil, the largest market in Latin America for petroleum products(1). The network comprised nearly 240 service stations at year-end 2021.

TotalEnergies is also active in Mexico, with a network of nearly 240 service stations, and in the Caribbean, through its network of nearly 500 service stations at year-end 2021.

In lubricants and other specialty products, TotalEnergies is pursuing its growth strategy across the region, mainly in lubricants and aviation fuel.

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(1) Source IHS 2021.

TotalEnergies maintains three operated lubricants production sites in North America (in Mexico, the US and Canada) and three more in South America (in Argentina, Brazil and Chile).

In new energies for mobility, TotalEnergies is a reference shareholder (19.09% on December 31, 2021) of the US-based, NASDAQ-listed firm Clean Energy Fuels Corp., the US leader(1) in natural gas vehicle fuels. In 2020, TotalEnergies acquired Platergas, a supplier of LNG for mobility and industry applications in the Dominican Republic.

2.5.5.5 ACCESS TO ENERGY

In connection with the will to expand the Company's low carbon offer, the teams at TotalEnergies Off-grid Solar Solutions develop and market solar solutions in more than 30 countries.

The solutions include solar lamps to light up individual needs, as well as solar kits, consisting of lamps and accessories (such as a radio or television), to meet household needs. The teams have also developed an offer of solar streetlights for the community needs. These solutions make it possible to provide access to energy for populations living in remote areas without a connection or reliable access to the electricity grid, particularly in Africa and Asia. At the same time, the solar solutions TotalEnergies offers, which respect the environment, meet the growing demand for sustainable consumption in the outdoor market. Since the launch of the access to energy program, TotalEnergies has sold 4.3 million lamps and solar kits through distributors and its network of service stations. The Company has also become a major supplier of solar solutions to the humanitarian sector. The products sold made it possible to avoid the emission of 4.7 million tons of CO2 and provided access to energy for more than 19 million people, with the objective of reaching 25 million by 2025. In addition, the teams at TotalEnergies Off-grid Solar Solutions work with partners in Africa to minimize the environmental impact of products through repair and recyclability projects.

2.5.6 Products and services development

To address the world markets' evolution and prepare for tomorrow's growth opportunities, TotalEnergies is developing and deploying products and services with its customers that reduce their energy consumption, such as its products bearing the Ecosolutions label, which include for example EXCELLIUM fuels. Those products and services include a diverse range of energy solutions (fuels, gas, solar power, wood pellets) and services for auditing, monitoring and managing energy consumption.

At the request of its customers and while giving priority to reducing emissions, TotalEnergies offers carbon offsetting offers in Europe associated with the sale of its fuels, thus contributing to the fight against global warming. The Company selects projects (reforestation, prevention of deforestation, biodigesters, renewables, etc.) that generate carbon credits, labeled by independent international certifiers, such as Verified Carbon Standard or Gold Standard. In Germany, for example, 60% of customers buying Premium Thermoplus heating oil have chosen, since July 2018, to pay a supplement to offset the carbon footprint of their consumption. In Belgium and Luxembourg, respectively 16% and 19% of customers buying heating oil have made the same choice.

In addition, by continuing its technical partnerships with car and equipment manufacturers, industries and universities, TotalEnergies develops products with a high technological content, designed with specifications that are increasingly oriented towards sustainable development and the reduction of CO_2 emissions in addition to performance. These partnerships give rise to product ranges such as EV Fluids for new forms of mobility or Fuel Economy for historical engine and industrial applications.

In the Automotive field, certain products are first formulated for competition before being widely marketed. In particular, TotalEnergies has joined forces with Stellantis, renewing a partnership in 2021 for a 5-year period. The agreement focuses on lubricants, R&D, motor racing and mobility. TotalEnergies has been supplying specially developed lubricants to its partner DS Techeetah team, which has twice won the Formula E(2) world championship, in 2019 and 2020. TotalEnergies has also been an official fuel supplier since 2018 to the main endurance competitions(3), including the Le Mans 24 Hours. In August 2021, TotalEnergies announced the introduction of a new 100% renewable fuel for these FIA championships in 2022. This partnership completes the one dedicated to supplying hydrogen, in order to support the development of a hydrogen-powered endurance car for a dedicated category in the Le Mans 24 Hours race in 2025. These partnerships reflect TotalEnergies' engineering know-how in formulating fuels and lubricants for the engines of the future, operating under extreme conditions and stringent fuel consumption reduction requirements.

TotalEnergies is accelerating its strategy of digital innovation so as to develop new offerings tailored to its customers in an array of markets and to improve its operational efficiency.

As a result, In 2019, TotalEnergies created Be:Mo, a multi-energy software platform that connects mobility professionals with thermal or electrical energy providers through APIs(4) (I/O connectors). Be:Mo enables all players in mobility to enrich their offer with a digitalized service for electric recharging or refueling, that is integrated in their applications or in the vehicle dashboards. The services have already been integrated for the Company's subsidiaries for B2B applications and they are currently being integrated for B2C applications, as well as by several car-sharing companies in various European countries, and by a major European player in MaaS (Mobility as a Service).

The metadata collected through Customer Relationship Management can be used to develop more targeted sales offerings and improve the management of customer complaints. As a consequence, TotalEnergies can send personalized sales offers to more than 12 million customers in 13 countries worldwide.

Moreover, in Europe, business customers can purchase bitumen at a fixed price on the TotalEnergies Bitume Online platform in France.

M&S is also pursuing the research and deployment of IoT(5) applications in logistics, maintenance and safety, to geolocalize trailers and industrial equipment and to track deliveries for TotalEnergies' carrier customers.

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(1) TotalEnergies data.

(2) Formula E: motor racing championship using single-seater electric cars.

(3) The FIA World Endurance Championship, Le Mans 24 Hour race, the European Le Mans Series and the Asian Le Mans Series.

(4) API: application programming interface.

(5) The Internet of Things: connected objects.

3

Risks and control

3.1 Risk factors

TotalEnergies conducts its business in a constantly changing environment and is exposed to risks that, if they were to occur, could have a material adverse effect on its business, financial condition, reputation, outlook, or the price of financial instruments issued by TotalEnergies SE.

This section presents the significant risk factors specific to TotalEnergies, to which the Company believes it is exposed at the filing date of the Universal Registration Document. However, TotalEnergies may be exposed to other non-specific risks, or risks of which it may not be aware, or the potential consequences of which may be underestimated, or the materialization of which is not considered, at that date, likely to have a material adverse impact on TotalEnergies, its business, financial condition, reputation or outlook.

In particular, TotalEnergies could be exposed to systemic risks, such as unexpected major disruptions (health, such as the COVID-19 pandemic, security, monetary or cyber), leading to large-scale disturbances with global human and economic repercussions.

[REDACTED SECTION: CERTAIN TEXT HAS BEEN REDACTED.]

The main internal control and risk management procedures implemented by TotalEnergies are described in point 3.3 of this chapter.

3.1.1 Climate challenges

PACE OF DEPLOYMENT OF THE ENERGY TRANSITION

TotalEnergies is exposed to the implementation of the energy transition, particularly by States

The COP26 held in Glasgow in November 2021 led to the adoption of the Glasgow Climate Pact and showed an acceleration of States' commitments to carbon neutrality (net zero emissions) in the context of the Paris Agreement trajectory.

Civil society, numerous stakeholders and States are encouraging reductions in the consumption of carbon-based energy products and the establishment of an energy mix more geared towards low-carbon energies, so as to meet the requirements of the fight against the climate change, particularly in view of the objectives set by each State in the context of the Paris Agreement.

The pace of change in the energy mix of countries must, however, take into consideration the needs and ability to adapt of the various energy consumers, who expect energy players to supply them with energy that is both cost-effective and environmentally friendly.

In this context, companies in the energy sector are led to improve control over their greenhouse gas emissions. They will also be able to help create solutions that contribute to reducing the CO_2 emissions associated with the customers' use of their energy products, as well as technologies and processes to capture, store and reuse CO_2. Consequently, they may be led to change the energy mix of the products they offer while at the same time having to manage the cost and the execution of projects supporting the energy transition.

An insufficient ability to adapt to the pace of deployment of the energy transition towards carbon neutrality in the various countries where the Company supplies energy to its customers could affect TotalEnergies' outlook as well as its financial position (lower profitability, loss of operating rights, loss of revenues, increased funding difficulties), reputation or shareholder value.

DEVELOPMENT AND FINANCING OF OIL AND GAS RESERVES

TotalEnergies' profitability depends on its ability to develop its reserves profitably and in sufficient quantities

A large portion of TotalEnergies' revenues and operating results comes from the sale of oil and gas extracted from reserves developed as part of its exploration and production activities. The development of oil and gas fields, the construction of facilities and the drilling of production or injection wells is capital intensive and requires advanced technologies.

In order to preserve its profitability and finance its growth levers, TotalEnergies must renew its reserves with reserves that can be developed and produced in an economically viable manner and that are compatible with the Company's climate change ambition (low technical cost, low-emission reserves). Various factors may undermine TotalEnergies' ability to discover, acquire and develop its reserves, which are inherently uncertain, including:

- the geological nature of oil and gas fields, notably unexpected drilling conditions, including pressure or unexpected heterogeneities in geological formations; the risk of dry holes or failure to find sufficient quantities of hydrocarbons for commercial use;
- failure to anticipate market changes in a timely manner;
- applicable governmental or regulatory requirements, whether anticipated or not, that may prevent the development of reserves or give a competitive advantage to companies not subject to such regulations;
- competition from oil and gas companies for the acquisition and development of assets and licenses;
- disputes relating to property titles as well as increases in taxes and royalties, including retroactive claims and changes in regulations and tax reassessments;
- economic or political risks, including threats specific to a certain country or region;
- pressure from investors and non-governmental organizations (NGOs).

These factors may impair TotalEnergies' ability to complete development projects and to make production profitable. They may also affect TotalEnergies' projects and facilities further down the oil and gas chain.

If TotalEnergies failed to develop new reserves cost-effectively and in sufficient quantities, its financial condition, operating income and cash flows could be materially affected.

If TotalEnergies were unable to develop its reserves in an economically viable manner and in accordance with its climate change ambition, TotalEnergies could be required to recognize impairments of assets, which could have a negative impact on its results for the period in which they are recognized. For additional information on impairments recognized on TotalEnergies' assets, please refer to Note 3D to the consolidated financial statements (point 8.7 of Chapter 8).

For the calculation of the impairments of its Upstream oil & gas assets, the Company assumes an oil price trajectory that converges in 2040 towards the price of 50$$_{2022}$/b assumed by the SDS scenario published by the IEA in 2021, then that converges from 2040 towards the price assumed in 2050 by the NZE scenario also published by the IEA in 2021, *i.e.*, 25$$_{2022}$/b; and under the assumption that the gas prices used stabilize by 2025 until 2040 at levels lower than current price levels to converge towards the IEA's NZE scenario prices in 2050.

TotalEnergies assessed the impact of using the NZE price scenario published by the IEA in 2021 on the discounted present value of its assets (upstream and downstream). Such a scenario would reduce the discounted present value of the Company's upstream and downstream assets by around 17% compared to its reference scenario used to value its investments (Brent at $50/b).

[REDACTED SECTION: CERTAIN TEXT HAS BEEN REDACTED.]

Furthermore, TotalEnergies' proved reserves figures are estimates made in accordance with SEC rules. Proved reserves are those reserves which, by analysis of geoscientific and engineering data, can be estimated with reasonable certainty to be economically recoverable, from a given date forward, from known reservoirs and under existing economic conditions, operating methods and government regulations, prior to the time at which contracts providing the right to operate expire, unless evidence indicates that renewal is reasonably certain, regardless of whether deterministic or probabilistic methods are used for the estimation. They involve making subjective judgments (particularly regarding the quantity of hydrocarbons initially in place, initial production rates and recovery rates) based on available geological, technical and economic data.

TotalEnergies' reserves estimates may therefore require substantial downward revisions should its subjective judgments based on available geoscientific and engineering data prove not to have been sufficiently conservative, or if TotalEnergies' assumptions regarding factors or variables that are beyond its control prove to be incorrect over time. Any downward adjustment could indicate lower future production amounts, which could adversely affect TotalEnergies' financial condition, operating income and cash flow.

TotalEnergies is exposed to a risk of more difficult access to the financial resources that the Company needs in particular to develop its activities in the oil and gas sectors

The growth and profitability of TotalEnergies depend on its ability to successfully execute development projects that are capital-intensive.

A number of non-governmental organizations tend to increase the number of campaigns targeting investors and financial institutions, to encourage them to reduce their investments in projects or companies related to fossil fuels.

Some of these institutions have adopted policies aimed at restricting the funding of activities related to the exploration, production and marketing of unconventional hydrocarbons (in particular, those from shale or oil sands) or those produced in the Arctic region.

Different actors, including in particular institutional investors and financial institutions, are also adopting investment policies that take account of ESG criteria. The carbon footprint of assets under management may be regulated.

Regulations aimed at guiding investment flows towards sustainable activities, as well as the growing concern of civil society and stakeholders in terms of climate change, could influence investors in their investment choices and make access to external funding more difficult or costly for TotalEnergies or some of its projects.

If TotalEnergies were unable to obtain adequate financing for its activities from investors, notably in the oil and gas sectors, the significant increase in the cost of financing likely to result from this could hinder its ability to undertake projects in satisfactory economic conditions, impair its financial position or shareholder value.

OPERATIONAL AND FINANCIAL RISKS RELATING TO THE EFFECTS OF CLIMATE CHANGE

The effects of climate change may expose TotalEnergies to an increase in associated operational and financial costs

Climate change potentially has multiple effects that could harm TotalEnergies' operations. The increasing scarcity of water could be detrimental to operations, rising sea levels could harm certain coastal activities, and the proliferation of extreme weather events could damage onshore and offshore facilities. All these factors could increase the operating costs of the facilities and adversely affect TotalEnergies' operating income.

In addition, in Europe, TotalEnergies' industrial facilities participate in the CO_2 emissions trading system (EU-ETS). The financial risk associated with the purchase of these allowances on the market could increase following the reform of the system that was approved in 2018. This emission allowance market entered its fourth phase in 2021. TotalEnergies estimates that approximately 30% of the emissions in the EU-ETS scope will not be covered by free allowances over the period from 2021 to 2030 (phase 4). At the end of 2021, the price of these allowances was about €80/t $CO_{2,}$ and TotalEnergies estimates that this price could reach more than €100/t CO_2 in phase 4. This price will depend on the adjustments that will be proposed in 2022 under the European Green Deal.

Moreover, more and more countries are likely to adopt carbon pricing mechanisms to accelerate the transition to a low-carbon economy, which could have an adverse impact on some of the Company's activities and lead to a loss of competitiveness and an increase in operating costs.

TotalEnergies takes into account a CO_2 price, which reaches $\$100_{2030}$/t in 2030 and beyond. In the case where the CO_2 price is at \$200/t, *i.e.*, an increase of $\$100_{2030}$/t, TotalEnergies estimates a negative impact of 9% on the discounted present value of all the Company's assets (upstream and downstream).

In the context of an increased exposure to legal proceedings, TotalEnergies may be subject to claims by public entities in various countries aimed at financing protective measures to limit the effects of climate change, or claims by non-State actors, which could affect TotalEnergies' financial position or its share value (refer to point 3.5 of this chapter).

REPUTATIONAL RISK AND MANAGEMENT OF TALENT

TotalEnergies is exposed to reputational risk and may face difficulties recruiting and retaining people with the key talents and skills required for its development

The attention of many stakeholders to major industrial groups is increasing, particularly given the challenges of climate change and the support needed to be put in place in a responsible manner for a just transition. As a major energy player, TotalEnergies faces significant media exposure, both nationally and internationally. This is magnified through the use of social networks.

In addition, the expectations of new generations and employees regarding the Company's commitment in the face of environmental challenges, in particular those related to climate, as well as the increased competition with fast-growing high technology sectors, such as information technologies, are increasing and may become visible both in the recruitment process and over the course of employees' careers. TotalEnergies may therefore experience difficulties in attracting and retaining people with the key talents and skills that it needs for its development.

If TotalEnergies were unable to respond appropriately to stakeholders, its public image and its reputation could be affected. TotalEnergies could therefore face difficulties recruiting and retaining people with the key talents and skills required for its development, which could hinder its ability to develop and innovate and thus lead to a loss of productivity and a slowdown in its growth.

3.1.2 Market environment parameters

SENSITIVITY OF RESULTS TO OIL AND GAS PRICES, REFINING MARGINS, EXCHANGE RATES AND INTEREST RATES

The results of TotalEnergies are sensitive to various market environment parameters, the most significant being oil and gas prices, refining margins, exchange rates and interest rates

Prices for oil and natural gas may fluctuate widely due to many factors over which TotalEnergies has no control. These factors include:

- international and regional economic and political developments in natural resource-producing regions, particularly in the Middle East, Africa, South America and Russia; along with the security situation in certain regions, the magnitude of international terrorist threats, wars or other conflicts;
- the ability of OPEC and other producing nations to influence global oil and gas production levels and prices;
- prices of unconventional energy as well as evolving approaches for developing oil sands and shale oil, which may affect TotalEnergies' selling prices, particularly in the context of its long-term gas sales contracts, and the valuation of its assets, particularly in North America;
- global economic and financial market conditions;
- regulations and governmental actions;
- variations in global and regional supply of and demand for energy due to changes in consumer preferences or to pandemics such as the COVID-19 pandemic.

Generally, a decline in oil and gas prices has a negative effect on TotalEnergies' results due to a decrease in revenues from oil and gas production. Conversely, a rise in oil and gas prices generally has a positive effect on TotalEnergies' results.

In addition to the adverse effect on revenues, margins and profitability, a prolonged period of low oil or natural gas prices may lead TotalEnergies to review its development projects, adjust its reported reserves, and revise the price assumptions on which asset impairment tests are based, which could have an adverse effect on its results for the period in which they occur. For additional information on impairments recognized on TotalEnergies' assets, refer to Note 3D to the consolidated financial statements (point 8.7 of Chapter 8).

Prolonged periods of low oil and natural gas prices may reduce the economic viability of projects in production or in development and reduce TotalEnergies' liquidity, thereby limiting its ability to finance capital expenditure and/or causing it to cancel or postpone investment projects.

Conversely, in a high oil and gas price environment, TotalEnergies may experience significant increases in costs and government withholdings, and, under some production-sharing contracts, may see its production rights reduced. An increase in prices can also lead to a fall in demand for TotalEnergies' products.

The results of the Refining & Chemicals and Marketing & Services segments are primarily dependent on the supply of and demand for petroleum products and the margins on sales of these products, with a strong dependence on the transportation sector. Changes in oil and gas prices affect results in these segments, depending on the speed at which the prices of petroleum products adjust to reflect movements in oil and gas prices. TotalEnergies' refining margins, which were slightly up in 2021, continue to be characterized by high volatility.

The activities of trading and shipping (oil, gas and power trading and maritime transportation) are particularly sensitive to market risks and more specifically to price risks resulting from the volatility of oil, gas and electricity prices, to liquidity risk (inability to buy or sell cargoes at market prices) and to counterparty risks (when a counterparty does not fulfill its contractual obligations).

In 2021, impacted by the gradual recovery of demand and the discipline of oil exporting countries, oil prices saw a continuous appreciation, reaching $85/b in November.

Driven by rising demand and supply difficulties, gas prices in Europe (NBP(1)) and Asia (JKM(2)) rose sharply in 2021, reaching historical highs in the second half of the year.

Electricity demand has experienced a significant rebound since 2010, with global growth of around 6% in 2021(3). Wholesale prices have risen sharply in some countries, driven by gas, coal and CO_2 prices, particularly in Europe.

The oil and gas markets continue to be characterized by high volatility.

For fiscal year 2022, in the retained scenarios applied below, TotalEnergies estimates that a change of $10 per barrel in the average annual liquids selling price would lead to a change of approximately $2.7 billion in the same direction in adjusted net operating income(4) for the year and of approximately $3.2 billion in the operating cash flow before working capital changes(5) for the year. In addition, TotalEnergies estimates that a change in the average annual NBP gas sales price of $10 per Mbtu would result in a change in the same direction in the adjusted net operating income for the year and in the operating cash flow before working capital changes of approximately $3.0 billion.

The impact of changes in crude oil and gas prices on downstream operations depends on the speed at which the prices of finished products adjust to reflect these changes. TotalEnergies estimates that a change in the variable cost margin indicator – European refining (VCM) of $10 per metric ton would lead to changes of approximately $0.4 billion in the same direction in adjusted net operating income for the year and of approximately $0.5 billion in operating cash flow before working capital changes for the year.

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(1) NBP (National Balancing Point) is a virtual natural gas trading point in the United Kingdom for transferring rights in respect of physical gas and which is widely used as a price benchmark for the natural gas markets in Europe. NBP is operated by National Grid Gas plc, the operator of the UK transmission network.

(2) JKM (Japan-Korea Marker) measures spot LNG trading prices in Asia. It is based on the prices reported in spot market trades and/or bids and offers of LNG collected after the close of the Asian trading day at 16:30 Singapore time.

(3) Source: IEA, January 2022.

(4) Adjusted results are defined as income at replacement cost, excluding non-recurring items and the impact of changes in fair value.

(5) Operating cash flow before working capital changes, is defined as cash flow from operating activities before changes in working capital at replacement cost, excluding the mark-to-market effect of iGRP's contracts and including capital gain from renewable projects sale (effective first quarter 2020). The inventory valuation effect is explained in note 3 to the consolidated financial statements (refer to point 8.7 of Chapter 8). 2019 data restated.

All TotalEnergies' activities are, for various reasons and to varying degrees, sensitive to fluctuations in the dollar exchange rate. TotalEnergies estimates that a year-on-year decrease of $0.10 per euro (strengthening of the dollar against the euro) would increase annual adjusted net operating income by approximately $0.1 billion and would have a limited impact on the operating cash flow before working capital change for the year. Conversely, a year-on-year increase of $0.10 per euro (weakening of the dollar against the euro) would decrease adjusted net operating income for the year by approximately $0.1 billion and would have a limited impact on operating cash flow before working capital change for the year.

Sensitivities 2022[a]	Change	Estimated impact on net adjusted operating income[1]	Estimated impact on total gross cash flow
Dollar	+/- $0.1 per €	-/+ $0.1 B	~ $0 B
Average liquids sales price[b]	+/- $10/b	+/- $2.7 B	+/- $3.2 B
European gas price (NBP)	+/- $10/MBtu	+/- $3.0 B	+/- 3.0 B
Variable cost margin – European refining, VCM	+/- $10/t	+/- $0.4 B	+/- $0.5 B

(a) Sensitivities are revised once per year upon publication of the previous year's fourth quarter results. Sensitivities are estimates based on assumptions about TotalEnergies' portfolio in 2022. Actual results could vary significantly from estimates based on the application of these sensitivities. The impact of the $-€ sensitivity on adjusted net operating income is essentially attributable to Refining & Chemicals.

(b) Brent environment at $60/b.

In addition, as part of its financing, TotalEnergies is exposed to fluctuations in interest rates. Based on its portfolio of bond debt and short-term debt securities (commercial paper), TotalEnergies' floating rate debt (after taking into account hedging instruments) was approximately $22.6 billion on average over the course of 2021. Within this perimeter, a fluctuation in the various reference rates, mainly the USD 3-month LIBOR rate, of +/- 1% would have resulted in a variation in the cost of debt, the theoretical impact of which on TotalEnergies' adjusted net income and cash flows is estimated at approximately -/+ $0.20 billion.

3.1.3 Risk relating to external threats

CYBERSECURITY RISKS

TotalEnergies is exposed to malicious acts that may permanently paralyze its information systems or cause losses of sensitive data.

The global cyber-threat is constantly evolving and growing. TotalEnergies is exposed to it. In 2021, several million attacks were blocked by the Company's IT defense systems and a few thousand required the intervention of TotalEnergies' teams.

Cyber-attacks, whose techniques are regularly renewed, are becoming more and more sophisticated. Ransomware has become the biggest threat. Numerous factors associated with the digital transformation intensify the exposure and vulnerability of TotalEnergies' information systems: the adoption of new technologies such as the Internet of Things, the migration of data to the Cloud or changes in the architecture of information systems that allow system interconnectivity and remote work.

TotalEnergies' activities depend on the reliability and security of its information systems. TotalEnergies is exposed to a risk of malicious actions, coming from internal or external sources, committed by individuals or by more or less organized or structured groups against its infrastructure, information systems and data. TotalEnergies' information systems, some of which are managed by third parties, are susceptible of being compromised, damaged, disrupted or shut down due to cyber-attacks (viruses, computer intrusions, etc.). In addition, the vulnerability of customers to comparable risks could also have an adverse impact on TotalEnergies' business.

If TotalEnergies and its service providers were unable to preserve the integrity of their critical information systems and sensitive data, TotalEnergies' activities and assets could be affected, services provided by TotalEnergies could be interrupted, protected intellectual property rights could be usurped or stolen, and in some cases, personal injury, property damage, environmental harm and regulatory violations could occur, and could have an adverse effect on TotalEnergies' financial condition and its reputation, and its exposure to legal proceedings.

SECURITY RISKS

TotalEnergies is exposed to risks that may jeopardize the security of its personnel, operations and facilities, which may specifically arise in the form of acts of malice, violence or terrorism.

In certain countries where TotalEnergies operates, political, economic and social instability may favor the emergence of acts of malice, violence or terrorism, either by isolated individuals or by more or less organized groups. TotalEnergies and its partners may therefore be exposed to direct or collateral risks that may jeopardize the safety of their personnel, operations and facilities (plants, industrial or operational sites, transport systems). In particular, major industrial accidents could result.

Depending on their scale, these acts of malice, violence or terrorism, could cause damage to people, property and/or the environment, detrimental to TotalEnergies' operating income, financial situation, and reputation.

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(1) Adjusted results are defined as income at replacement cost, excluding non-recurring items and the impact of changes in fair value.

3.1.4 Geopolitics and developments in the world

PROTECTIONIST MEASURES AFFECTING FREE TRADE

The development of protectionist measures affecting free trade between nations may have an impact on TotalEnergies' business, its strategy or its financial condition.

Against a backdrop of risks of deglobalization and fragmentation between nations in the form of protectionist measures, trade tensions between certain countries contribute to restricting the free trade of goods and services, financial flows, along with international transfers of labor or knowledge.

These tensions, particularly when they require the modification to the contractual framework of partnerships or the operating conditions of projects, are likely to have a negative impact on TotalEnergies' business and its operating income. If TotalEnergies were unable to manage the impacts of these commercial tensions in an appropriate manner, it would potentially incur significant increases in costs for the development of its projects, lose markets, see its production or the value of its assets fall, which could adversely affect its financial situation.

DETERIORATION OF OPERATING CONDITIONS

TotalEnergies is exposed to risks related to adverse changes in operating conditions in some geographical areas or strategic countries.

A substantial part of TotalEnergies' activities is located in strategic geographical areas or countries that may face conditions of political, geopolitical, social and/or economic instability. Some of these countries or areas have experienced such situations of instability in recent years, to varying degrees. Whether these conditions appear alone or in combination, they could disrupt TotalEnergies' economic and commercial activities in the countries or geographical areas concerned. In addition, the occurrence of epidemics or pandemics may significantly affect the operating conditions of certain projects or even delay their execution.

In Africa (excluding North Africa), which accounts for 19% of TotalEnergies' 2021 oil and gas production, some of these situations of political, social and/or economic instability arose in countries where TotalEnergies has production, notably in Nigeria, which is one of the main contributing countries to TotalEnergies' production (refer to point 2.3.3 of Chapter 2). In the north of Mozambique, given the evolution of the security situation in the Cabo Delgado province where TotalEnergies is developing the Mozambique LNG project, TotalEnergies confirmed on April 26, 2021 the withdrawal of all Mozambique LNG personnel from the Afungi site. This situation led TotalEnergies, as the operator, to declare force majeure.

In the Middle East and North Africa, which accounted for 24% of TotalEnergies' 2021 oil and gas production, some countries are the setting for political instability that could be associated with violent conflicts and terrorist acts, such as in Libya and Iraq. In Yemen, which is in a state of civil war, the deterioration of security conditions in the vicinity of the Balhaf site caused Yemen LNG, in which TotalEnergies holds an interest of 39.62%, to stop its commercial production and export of LNG and to declare force majeure to its various stakeholders in 2015. The plant has been put in preservation mode.

In South America, which accounted for 7% of TotalEnergies' 2021 oil and gas production, several countries in which TotalEnergies has production have recently experienced political or economic instability, notably Argentina and Venezuela. In July 2021 TotalEnergies, through its subsidiary Total Venezuela, transferred its 30.32% non-operated minority interest in Petrocedeño S.A. to Corporación Venezolana del Petróleo, S.A, a subsidiary of PdVSA. TotalEnergies has also initiated a process to sell its 69.50% interest in the Yucal Placer field and a process to return the license of Block 4 of Plataforma Deltana (49%).

In Asia-Pacific, in Myanmar, following the coup d'état of February 1, 2021, TotalEnergies has firmly condemned the violence and human rights abuses perpetuated in the country. In order to maintain a source of electricity to the people of Yangon and western Thailand, and to protect the Company's employees from forced labor, TotalEnergies decided to continue gas production while halting ongoing projects. But, the impossibility - despite the Company's efforts - to meet the expectations of stakeholders regarding the cessation of payments linked to gas sales, and the deterioration of the human rights situation and the rule of law in Myanmar, led TotalEnergies to reassess the situation, which no longer allows the Company to make a sufficiently positive contribution in this country and to decide on January 21, 2022 to initiate the process of withdrawing from contracts, effective July 2022.

The occurrence and scale of incidents related to political, geopolitical, economic, health or social instability in certain strategic geographical areas or countries may be unpredictable. Such incidents are likely to adversely affect operating conditions, generate cost increases and lead to a significant declines in production, delays in and even halting of certain projects, and the loss of market share. Such incidents may also expose employees and jeopardize their safety, as well as that of TotalEnergies' facilities. These risks may have an adverse impact on TotalEnergies' operating income and financial condition.

TotalEnergies also faces an increased risk of the imposition of international economic sanctions that are becoming increasingly frequent and less and less coordinated at the international level, as well as a tightening of regulations relating to export controls.

Economic sanction regimes, combined with export controls, can target those countries in which TotalEnergies operates, and thus restrict certain types of financing or access to critical technologies, impose restrictions on the export or re-export of a number of goods and services, and hinder TotalEnergies' ability to continue its operations.

In addition to particularly heavy financial sanctions, the breaching of economic sanction regimes adopted by the United States may lead the authorities to impose measures that freeze companies out of the US market, such as a ban on using the US dollar, the currency in which most of TotalEnergies' financings are denominated.

For instance, in 2021 TotalEnergies held 21% of its proved reserves and carried out 18% of its oil and gas production in Russia. Since July 2014, international economic sanctions have been adopted against certain Russian individuals and entities, including various entities operating in the financial, energy and defense sectors.

Since the month of February 2022, Russia's invasion of Ukraine led European and American authorities to adopt several sets of sanctions measures targeting Russian and Belarusian persons and entities, as well as the financial sector. TotalEnergies holds investments in major LNG projects (Yamal LNG and Arctic LNG 2) both directly and through its holding in the company PAO Novatek(1), whose production and sale of LNG are not materially impacted by the sanctions adopted as of the date hereof. Depending on the developments of the Russian-Ukrainian conflict and the measures that the European and American authorities could be required to take, the activities of TotalEnergies in Russia could be affected in the future. TotalEnergies announced on March 1, 2022 that it condemned Russia's military aggression against Ukraine, supported the scope and strength of the sanctions put in place by Europe that will be implemented by the Company regardless of the consequences on its asset management and that it will no longer provide capital for new projects in Russia. This context has led the Corporation not to qualify anymore as proved reserves as of December 31, 2021 the resources associated with the Arctic LNG 2 project, given the uncertainties of technological and financial sanctions on the ability to complete the Arctic LNG 2 project under construction.

The sanctions regimes impacting Russia, as well as the international economic sanctions impacting other countries, are described in point 3.2 of this chapter.

REGULATORY DEVELOPMENTS

The increasing number of regulations, and the constant developments, whether anticipated or not, in the legal and tax frameworks in countries where TotalEnergies operates, may have significant operational and financial effects, jeopardize TotalEnergies' business model and affect the conduct of its business and its financial conditions, especially given the size of TotalEnergies and its international dimension.

Conducting its activities in more than 130 countries throughout the world, TotalEnergies is subject to increasingly numerous, complex and restrictive laws and regulations, particularly regarding health, safety and the environment, as well as business ethics, which generate significant compliance costs. In Europe and the United States, TotalEnergies' sites and products are subject to increasingly stringent laws governing the protection of the environment (water, air, soil, noise, protection of nature, waste management and impact assessments, etc.), health (occupational safety and chemical product risk, etc.), the safety of personnel and residents, product quality and consumer protection.

In some jurisdictions, the legal and fiscal framework of operations may be changed unexpectedly. The application of rights, including contractual rights, may prove uncertain and the economics of projects called into question. The legal and fiscal framework of TotalEnergies' activities, in particular regarding exploration and production, established through concessions, licenses, permits and contracts granted by or entered into with a government entity, a state-owned company or private owners, remains exposed to risks of renegotiation that, in certain cases, can reduce or call into question the protections offered by the initial legal framework and/or the economic benefit to TotalEnergies.

In recent years, in various regions of the world, TotalEnergies has seen governments and state-owned companies impose more stringent conditions on companies pursuing exploration and production activities, increasing the costs and uncertainties of TotalEnergies' business operations. This trend is expected to continue.

Government intervention in such countries, which is likely to increase, may concern various areas, such as:

- the award or denial of mining rights regarding exploration and production interests;
- the imposition of specific drilling obligations;
- price and/or production quota controls and export limits;
- nationalization or expropriation of assets;
- unilateral cancellation or modification of license or contract rights;
- increases in taxes and royalties, including retroactive claims and changes in regulations and tax reassessments;
- the renegotiation of contracts;
- the imposition of increased local content requirements;
- payment delays; and
- currency exchange restrictions or currency devaluation.

The development of TotalEnergies' new energy activities and those in the electricity sector also expose it to new, essentially local regulations which may change at an unexpected pace.

The increasing number of legal and tax regulations, which are sometimes not very compatible with one another, and the constant changes, whether anticipated or not, in legal and fiscal frameworks in the countries in which TotalEnergies operates create legal instability, which heightens the risk of legal proceedings and promotes an increase in the number of national or transnational disputes. They may have the effect of causing a material increase in tax withholdings and customs duties, as well as costs relating to operations, thus affecting the profitability of projects or the economic value of a number of TotalEnergies assets, or even oblige TotalEnergies to shorten, change and/or stop certain activities or to implement temporary or permanent site closures.

If TotalEnergies were unable to anticipate changes in regulations and legal and tax frameworks or comply with them in time in one or more countries in which it operates, TotalEnergies could face increased litigation, be forced to modify and/or stop some of its activities, which could lead to a downturn in the profitability of certain projects and adversely affect its financial condition and reputation.

3.1.5 Risks relating to operations

HSE: RISK OF MAJOR ACCIDENT OR DAMAGE TO THIRD PARTIES AND THE ENVIRONMENT

TotalEnergies' activities entail multiple operational risks such as the risk of a major industrial accident, or damage to third parties or to the environment.

TotalEnergies must face the risk of a major industrial accident both at its sites and during transport by sea or land, or during activities related to its operations.

The occurrence of epidemics or pandemics such as the COVID-19 pandemic may expose TotalEnergies employees to health risks and require the implementation and deployment of crisis management and business continuity plans.

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(1) A Russian company listed in Moscow and London, in which TotalEnergies held a 19.4% stake as of December 31, 2021.

TotalEnergies' upstream activities are exposed, during drilling and production operations, to risks related to the properties of oil and gas fields, which can cause blow outs, explosions, fires or other damage, in particular to the environment, and lead to a disruption or interruption of TotalEnergies' operations and limit its production. The activities of the Integrated Gas, Renewables & Power, Refining & Chemicals and Marketing & Services business segments are also subject to the risk of a major industrial accident such as fires, explosions, significant damage to the environment, as well as risks related to the overall life cycle of the products manufactured, and the materials used. In addition to its drilling and pipeline transport operations, TotalEnergies had identified, at the end of 2021, 181 sites and operating zones exposed to the risk of a major industrial accident, harm or damage to people, property and the environment.

The conduct of TotalEnergies' activities, and the nature of some of the products sold, may also entail risks of direct and repeated exposure which have longer-term effects on health and the environment (soil, air, water).

TotalEnergies' entities and their legal representatives may be exposed to legal proceedings, notably in the event of damage to human life, bodily injury and material damage, chronic damage to health and environmental damage. Such proceedings could also damage TotalEnergies' reputation.

The crisis management plans implemented at TotalEnergies level and at subsidiary level to cope with emergency situations may not make it possible to minimize the impacts on third parties, health or the environment, or exclude the risk that TotalEnergies' business and operations may be severely disrupted in a crisis situation. An inability for TotalEnergies to resume its activities in a timely manner could prolong the impact of any disruption and thus could have an adverse effect on its financial condition.

TotalEnergies is not insured against all potential risks, and if a major industrial accident were to occur, TotalEnergies' liability could exceed the maximum coverage provided by its third-party liability insurance. TotalEnergies cannot guarantee that it will not suffer any uninsured loss, and there can be no guarantee that such loss would not have an adverse effect on TotalEnergies' financial condition and its reputation (refer to point 3.4).

DEVELOPMENT OF MAJOR PROJECTS

TotalEnergies' energy production growth and profitability depend on the delivery of its major development projects.

Growth of energy production and profitability of TotalEnergies rely heavily on the successful execution of its major development projects that are increasingly complex and capital-intensive. These major projects may be affected by the occurrence of a number of difficulties, including, in particular, those related to:

- the requirements of stakeholders in terms of CSR;
- economic or political risks, including threats specific to a certain country or region, such as terrorism, social unrest or other conflicts;
- negotiations with partners, governments, local communities, suppliers, customers and other third parties;
- obtaining project financing;
- controlling capital and operating costs;
- earning an adequate return in a low price environment (oil, gas and energy prices, etc.);
- respecting project schedules; and
- the timely issuance or renewal of permits and licenses by public agencies.

Failure to deliver any major project that underpins TotalEnergies' energy production or its growth could have a material adverse effect on TotalEnergies' financial condition.

BUSINESS ETHICS

Ethical misconduct or non-compliance of TotalEnergies, its employees or third parties acting in its name and/or on its behalf with applicable laws and regulations in particular concerning corruption or fraud may expose TotalEnergies to criminal and civil proceedings and be damaging to its reputation and shareholder value.

In the energy sector, generally considered as strategic, where the amounts invested can be very considerable, governments and public authorities are the leading counterparties. TotalEnergies is present in more than 130 countries, some of which have a high perceived level of corruption according to the index established by Transparency International. TotalEnergies advocates a zero tolerance principle for fraud of any kind, particularly corruption and influence peddling.

Non-compliance with laws and regulations as well as ethical or human rights misconduct by TotalEnergies, its employees or a third party acting on its behalf could expose TotalEnergies and/or its employees to investigations, administrative or legal proceedings, criminal and civil sanctions and to additional penalties (such as debarment from public procurement). Further measures could, depending on applicable legislation (notably the US Foreign Corrupt Practices Act, the French law No. 2016-1691 dated December 9, 2016, relating to transparency, the fight against corruption and the modernization of the economy or Regulation (EU) 2016/679 relating to the protection of personal data), be imposed by competent authorities, such as the review and reinforcement of the compliance program under the supervision of an independent third party. Any of the above may be damaging to the financial condition, shareholder value or reputation of TotalEnergies.

INTEGRATION OF STRATEGIC ACQUISITIONS

The addition of an asset or company that presents a strategic interest for TotalEnergies may not produce the effects initially expected.

TotalEnergies has made and may make further acquisitions in various geographical markets, in various activities, and with companies of various sizes. Acquisitions made by TotalEnergies stood at a total of $3.2 billion in 2021 and nearly $4.2 billion in 2020. Acquisitions present many challenges (synergies, governance, operating model, key employees, sufficient availability of TotalEnergies' teams) and require specific adaptation on a case-by-case basis.

If TotalEnergies were to be unable to integrate the assets acquired under the planned conditions, so as to achieve the expected synergies, to retain the key employees of the newly acquired company, or if TotalEnergies had to bear liabilities that were not yet identified or appropriately assessed at the time of the transaction, then TotalEnergies' financial condition and reputation could be adversely affected.

PARTNERSHIP AND SUPPLIER MANAGEMENT

TotalEnergies faces risks related to partnership and supplier management.

Almost all upstream projects and an increasing number of projects undertaken by TotalEnergies' other business segments, are carried out through partnerships (including joint-ventures) to spread the investment costs and associated risks among the various players. In some countries, specifically in Africa, legislation and/or the authorities make TotalEnergies' presence conditional on the establishment of a joint-venture with a local company. Some partnerships include companies exposed to specific risks linked to the financial markets, such as PAO Novatek(1).

A partnership's success depends on many factors, primarily the quality of the partner (specifically technical skills and financial capacity), the quality of agreements negotiated, and the efficiency of the governance framework implemented. Inappropriate or incomplete contractual agreements, or a partner's breaching of its obligations, specifically those that are financial, legal or ethical, may harm or prevent the development of projects, give rise to disputes and damage TotalEnergies' reputation.

Projects developed in partnership may be operated by TotalEnergies, by the partners, or by joint-ventures set up for this purpose in the form of a company or via contractual agreements. In cases where TotalEnergies' companies are not operators, these companies may have limited influence over, and control of, the behavior, performance and costs of the partnership, and their ability to manage risks may be limited. Even when they are not operators, TotalEnergies companies may be sued by the authorities or by plaintiffs.

TotalEnergies may also be exposed to a risk in the management of its supply chain, particularly in the context of a pandemic (lockdown measures or border closures) or geopolitical tensions affecting a geographical area or a country that represents a major source of supply for the Company. TotalEnergies may therefore be confronted with an interruption in the services of its suppliers (insufficient inventory, unavailability of personnel, financial difficulties) and an increase in costs affecting the continuation of certain activities or projects.

If TotalEnergies did not select high-quality partners, geographically diverse suppliers or failed to manage its partnerships in an optimum way or to establish an appropriate governance framework, TotalEnergies could suffer a loss of profitability at project level, be obliged to incur costs in relation to potential litigation, and face the risk of damage to its reputation should the partner not comply with the rules applicable to the partnership, in particular those covering ethics or compliance.

3.1.6 Innovation

DIGITAL TRANSFORMATION

TotalEnergies could be unable to manage its digital transformation at a suitable pace, or on the right scale, which may have an impact on its business model, its organization or its competitiveness.

Across the entire value chain, digital transformation acts on the interaction between TotalEnergies and its markets. TotalEnergies seeks to benefit from digital technology to improve its industrial operations, in terms of availability, costs or performance, offer new services to customers notably in the area of managing and optimizing energy consumption, make progress in new decentralized energies, and reduce its environmental impact. TotalEnergies also seeks to integrate digital technology into its operations so as to improve their efficiency and enable activities and investments to be managed with enhanced performance and agility.

An unsuitable pace or capacity to tailor TotalEnergies' organization and skills to the digital transformation could have a negative effect on its financial condition, its reputation, and on its ability to attract and train the necessary human resources.

TECHNOLOGICAL OR MARKET DEVELOPMENTS

TotalEnergies could fail to anticipate appropriately the technological changes related to its main markets, the expectations of its customers and changes in its competitive environment or certain business models or may not respond to them in an appropriate way and at an appropriate pace.

TotalEnergies' activities are carried out in a constantly changing environment with new products, new players, new business models and new technologies continuously emerging. TotalEnergies must be able to anticipate these changes, understand the market's challenges, identify and integrate technological developments in order to maintain its competitiveness, maintain a high level of performance and operational excellence, best meet the needs and demands of its customers and prepare for the future. TotalEnergies' innovation policy requires significant investment, notably in R&D, the expected benefits of which cannot be guaranteed.

An unsuitable pace of innovation or a technological or market development that is unforeseen or uncontrolled may have a negative effect on TotalEnergies' market share, its profitability, its reputation, and its ability to attract the necessary human resources.

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(1) A Russian company listed in Moscow and London, in which TotalEnergies held a 19.4% interest as of December 31, 2021 (the maximum limit specified in the initial 2011 agreement between TotalEnergies and PAO Novatek).

3.2 Countries under economic sanctions

Economic sanctions or other restrictive measures could target countries, such as Cuba, Iran, and Syria and/or target actors or economic sectors, such as in Russia or in Venezuela.

US and European economic sanctions applicable to the activities of TotalEnergies and information concerning TotalEnergies' activities related to certain targeted countries are set forth in points 3.2.1 and 3.2.2, respectively.

3.2.1 US and European economic sanctions

TotalEnergies closely monitors the different applicable economic sanctions regimes, including those adopted by the United States and the European Union ("EU") (collectively, the "Sanctions Regimes"), their developments and potential impacts on the Company's activities.

TotalEnergies takes the necessary steps to ensure compliance with applicable Sanctions Regimes and believes that its current activities in targeted countries do not infringe the applicable Sanctions Regimes. However, TotalEnergies cannot guarantee that current or future regulations related to Sanctions Regimes will not have a negative impact on its business, financial condition or reputation. A violation by the Company's affiliates of applicable Sanctions Regimes could result in criminal, civil and/or material financial penalties.

A) Cuba

The United States imposes a sanctions regime against Cuba that prohibits, in general, any US person(1) from engaging, directly or indirectly, in any dealings or activities related to Cuba.

TotalEnergies held an interest in a liquefied petroleum gas (LPG) cylinder filing plant in Cuba since 1997, in accordance with the economic sanctions regime imposed by the United States. The sale of this interest took place on January 6, 2022. As of such date, TotalEnergies no longer has any assets or operations in Cuba.

B) Iran

Several countries and international organizations, including the United States and the EU, apply Sanctions Regimes of varying degrees targeting Iran.

On July 14, 2015, the EU, China, France, Russia, the United Kingdom, the United States and Germany entered into an agreement with Iran, known as the Joint Comprehensive Plan of Action (the "JCPOA"), regarding limits on Iran's nuclear activities and relief under certain US, EU and U.N. economic sanctions regarding Iran. Therefore, as from that date, U.N. economic sanctions, most US secondary sanctions (i.e., those covering non-US persons for activities outside US jurisdiction) and most EU economic sanctions were suspended(2).

Following the withdrawal of the United States from the JCPOA in May 2018, US secondary sanctions concerning the oil industry were re-imposed as of November 5, 2018.

In July 2017, TotalEnergies signed a contract for a period of 20 years with the National Iranian Oil Company ("NIOC") relating to the development and production of phase 11 (SP11)(3) of the giant South Pars gas field. TotalEnergies withdrew from this project and finalized its withdrawal on October 29, 2018. TotalEnergies ceased all operational activity in Iran before November 4, 2018. TotalEnergies has had no operational activity in Iran since the re-imposition of US secondary sanctions on the oil industry as of November 5, 2018.

Refer to point 3.2.2 below for information concerning Section 13(r) of the Securities Exchange Act of 1934, as amended, pertaining to activities related to Iran carried out by TotalEnergies' companies in 2021.

C) Russia

Since the month of February 2022, Russia's invasion of Ukraine led European and American authorities to adopt several sets of sanctions measures targeting Russian and Belarusian persons and entities, as well as the financial sector. The production and sale of gas and LNG of the companies Novatek and Yamal LNG, of which TotalEnergies is a minority shareholder, are not materially impacted by the sanctions adopted as of the date hereof. Depending on the developments of the Russian-Ukrainian conflict and the measures that the European and American authorities could be required to take, the activities of TotalEnergies in Russia could be affected in the future.

Since July 2014, various Sanctions Regimes have been adopted against Russia, including prohibitions on transacting or dealing with certain Russian individuals and entities, as well as restrictions on investments, financings, exports and the re-exportation of certain goods towards Russia. In the context of the sanctions adopted by the EU since 2014, TotalEnergies has been formally authorized by the French authorities, who are competent for granting the authorizations necessary to continue operations covered by the EU sanctions regimes, to continue its activities in Russia on the Kharyaga, Termokarstovoye and Chernichnoye fields and the Yamal LNG and the Arctic LNG 2 projects.

As of February 2022, numerous sanctions measures targeting Russia and Belarus have been adopted by the European Union. These sanctions designate a number of Russian individuals and entities whose assets within the European Union are frozen and to whom it is prohibited to make funds or economic resources available. Other targeted sanctions are aimed specifically at the financial sector (including a ban on access to SWIFT for certain Russian institutions), and issued export restrictions in certain sectors or for certain types of goods and services to Russia. To date, the economic sanctions adopted by the EU do not materially affect TotalEnergies' shareholdings in Russia.

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(1) "US person" means any US citizen, dual nationality and permanent resident alien wherever located in the world, entity organized under the laws of the United States or any jurisdiction within the United States, including foreign branches, as well as foreign subsidiaries for certain sanctions regimes or any person or entity located in the United States.

(2) Certain US and EU human rights-related and terrorism-related sanctions remain in force.

(3) TotalEnergies was an operator of the SP11 project and held 50.1% alongside the national Chinese company China National Petroleum Corporation ("CNPC") (30%) and Petropars (19.9%), a wholly-owned subsidiary of NIOC.

The sanctions adopted since February 2022 have included the designation of one of the minority shareholders of PAO Novatek as sanctioned persons (asset freezing) by the European Union authorities. In accordance with European rules on sanctions, this designation however has no impact on PAO Novatek, which is not sanctioned by the EU authorities, or on the Yamal LNG and Arctic LNG 2 projects.

As of the date hereof, the sanctions adopted by the EU authorities do not restrict the ability of PAO Novatek and Yamal LNG to sell gas, including LNG, nor do they restrict the ability of European (or other) buyers to purchase gas.

In addition, the restrictions and sanctions imposed by the EU authorities against the Russian financial sector make it more difficult for financial flows between Russia and entities and banks established in the European Union to take place. Under the countermeasures enacted by the Russian authorities as of February 2022, financial flows to foreign shareholders are subject to the approval of the Russian Central Bank. This restriction, and other countermeasures that may be issued by the Russian authorities in the future, could make it more difficult for PAO Novatek and Yamal LNG to pay dividends to the Company and for Yamal LNG and Arctic LNG 2 to repay the shareholder loans granted by TotalEnergies. An analysis of the consequences of the Russian countermeasures is underway. Some Russian banks involved in the financing of the Yamal LNG and Arctic LNG 2 projects have been targeted by European and American sanctions, which have had the effect, depending on the case, of either freezing their assets or blocking the opening or maintenance of corresponding accounts or the processing of transactions involving them. The Russian lender financings to the Yamal LNG project are guaranteed by the export credit agency Exiar, whose assets have been frozen by the European and American authorities. At the current stage of the ongoing analysis, this has however no impact on the project financing. Two banks involved in the financing of the Arctic LNG 2 project have been added to the European and American asset freeze lists: Vnesheconombank and Otkritie, whose outstanding amounts are €400 million and €385 million respectively and Arctic LNG 2 replaced them with Gazprombank in accordance with the terms of the financing agreements. Furthermore, pursuant to sanctions adopted March 15, 2022 by the European Union, it is particularly forbidden for any European person to be a party to an agreement in order to grant any new loans or credits, or to make new payments under financing contracts (e.g. project financing by financial institutions or shareholder loans), even if previously entered into. This prohibits TotalEnergies from making new drawdowns on its shareholder loan, and prohibits European companies involved in project finance from making payments on future debt drawdowns. These sanctions are likely to have an impact on project financings, particularly on the amounts that Arctic LNG 2 will be able to call and on the organization of the lending banks. It is specified that TotalEnergies granted guarantees in its capacity as shareholder for the benefit of lenders to cover its share of the debt under the financings of the Yamal LNG and Arctic LNG 2 projects. On Yamal LNG, the amount of the guarantee that could be called, if applicable, is approximately €400 million; on Arctic LNG 2, the Company's exposure amounts to approximately €700 million.

With regard to the export restrictions imposed by the US and European authorities, an analysis is underway by Arctic LNG 2's contractors and sub-contractors under the Engineering Procurement Construction Contracts to assess the potential impacts on the activities required to execute the Arctic LNG 2 project, in particular equipment purchasing and transportation activities towards Russia. Given the uncertainties of the technological and financial sanctions on the ability to complete the Arctic LNG 2 project under construction and their probable tightening with the worsening Russian-Ukrainian conflict, TotalEnergies decided to no longer book proved reserves for the Arctic LNG 2 project and will no longer provide capital to the project.

The United States has since 2014 adopted various economic sanctions, some of which target the company PAO Novatek(1), and the entities in which Novatek (individually or with other similarly targeted persons or entities) owns an interest of at least 50% of the capital, including OAO Yamal LNG (“Yamal LNG”)(2), Terneftegas(3) and OOO Arctic LNG 2(4). These sanctions currently prohibit US persons from transacting in, providing financing for or other dealings in debt issued by such entities of longer than 60 days maturity. The sanctions adopted by the US authorities since February 2022 have consequences substantially similar to those set forth above with respect to the sanctions imposed by the European authorities. The sanctions adopted by the US authorities on March 8, 2022 restrict the ability to import crude oil, petroleum products and Liquefied Natural Gas of Russian origin into the United States, and prohibit US persons from making new investments in Russian energy projects, or from financing new investments in Russian energy projects by non-US companies. These sanctions do not have a material impact on TotalEnergies' activities.

TotalEnergies continues its activities in Russia in compliance with applicable Sanctions Regimes currently in effect.

As of December 31, 2021, TotalEnergies held 21% of its proved reserves in Russia, where TotalEnergies had 18% of its combined oil and gas production in 2021.

D) Syria

The EU adopted measures in 2011 regarding trade with and investment in Syria that are applicable to European persons and to entities constituted under the laws of an EU Member State, including, notably, a prohibition on the purchase, import or transportation from Syria of crude oil and petroleum products. The United States also has adopted comprehensive measures that broadly prohibit trade and investment in and with Syria.

Since 2011, TotalEnergies ceased its activities that contributed to oil and gas production in Syria and has not purchased hydrocarbons from Syria since that time (refer to point 3.2.2 of this chapter).

E) Venezuela

Since 2014, different Sanctions Regimes were adopted relating to Venezuela, including measures that prohibit dealings with certain Venezuelan individuals and entities, as well as restrictions on financings.

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(1) A Russian company listed on the Moscow and London stock exchanges and in which TotalEnergies held an interest of 19.4% as of December 31, 2021.

(2) A company jointly owned by PAO Novatek, TotalEnergies EP Yamal (20.02%), YAYM Limited and China National Oil and Gas Exploration Development Corporation – CNODC, a subsidiary of CNPC as of December 31, 2021.

(3) A company jointly owned by PAO Novatek and TotalEnergies EP Termokarstovoye SAS (49%) as of December 31, 2021.

(4) A company jointly owned by PAO Novatek, TotalEnergies EP Salmanov (10%), CNODC Dawn Light Limited, CEPR Limited and Japan Arctic LNG as of December 31, 2021.

In August 2017, the United States adopted economic sanctions relating to the Government of Venezuela as well as certain state-owned or controlled entities (collectively, the "Government of Venezuela"), including Petroleos de Venezuela, S.A. ("PdVSA") as well as entities in which PdVSA (individually or with other similarly targeted persons or entities collectively) owns an interest of at least 50% of the capital (which includes PetroCedeño S.A., a Venezuelan company in which TotalEnergies held an interest of 30.32% until July 28, 2021). These sanctions prohibit all US persons from transacting in, providing financing for or otherwise dealing in debt issued by PdVSA as from August 25, 2017 of longer than 90 days' maturity. The use of the US dollar is therefore prohibited for these types of financings, including with PetroCedeño S.A. In January 2019, the US Treasury Department's Office of Foreign Asset Control (OFAC) designated and placed PdVSA on the list of Specially Designated Nationals and Blocked Persons List, as well as any entities in which PdVSA owns an interest of at least 50% of the capital, including PetroCedeño S.A.

In August 2019, the United States ordered the blocking of all property and interests in property of the Government of Venezuela that come into the possession or control of US persons and prohibits US persons from dealing in any such property. These sanctions prohibit US persons from directly or indirectly engaging in any transactions with the Government of Venezuela. This action did not create a US comprehensive embargo against Venezuela and did not have a significant impact on TotalEnergies' activities. Since November 2017, Venezuela has also been subject to limited European sanctions, which mainly provide for the freezing of assets of certain individuals and entities, a military embargo as well as restrictions on the exportation of certain goods.

TotalEnergies, through its affiliate Total Venezuela, transferred at the end of July 2021 its non-operated minority participation of 30.32% in Petrocedeño S.A. to Corporación Venezolana del Petróleo, S.A, an affiliate of PdVSA. TotalEnergies also initiated a process to sell its interest of 69.50% in the Yucal Placer field. This field is operated by the company Ypergas S.A.(1) (30%), which uses the national pipeline network to deliver gas to PDVSA Gas (a subsidiary of PDVSA) for local consumption. TotalEnergies also initiated a process to return the license of Plataforma Deltana block 4 (49%).

To date, TotalEnergies has organized the management of its assets to ensure their compliance with applicable Sanctions Regimes.

On December 31, 2021, less than 0.5% of TotalEnergies combined oil and gas production came from Venezuela in 2021 (refer to point 2.2.2.4 of chapter 2).

3.2.2 Information concerning certain limited activities related to certain countries under sanctions

All the information concerning TotalEnergies activities related to Iran that took place in 2021 provided in this section is disclosed pursuant to Section 13(r) of the Securities Exchange Act of 1934, as amended.

In addition, information for 2021 is provided concerning the payments made by TotalEnergies' affiliates to, or additional cash flow that operations of TotalEnergies affiliates generate for, governments of any country identified by the United States as a state sponsor of terrorism (in 2021, Cuba, Iran, North Korea and Syria) or any entity controlled by those governments.

TotalEnergies is not present in North Korea. Other than fees related to the renewal of the registration of an international trademark with the World Intellectual Property Organization (WIPO) (which includes North Korea as a member state) paid in 2021, TotalEnergies is not aware of any of its activities having resulted in payments to, or additional cash flow for, the government of this country in 2021.

TotalEnergies believes that these activities are not subject to sanctions under a Sanctions Regime.

A) Cuba

Marketing & Services

As mentioned in section 3.2.1, TotalEnergies had an interest in a liquefied petroleum gas (LPG) cylinder filing plant in Cuba since 1997, in accordance with the economic sanctions regime imposed by the United States. The sale of this interest took place on January 6, 2022. TotalEnergies did not receive any revenues or net income in 2021 from this interest. Since January 6, 2022, TotalEnergies no longer has any assets or operations in Cuba.

In 2021, TotalEnergies Marketing France, a wholly owned subsidiary, provided fuel payment cards to be used in TotalEnergies' service stations to the Cuban Embassy located in Paris (France). This activity generated a gross turnover of approximately €7,600 and a net profit of approximately €480 in 2021. TotalEnergies Marketing France expects to continue this activity in 2022.

Trademarks

In 2021, TotalEnergies made small payments to Cuban authorities related to the maintenance and protection of trademarks and designs in Cuba and may make similar small payments in 2022. These payments are not prohibited by applicable Sanctions Regimes.

B) Iran

TotalEnergies' operational activities related to Iran were stopped in 2018 following the withdrawal of the United States from the Joint Comprehensive Plan of Action (JCPOA) in May 2018 and prior to the re-imposition of US secondary sanctions on the oil industry as of November 5, 2018.

Statements in this section concerning companies controlled by TotalEnergies SE intending or expecting to continue activities described below are subject to such activities continuing to be permissible under applicable international economic sanctions regimes.

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(1) A Venezuelan company owned at 37.33% by TotalEnergies Holdings Nederland B.V. as of December 31, 2021.

Exploration & Production

The Tehran branch office of Total E&P South Pars S.A.S., a wholly-owned subsidiary, which opened in 2017 for the purposes of the development and production of phase 11 of the South Pars gas field, ceased all operational activities prior to November 1, 2018. In addition, since November 2018, TotalEnergies EP Iran BV maintains a local representative office in Tehran with four employees solely for non-operational functions.

Concerning payments made to Iranian entities in 2021, TotalEnergies EP Iran BV and Elf Petroleum Iran collectively made payments of approximately IRR 2.02 billion (€39,894$^{(1)}$) to the Iranian administration for taxes and social security contributions concerning the staff of this representative office. None of these payments were executed in US dollars.

Since November 30, 2018, TotalEnergies E&P UK Limited ("TEP UK"), a wholly owned subsidiary, holds a 1% interest in a joint-venture relating to the Bruce field in the United Kingdom (the "Bruce Field Joint-Venture") with Serica Energy (UK) Limited ("Serica") (98%, operator) and BP Exploration Operating Company Limited ("BPEOC") (1%), following the completion of the sale of 42.25% of TEP UK's interest in the Bruce Field Joint-Venture on November 30, 2018 pursuant to a sale and purchase agreement dated August 2, 2018 entered into between TEP UK and Serica.

The Bruce Field Joint-Venture is party to an agreement governing certain transportation, processing and operation services provided to another joint-venture at the Rhum field in the UK (the "Bruce Rhum Agreement"). The licensees of the Rhum field are Serica (50%, operator) and the Iranian Oil Company UK Ltd ("IOC UK"), a subsidiary of NIOC (50%), an Iranian government-owned corporation. Under the terms of the Bruce Rhum Agreement, the Rhum field owners pay a proportion of the operating costs of the Bruce field facilities calculated on a gas throughput basis.

In November 2018, the US Treasury Department's Office of Foreign Asset Control ("OFAC") granted a conditional license to BPEOC and Serica authorizing provision of services to the Rhum field following the re-imposition of US secondary sanctions. The principal condition of the license is that the ownership of shares in IOC UK by Naftiran Intertrade Company Limited (the trading branch of the NIOC) are transferred into and held in a Jersey-based trust, thereby ensuring that the Iranian government does not derive any economic benefit from the Rhum field so long as US sanctions against these entities remain in place. IOC UK's interest is managed by an independent management company established by the trust and referred to as the "Rhum Management Company" ("RMC"). If necessary, TEP UK liaises with RMC in relation to the Bruce Rhum Agreement and TEP UK expects to continue liaising with RMC on the same basis in 2022.

In January 2021, OFAC renewed the conditional license to Serica authorizing the provision of services to the Rhum field, until January 31, 2023, subject to early termination if the trust arrangements described above should terminate. In addition, OFAC confirmed that, to the extent that the license remains valid and Serica represents that the conditions set out in the license are met, activities and transactions of non-US persons involving the Rhum field or the Bruce field, including in relation to the operation of the trust, IOC UK and RMC will not be exposed to US secondary sanctions with respect to Iran.

IOC UK's share of costs incurred under the Bruce Rhum Agreement has been paid to TEP UK in 2021 by RMC. In 2021, based upon TEP UK's 1% interest in the Bruce Field Joint Venture and income from the net cash flow sharing arrangement with Serica, gross revenue to TEP UK from IOC UK's share of the Rhum field resulting from the Bruce Rhum Agreement was approximately £4.93 million. This amount was used to offset operating costs on the Bruce field and as such, generated no net profit to TEP UK. TEP UK expects to continue this activity in 2022.

TEP UK is also party to an agreement with Serica whereby TEP UK uses reasonable endeavors to evacuate Rhum NGL from the St Fergus Terminal (the "Rhum NGL Agreement"). TEP UK provides this service subject to Serica having title to all of the Rhum NGL to be evacuated and Serica having a valid license from OFAC for the activity. The service is provided on a cost basis, and TEP UK charges a monthly handling fee that generates an income of approximately £35,600 per annum relating to IOC UK's 50% interest in the Rhum field. After costs, TEP UK realizes little profit from this arrangement. TEP UK expects to continue this activity in 2022.

Gas, Renewables & Power

In 2021, TotalEnergies Electricité et Gaz France, a wholly owned subsidiary, supplied electricity to the Iranian Embassy in Paris (France). This activity generated a gross turnover of approximately €18,400 and a net margin of approximately €1,000 in 2021. TotalEnergies Electricité et Gaz France expects to continue this activity in 2022.

Marketing & Services

In 2021, TotalEnergies Marketing France, a wholly owned subsidiary, provided fuel payment cards to be used in TotalEnergies' service stations to the Iranian Embassy and the Iranian delegation to UNESCO located in Paris (France). This activity generated a gross turnover of approximately €20,150 (without tax) and a net profit of approximately €1,500 (without tax) in 2021. TotalEnergies Marketing France expects to continue this activity in 2022.

In 2021, TotalEnergies Marketing Belgium, a wholly owned subsidiary, provided fuel payment cards to be used in TotalEnergies' service stations to the Iranian Embassy located in Brussels (Belgium). This activity generated a gross turnover of approximately €13,000 and a net profit of approximately €1,600 (without tax) in 2021. TotalEnergies Marketing Belgium expects to continue this activity in 2022.

Patents & Trademarks

In 2021, TotalEnergies paid less than €1,000 to Iranian authorities related to abandoned patents; these payments relate to abandonment proceedings and similar payments may be made in 2022. In addition, TotalEnergies made small payments in 2021 to Iranian authorities related to the maintenance and protection of trademarks and designs in Iran and may make similar small payments in 2022. These payments are not prohibited by applicable Sanctions Regimes.

C) Syria

Since early December 2011, TotalEnergies ceased its activities that contributed to oil and gas production in Syria and maintained a local office solely for non-operational functions. In late 2014, TotalEnergies initiated a downsizing of its Damascus office and reduced its staff to a few employees. Following the termination of their employment contracts in May 2019, the Damascus office was closed.

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(1) Converted using the average exchange rate for fiscal year 2021, as published by the Central Bank of Iran.

Marketing & Services

In 2021, TotalEnergies Marketing Belgium, a wholly owned subsidiary, provided fuel payment cards to be used in TotalEnergies' service stations to the Syrian’s delegation to the European Union located in Brussels (Belgium). This activity generated a gross turnover of approximately €4,500 and a net profit of approximately €600 (without tax) in 2021. TotalEnergies Marketing Belgium expects to continue this activity in 2022.

Trademarks

In 2021, TotalEnergies made small payments to Syrian authorities related to the maintenance and protection of trademarks and designs in Syria and may make similar small payments in 2022. These payments are not prohibited by applicable Sanctions Regimes.

3.3 Internal control and risk management procedures

The following information was prepared by the Audit & Internal Control Division with the support of several functional divisions of the Company, in particular the Legal, Finance and Strategy & Sustainability Divisions. It was reviewed by the Audit Committee and then approved by the Board of Directors.

3.3.1 Fundamental elements of the internal control and risk management systems

TotalEnergies is structured around its various business segments, to which the operational entities report. The business segments' management is responsible, within its area of responsibility, for ensuring that operations are carried out in accordance with the strategic objectives defined by the Board of Directors and General Management. The functional divisions at the Holding level help General Management define norms and standards, oversee their application and monitor activities. They also lend their expertise to the operational divisions.

TotalEnergies' internal control and risk management systems are structured around this organization at three levels - the Holding, business segments and operational entities - with each level being directly involved and accountable in line with the level of delegation determined by General Management.

General Management constantly strives to maintain an efficient internal control system, based on the framework of the Committee of Sponsoring Organizations of the Treadway Commission (COSO). In this framework, internal control is a process intended to provide reasonable assurance that the objectives related to operations, reporting and compliance with applicable laws and regulations are achieved. As for any internal control system, it cannot provide an absolute guarantee that all risks are completely controlled or eliminated.

The COSO framework is considered equivalent to the reference framework of the French Financial Markets Authority (*Autorité des marchés financiers* - AMF). TotalEnergies has also chosen to rely on this framework in the context of its obligations under the Sarbanes-Oxley Act. TotalEnergies' internal control and risk management systems are therefore built around the five components of this framework.

TotalEnergies' risk management system draws on the main international standards (COSO Enterprise Risk Management integrated framework, ISO 31000: 2018 – Risk management) as well as on French standards (Reference framework of the French Financial Markets Authority). The internal directive on the Principles of Risk Management, Internal Control and Auditing forms the common framework on which TotalEnergies relies to implement control on its activities.

TotalEnergies' internal control and risk management systems cover the processes of the fully consolidated entities. Regarding acquisitions, TotalEnergies' control environment is implemented in the acquired entities after a critical analysis of their own systems.

The principles of control fit into the framework of the rules of corporate governance. In particular, these rules task the Board of Directors' Audit Committee with monitoring the effectiveness of the internal control and risk management systems and of the internal audit, particularly as regards the procedures for preparing and dealing with accounting, financial and non-financial reporting.

Approximately 400 employees monitor the internal control systems within TotalEnergies. The assessment of the internal control and risk management system is mainly overseen by the Audit & Internal Control Division.

3.3.2 Control environment

BUSINESS INTEGRITY AND ETHICS

TotalEnergies' control environment is based primarily on its Code of Conduct, which spells out the Company's five values, including Respect for Each Other, which is reflected in the areas of integrity (fraud and corruption), respect for human rights, as well as the environment and health. The principles of the Code of Conduct are set forth in a number of guides, such as the Business Integrity Guide and the Human Rights Guide. These documents are distributed to employees and are available on the intranet. They also set out the rules of individual behavior expected of all employees in the countries where TotalEnergies is present. Similarly, a Financial Code of Ethics sets forth the obligations applicable to the Chairman and Chief Executive Officer, the Chief Financial Officer, the Vice President of the Corporate Accounting Division and the financial and accounting officers of the principal activities of TotalEnergies.

As a priority of General Management, compliance programs are deployed at TotalEnergies level, in particular for the prevention of corruption, fraud, competition law infringement as well as compliance with applicable economic sanctions. The programs covering anti-corruption, anti-fraud and compliance with economic sanctions include reporting and control actions (assignments and audits). Ethical assessments are also conducted (refer to point 5.7 of Chapter 5). In the areas of business integrity and ethics, TotalEnergies relies on the Compliance network, the Ethics Officers' network and the Ethics Committee, which plays a key role in listening and providing assistance.

GOVERNANCE, AUTHORITIES AND RESPONSIBILITIES

The Board of Directors, with the support of its Committees, ensures that the internal control functions are operating properly. The Audit Committee monitors the effectiveness of the internal control and risk management systems implemented by General Management, based on the risks identified and with a view to achieving TotalEnergies' objectives.

General Management ensures that the organizational structure and reporting lines plan, execute, control and periodically assess the Company's activities. It regularly reviews the relevance of the organizational structures so as to be able to adapt them quickly to changes in the activities and in the environment in which they are carried out.

The business segments' and operational entities' general management bodies are responsible for the internal control and risk management system within the scope of their responsibility.

TotalEnergies has also defined central responsibilities that cover the three lines of internal control: (1) operational management, which is responsible for implementing internal control, (2) support functions (such as Finance, Legal, Human Resources, etc.), which prescribe the internal control systems, verify their implementation and effectiveness and assist operational employees, and (3) internal auditors who, through their internal control reports, provide recommendations to improve the effectiveness of the system.

An accountability system is defined and formalized at all levels of the organization, through organization notes, organization charts, appointment notes, job descriptions and delegations of powers.

TotalEnergies has a framework that is supplemented by a series of practical recommendations and feedback on experience. This framework is structured like TotalEnergies' organization: a Company framework, frameworks for each business segment, and a specific framework for each significant operational entity.

TotalEnergies' Audit & Internal Control Division pursues a continual process aimed at strengthening the assessment of the role and involvement of all employees in terms of internal control. Training initiatives tailored to the various stakeholders involved in the internal control process are regularly launched within TotalEnergies.

CONTROL ACTIVITIES AND ASSESSMENT

Any activity, process or management system may be the subject of an internal audit in accordance with the international framework of the internal audit and its Code of Ethics. The Company's Audit & Internal Control Division also conducts joint audits with third party auditors and assistance missions (advice, analysis, input regarding methodology). The audit plan, which is based on an analysis of the risks and risk management systems, is submitted annually to the Executive Committee and the Audit Committee. The Audit & Internal Control Division conducted around 150 internal audit assignments in 2021, in the context of the COVID-19 pandemic, with 73 employees.

The design and effectiveness of the key operational, financial and information technology controls related to internal control over financial reporting, are regularly examined and assessed in compliance with the Sarbanes-Oxley Act.

In 2021, this assessment was performed with the assistance of the Company's main entities and its Audit & Internal Control Division.

The system in place covers:

- the most significant entities, which assess the key operational controls on their main processes and complete a questionnaire which allows their internal control framework to be assessed more globally;
- other less significant entities, which respond only to the questionnaire for assessing the internal control framework.

These two categories of entities, which include the central functions of the business segments and the Holding, account for approximately 80% and 10%, respectively, of the financial aggregates in TotalEnergies' consolidated financial statements.

The statutory auditors also review the internal control as part of their certification of the financial statements. In accordance with the US Sarbanes-Oxley Act, during the fiscal year 2021, they reviewed the implementation of TotalEnergies' internal control framework and the design and effectiveness of the controls selected as key by TotalEnergies in its main entities for the preparation and processing of accounting and financial information. On the basis of the work they have carried out, they have not made any observations in their report on internal control as of December 31, 2021. The reports on the work performed by the Audit and Internal Control division and the statutory auditors are periodically summarized and presented to the Audit Committee and, thereby, to the Board of Directors. The Senior Vice President Audit & Internal Control attended all Audit Committee meetings held in 2021. The Audit Committee also meets with the statutory auditors at least once a year without the presence of any Company representatives.

If areas of improvement are identified, this work, whether it be internal audits or operational controls, is part of corrective action plans shared with operational management; the implementation of which is closely monitored by them and the Audit & Internal Control Division.

Based on the internal reviews, General Management has reasonable assurance of the effectiveness of TotalEnergies' internal control.

3.3.3 Risk assessment and management

3.3.3.1 GENERAL PRINCIPLES

To implement its strategy, General Management ensures that clear and precise objectives are defined at the various levels of the organization with regard to operations, reporting and compliance.

Operational, financial and non-financial objectives focus on the definition and efficient use of human, financial and technical resources. They are documented, notably during the budgetary process and in the long-term plan. They are regularly monitored which allows for decision-making and monitoring the performance of activities at each level of the organization.

TotalEnergies implements a comprehensive risk management system that is an essential factor in the deployment of its strategy. This system relies on an organization at Company level and in the business segments, on a continuous process of identifying and analyzing risks in order to determine those that could prevent the achievement of the objectives as well as the management systems.

The Executive Committee, with the assistance of the TotalEnergies Risk Management Committee (TRMC), is responsible for identifying and analyzing internal and external risks that could affect the achievement of TotalEnergies' objectives. The main responsibilities of the TRMC are to ensure that the Company has mapped the risks to which it is exposed and that efficient risk management systems are in place. The TRMC's work focuses on continuously improving risk awareness and the risk management systems.

Risk mapping is a structured dynamic process. The Company's risk map feeds into the audit plan, which is based on an analysis of the risks and the risk management systems, and the work of the TRMC.

The TRMC relies in particular on the work carried out by the business segments and functional divisions. The business segments are responsible for defining and implementing a risk management policy suited to their specific activities. However, the handling of certain transverse risks is more closely coordinated by the respective functional divisions.

Regarding commitments, General Management exercises operational control through the Executive Committee's validation of proposed investment commitments and expenditures in excess of defined thresholds. The Risk Committee (CORISK) is tasked with reviewing these projects in advance, and in particular with verifying the analysis of the various associated risks.

3.3.3.2 IMPLEMENTATION OF THE ORGANIZATIONAL FRAMEWORK

THE TotalEnergies RISK MANAGEMENT COMMITTEE

The objective of the TotalEnergies Risk Management Committee (TRMC) is to ensure that the Company has an up-to-date map of the risks to which it is exposed and that the risk management systems in place are appropriate. It is chaired by the Chief Financial Officer, who is a member of the Executive Committee, and includes the President of Strategy & Sustainability, who is also a member of the Executive Committee, the managers of the corporate functions, the Senior Vice President of OneTech R&D, together with the chief administrative officers or chief financial officers of the business segments.

Based on the work of the business segments and functional departments, the TRMC is responsible for ensuring the existence and effectiveness of risk management systems tailored to the Company's challenges. As such, its objectives are as follows:

- define a common language and tools for risk identification and prioritization;
- define risk reporting standards and risk treatment mechanisms;
- identify transversal or emerging risks, evaluate residual risks in light of existing systems and, if necessary, make proposals for additional systems to bring them to acceptable levels;
- ensure that risks and their corresponding treatment mechanisms are handled by designated managers within the organization.

The work of the TRMC is led by the Audit & Internal Control Division, which assists contributors in preparing presentations and acts as the Committee's Secretary. In this capacity, the Audit & Internal Control Division reports annually on the work of the TRMC to the Executive Committee and to the Audit Committee in the presence of TotalEnergies' Chief Financial Officer. The latter attends all meetings of the Audit Committee and the TRMC, thus providing a link between these two committees. The TRMC met five times in 2021.

THE RISK COMMITTEE (CORISK)

The Risk Committee is chaired by a member of the Executive Committee: the President of Strategy & Sustainability or, in her absence, the Chief Financial Officer.

It is made up of representatives from the corporate Strategy & Climate and HSE divisions, both attached to the Strategy & Sustainability division, as well as the representatives of the Finance (including Insurance) and Legal divisions.

The Risk Committee meets on the same schedule as the Executive Committee. Any project submitted to the Executive Committee (and therefore giving rise to a financial commitment that exceeds certain thresholds) is first examined by the Risk Committee.

Following the review by the Risk Committee of the risks associated with the project submitted, a memorandum from the Strategy & Sustainability division reflecting the Risk Committee's comments is sent to the Executive Committee.

THE AUDIT & INTERNAL CONTROL DIVISION

The Risk team of the Audit & Internal Control Division is responsible for producing and continuously updating TotalEnergies' risk mapping. To this end, it uses all of the risk-mapping work carried out within the Company, in the business segments and in the functional divisions, the results of all audits and internal control activities, the action plans resulting from this work and the monitoring of their implementation, structured feedback, benchmarks and other external information sources, regular interviews with TotalEnergies' executive officers, and all information gathered during TRMC meetings and the preparation for these meetings.

3.3.3.3 SYSTEMS IN PLACE

REGARDING HSE RISKS

Risk management systems are implemented in the operational, financial and non-financial fields. The main risk management systems covering social challenges, health, safety, industrial security, environment, climate change-related challenges and the prevention of corruption are presented in the Statement of Non-Financial Performance (Chapter 5).

REGARDING FINANCIAL RISKS

The management and conditions of use of financial instruments are governed by strict rules, defined by TotalEnergies' General Management, which provide for centralization by the Treasury Division of liquidity, interest and exchange rate positions, management of financial instruments and access to capital markets. Depending on the overall needs of TotalEnergies, the financing policy aims to favor long-term debt, at floating or fixed rate, depending on the level of interest rates, mainly in dollars or euros.

TotalEnergies' cash balances, which mainly consist of dollars and euros, are managed to maintain liquidity based on daily interest rates in the given currency. Ceilings are set for transactions exceeding one month, with placements not to exceed 12 months. TotalEnergies also benefits from credit facilities granted by international banks. These credit facilities, along with the Company's net cash position, aim to allow it to continually maintain a high level of liquidity in accordance with objectives set by General Management in order to meet short-term needs.

In terms of counterparty risk linked to financial transactions, TotalEnergies adheres to a cautious policy, and only enters into commitments with institutions featuring a high degree of financial soundness, as assessed based on a multi-criteria analysis. Credit limits are determined globally for each authorized financial counterparty and is allocated among the affiliates and TotalEnergies' central treasury entities according to its financial needs. In addition, to reduce market valuation risk on its commitments, the Treasury Division has entered into margin call agreements with its counterparties in compliance with applicable regulations. Last, since December 21, 2018, pursuant to Regulation (EU) No. 648/2012 on OTC derivatives, central counterparties and trade repositories (EMIR), any new interest rate swap (excluding cross currency swaps) entered into by a TotalEnergies entity is centrally cleared.

TotalEnergies seeks to minimize its currency exposure, on the one hand, by financing its long-term assets in the functional currency of the entity to which they belong and, on the other hand, by systematically hedging the currency exposure generated by commercial activity. These risks are managed centrally by the Treasury Division, which operates within a set of limits defined by General Management.

The policy for managing risks related to financing and cash management activities, as well as TotalEnergies' currency exposure and interest rate risks, are described in detail in Note 15 to the Consolidated Financial Statements (point 8.7 of Chapter 8).

TotalEnergies finances its activities either by using its own resources, by issuing bonds on international markets, or by obtaining financing for specific projects from financial institutions and banks. The medium- and long-term debt policy implemented by TotalEnergies are aimed at ensuring that cash is available, notably to cover any major new project or significant acquisition.

A tightening of the selection criteria set by certain financial institutions and banks on financing for projects related to the exploration, production and sale of oil and gas could lead TotalEnergies to increase the diversification of its financing methods and sources. TotalEnergies will nonetheless continue to rely on the long-term relationships already formed with numerous banks and financial institutions.

REGARDING RISKS RELATING TO SECURITY

With regard to security, TotalEnergies has put in place means to analyze threats and assess risks in order to take preventive measures to limit its exposure to security risks in the countries where it operates. In the face of various types of threat, TotalEnergies ensures that people and assets are protected effectively and responsibly by conducting expert appraisal, consulting and control activities. In particular, it defines security measures for TotalEnergies' operational divisions, various entities and projects, ensures that these measures are implemented; and provides expertise in the event of a crisis. It relies on a network of Country Chairs assisted by Country Security Officers and on a continuously updated security framework. The production, updating and distribution of this framework are part of the risk management system.

TotalEnergies also deploys policies to retain documents and to protect personal data and the security of its information assets in order to address ever-increasing levels of legal and safety-related risks.

REGARDING RISKS RELATING TO THE SECURITY OF INFORMATION SYSTEMS

In order to maintain information systems that are appropriate to the organization's needs and limit the risks relating to the security of information systems and their data, TotalEnergies' Information Systems Division has developed and distributed governance and security rules that describe the recommended infrastructure, organization and operating procedures. These rules are implemented across the entities of the Company under the responsibility of the various business segments. TotalEnergies has an Operational Security Center to detect and analyze information system security events.

To address cyber threats, TotalEnergies conducts specific risk analyses permitting the definition and implementation of appropriate security controls concerning information systems. In the event of a cyberattack on the information systems, a cyber crisis management process is set up within TotalEnergies. In addition, cyber crisis management exercises based on specific risk scenarios are organized each year and used for training at TotalEnergies' various entities. In order to prevent cyber risks, awareness and training actions are also carried out regularly with TotalEnergies' employees.

In the particular context of the COVID-19 pandemic, TotalEnergies maintained its defense in terms of cyber security and was able to ensure the continuity of its activities while working remotely.

The work done to secure the Company's information system prior to the health crisis and on an ongoing basis during the crisis enabled it to strengthen its level of cybersecurity while at the same time allowing a greater number of employees to continue working from home.

REGARDING RISK PREVENTION RELATING TO CHANGES IN THE REGULATORY ENVIRONMENT AND BUSINESS ETHICS

Reporting to General Management, with a point of contact on the Executive Committee in the form of the Chief Financial Officer, the Legal Division is responsible for establishing and implementing the legal policy. It coordinates legal activities in close cooperation with the business segments' legal departments and supports the various TotalEnergies entities in order to meet their legal needs. TotalEnergies' lawyers monitor developments in their specific areas of expertise. A Compliance and Legal Risk Management Division is responsible, at Company level, for formulating policies on preventing and fighting against corruption and fraud, as well as compliance with applicable regulations on economic sanctions. This division is also in charge of devising and overseeing the implementation of the corresponding training programs, as well as coordinating the network of anti-corruption and anti-fraud compliance officers, and the points of contact for economic sanctions.

TotalEnergies has put in place since 2015 a structured program to prevent and combat fraud and has established a range of procedures and control systems that help prevent and detect different types of fraud. This mechanism is supported by the business principles and values of individual behavior described in its Code of Conduct and other standards applied by TotalEnergies' business segments.

TotalEnergies has widely distributed to employees a directive for handling incidents of fraud, recalling in particular the whistleblowing system that any employee can use to report acts that may constitute fraud. In addition, a rule was adopted in late 2020 to formalize the procedure for collecting integrity alerts (corruption, fraud and influence peddling) and to remind the various existing alert channels.

TotalEnergies' anti-fraud compliance program includes notably: an e-learning module for all employees of TotalEnergies, a guide called Prevention and Fighting Fraud, a map of fraud risks at the Company level updated in 2019, a typological guide of fraud risks which includes descriptions of the main risks, and video campaigns to raise awareness of the major risks of fraud. This program is deployed by the network of anti-fraud coordinators in the business segments and operational entities, this role of coordinator being generally performed by the Compliance Officer. Fraud risk mapping is also performed in the subsidiaries.

For information on corruption prevention, refer to point 5.8.1 of Chapter 5.

With regard to international economic sanctions and export controls, TotalEnergies carries out its activities in compliance with applicable laws and regulations, in particular those of the European Union (EU) and United States (US). TotalEnergies has a compliance program in place to prevent the risk of non-compliance with these laws and regulations, formalized by a rule that came into force in January 2021. This program is deployed by a dedicated Economic Sanctions and Export Control department within the Legal Division and by the points of contact within the business segments to ensure that regulations are monitored on a daily basis, to analyze all TotalEnergies' transactions and projects in relation to a country under sanctions and to ensure compliance with applicable regulations. An e-learning module on this topic was introduced in 2020.

A policy aimed at ensuring compliance with, and preventing infringement of, competition law is in place and is a follow-up to the various measures previously implemented by the business segments. Its deployment is based, in particular, on management and staff involvement, training courses that include an e-learning module, and an appropriate organization.

Regarding the prevention of conflicts of interest, each of the senior executives of TotalEnergies completes an annual declaration of the absence of conflicts of interest (or, if applicable, declares any conflicts of interest to which they may be subject). By completing this declaration, each senior executive also agrees to report to his or her manager any conflict of interest that he or she has had, or would have, knowledge of in the course of his or her duties. The “Conflicts of Interest” internal rule also reminds all employees of their obligation to report to their manager any situation that might give rise to a conflict of interest so that measures can be taken to deal with it when necessary.

In order to prevent market abuse linked to trading on the financial markets, TotalEnergies applies a policy based in particular on internal ethics rules that are regularly updated and distributed. In addition, TotalEnergies’ senior executives and certain categories of employees, in light of the positions they hold, are asked to refrain from carrying out any transactions, including hedging transactions, on TotalEnergies shares or ADRs and in collective investment plans (FCPE) invested primarily in TotalEnergies shares (as well as derivatives related to such shares) on the day on which the Company discloses its periodic result publications (quarterly, interim and annual), as well as during the 30 calendar-day period preceding such date. An annual campaign specifies the blackout periods and rules applicable to those affected.

To mitigate the risks of third parties infringing its intellectual property rights and the leak of know-how, TotalEnergies ensures that its rights are protected contractually under partnership agreements the terms and conditions of which are negotiated by its intellectual property specialists and are consistent with its industrial and commercial strategy. TotalEnergies has a policy of filing and maintaining patents, monitors technological developments in terms of freedom of use, and takes, when necessary, all appropriate measures to ensure the protection of its rights.

In addition, since some of its employees have access to confidential documents while performing their duties, TotalEnergies has adopted internal rules concerning the management of confidential information. TotalEnergies’ intellectual property specialists also carry out awareness-raising activities with employees, so that they are better informed about restrictions that may apply to the use of information and data.

REGARDING RISKS RELATING TO MANAGEMENT OF PARTNERSHIPS AND SUPPLIERS

The procedures for selecting TotalEnergies’ partners (joint-ventures and suppliers) and managing the different stages in the life cycle of each partnership are governed by structured internal governance frameworks, applied by all Company entities.

In order to ensure that the process of selecting future partners for the creation of a joint company and/or the completion of a joint project is robust, TotalEnergies’ framework includes performing due diligence relating to the partner’s HSE, technical, legal and financial activities and operating methods. A corruption risk analysis is also carried out.

The agreements signed with these third parties are mainly drafted by multi-disciplinary negotiation teams. Training programs, at the Company and business segment levels, ensure that the necessary knowledge and skills are transferred to ensure that contracts are correctly prepared, activities are monitored, and TotalEnergies’ interests are represented within the partnership.

The relevant operational entity puts in place the structure required to monitor and manage the partnership.

Agreements signed with third party suppliers are managed under TotalEnergies’ dedicated procurement system (structure, rules and tools). This system includes a supplier evaluation and qualification process, the monitoring of contracts and their performance (refer to point 5.10 of Chapter 5) and the monitoring of the financial robustness of the main suppliers.

Regular audits specified in the partnership agreements (joint-ventures and suppliers) complete the system.

3.3.4 Main characteristics of the internal control and risk management procedures relating to the preparation and processing of accounting and financial information

Accounting and financial internal control covers the processes that produce accounting and financial data, and mainly the financial statements processes and the processes to produce and publish accounting and financial information. The internal control system aims to:

- conserve TotalEnergies' assets;
- comply with accounting regulations, and properly apply standards and methods to the production of financial information; and
- guarantee the reliability of accounting and financial information by controlling the production of accounting and financial information and its consistency with the information used to produce the dashboards at every appropriate level of the organization.

At the Company level, the Finance Division, which includes the Accounting Division, the Budget & Financial Control Division and the Tax Division, is responsible for the production and processing of accounting and financial information. The scope of the internal control procedures relating to the production and processing of financial and accounting information includes the parent company (TotalEnergies SE) and all fully consolidated entities or entities whose assets are under joint control.

Refer to point 4.1.2.3 of Chapter 4 for a description of the role and the missions of the Audit Committee. These missions are defined by Directive 2014/56/EU and regulation (EU) No. 537/2014 regarding statutory audits.

3.3.4.1 PRODUCTION OF ACCOUNTING AND FINANCIAL INFORMATION

ORGANIZATION OF THE FINANCIAL FUNCTION

Dedicated teams implement the accounting and financial processes in the areas of consolidation, tax, budget and management control, financing, cash positions and information systems. The entities, business segments and General Management are respectively responsible for accounting activities.

The Accounting Division, which is part of the Finance Division, is responsible for drawing up the Consolidated Financial Statements and manages TotalEnergies’ network of accounting teams.

The tax function, made up of a network of tax experts at the corporate level, in the business segments and the entities, monitors changes in local and international rules. It oversees the implementation of the tax policy.

Management control contributes to the reinforcement of the internal control system at every level of the organization. The network of management controllers in the entities and the business segments is supervised by the Budget & Financial Control Division. This department also produces the monthly dashboard, the budget and the long-term plan.

The Treasury Division implements the financial policy, and in particular the processing and centralization of cash flows, the debt and liquidity investment policy and the coverage of currency exposure and interest rate risks.

The Information Systems Division makes decisions on the choice of software suited to the accounting and financial requirements of TotalEnergies. These information systems are subject to developments to reinforce the task separation system and to improve the control of access rights. Tools are available to make sure that access rights comply with the Company's rules in this area.

CONSOLIDATED FINANCIAL STATEMENTS PROCESS

The Accounting Division, which reports to the Finance Division, prepares TotalEnergies' quarterly Consolidated Financial Statements according to IFRS standards, on the basis of the consolidated reporting packages prepared by the entities concerned. The Consolidated Financial Statements are examined by the Audit Committee and then approved by the Board of Directors.

The main factors in the preparation of the Consolidated Financial Statements are as follows:

- the processes feeding the individual accounts used to prepare the reporting packages for consolidation purposes are subject to validation, authorization and booking rules;
- the consistency and reliability of the accounting and control data are validated for each consolidated entity and at each relevant level of the organization;
- a consolidation tool, supervised by the Accounting Department, is used by each consolidated entity and centrally; it ensures the consistency and reliability of data at each relevant level of the organization;
- a consolidation reporting package from each entity concerned and that is sent directly to the Accounting Division allows the transmission and completeness of the information to be optimized;
- a corpus of accounting rules and methods is formally defined. Its application is compulsory for all the consolidated entities in order to provide uniform and reliable financial information. This framework is built according to IFRS accounting standards. The Accounting Division centrally distributes this framework through regular and formal communication with the business segment managers, formal procedures and a Financial Reporting Manual that is regularly updated. In particular, it specifies the procedures for the booking, identification and valuation of off-balance sheet commitments;
- new accounting standards under preparation and changes to the existing framework are monitored in order to assess and anticipate their impacts on the Consolidated Financial Statements;
- an accounts plan used by all the consolidated entities is formally set forth in the Financial Reporting Manual, specifying the content of each account and the procedures for the preparation of the reporting packages for consolidation purposes;
- the account closing process is supervised and is based mainly on the formalization of economic assumptions, judgments and estimates, treatment of complex accounting transactions and compliance with established timetables announced through Company instructions disclosed to each entity;
- in particular, the processes applicable to the preparation of the accounts of the acquired entities are reviewed and, where appropriate, amended to integrate them into those applicable to the preparation of the Consolidated Financial Statements. Furthermore, the booking in the accounts of the purchase price allocation of each of these entities is based on assumptions, estimates and judgments in line with the TotalEnergies business model;
- off-balance sheet commitments, which are valued according to the Financial Reporting Manual, are reported on a quarterly basis to the Audit Committee.

PROCESSING OF ACCOUNTING AND FINANCIAL INFORMATION

Internal control of accounting information is mainly organized around the following areas:

- monthly financial reporting is formalized by Company and business segment dashboards using the same reference framework and standards as those used for the consolidated financial statements; in addition, the quarterly closing schedule is the same for preparing the Consolidated Financial Statements and financial reporting;
- a detailed analysis of differences as part of the quarterly reconciliation between the Consolidated Financial Statements and financial reporting is supervised by the Accounting and Budget & Financial Control Divisions, which are part of the Finance Division;
- a detailed analysis of differences between actual amounts and the yearly budget established on a monthly basis is conducted at each level of the organization. The various monthly indicators are used to continually and uniformly monitor the performance of each of the entities, the business segments and the Company, and to make sure that they are in keeping with the objectives;
- an annual reconciliation between the statutory financial statements and the financial statements based on IFRS standards is performed by entity;
- periodic controls are designed to ensure the reliability of accounting information and mainly concern the processes for preparing aggregated financial items;
- a regular process for the signature of representation letters is deployed at each level of the organization;
- an annual control system of the accounts of equity accounted affiliates based on a questionnaire completed by each entity concerned, the system being integrated within the TotalEnergies internal control framework;
- the Disclosure Committee ensures the respect of the procedures in place.

Other significant financial information is produced according to strict internal control procedures.

Proved oil and gas reserves are evaluated annually by the relevant entities. They are reviewed by the Reserves Committees, approved by Exploration & Production's general management and then validated by TotalEnergies' General Management. They are also presented to the Audit Committee each year.

The internal control process related to estimating reserves is formalized in a special procedure described in detail in point 2.3.1 of Chapter 2. The reserve evaluation and the related internal control processes are audited periodically.

The strategic outlook published by TotalEnergies is prepared, in particular, according to the long-term plans drawn up at the business segment and Company levels, and on the work carried out at each relevant level of the organization. The Board of Directors reviews the strategic outlook each year.

3.3.4.2 PUBLICATION OF ACCOUNTING AND FINANCIAL INFORMATION

Significant information about TotalEnergies is published externally according to formal internal procedures. These procedures aim to guarantee the quality and fair presentation of the information intended for the financial markets, and its timely publication.

The Disclosure Committee, chaired by the Chief Financial Officer, ensures, in particular, that these procedures are respected. It meets before TotalEnergies' financial results press releases, strategic presentations and annual reports are submitted to the Audit Committee and the Board of Directors.

A calendar of the publication of financial information is published and made available to investors on the TotalEnergies' website. With the help of the Legal Division, Investor Relations Division ensures that all publications are made on time and in accordance with the principle of equal access to information between shareholders.

ASSESSMENT OF THE SYSTEM FOR THE INTERNAL CONTROL OF ACCOUNTING AND FINANCIAL INFORMATION

TotalEnergies' General Management is responsible for implementing and assessing the internal control system for financial and accounting disclosure. In this context, the implementation of TotalEnergies' internal control framework, based on the various components of the COSO, is assessed internally at regular intervals within the TotalEnergies' main entities.

Pursuant to the requirements introduced by Section 302 of the Sarbanes-Oxley Act, the Chairman and Chief Executive Officer and the Chief Financial Officer have conducted, with the assistance of members of certain divisions of TotalEnergies (in particular Legal, Audit & Internal Control and Corporate Communications), an evaluation of the effectiveness of the internal disclosure controls and procedures (Disclosure Controls and Procedures) over the period covered by the annual report on Form 20-F. For fiscal year 2021, the Chairman and Chief Executive Officer and the Chief Financial Officer concluded that the disclosure controls and procedures were effective.

In addition, a specific process is in place for reporting any information related to TotalEnergies' accounting procedures, internal control and auditing. This process is available to any shareholder, employee or third party.

Finally, the Consolidated Financial Statements undergo a limited examination during quarterly closing, and an audit during annual closing. Almost all the audit missions in the countries are fulfilled by the members of the networks of the two statutory auditors, who, after performing their audit, proceed with the annual certification of TotalEnergies' Consolidated Financial Statements. They are informed in advance of the process for the preparation of the accounts and present a summary of their work to the Company's accounting and financial managers and to the Audit Committee during the quarterly reviews and annual closing. The statutory auditors also review the internal control as part of their certification of the financial statements.

3.4 Insurance and risk management

3.4.1 Organization

TotalEnergies has its own reinsurance company, Omnium Reinsurance Company (ORC). ORC is integrated within the Company's policy on insurance and constitutes the operational tool for harmonizing and centralizing coverage of the subsidiaries' insurable risks. It allows the Company's worldwide insurance program to be implemented in compliance with the specific requirements of local regulations applicable in the countries where the Company operates.

Some countries may require the purchase of insurance from a local insurance company. If the local insurer agrees to cover the subsidiary in accordance with ORC's worldwide insurance program, ORC negotiates a cession of the risks with the local insurer. ORC thus enters into reinsurance contracts with the subsidiaries' local insurance companies, which transfer nearly all of their risks to ORC.

At the same time, ORC negotiates reinsurance programs at the Company level with oil industry mutual insurance companies and on commercial reinsurance markets. ORC allows the Company to better manage price variations in the insurance market by taking on a greater or lesser amount of risk depending on price variations observed.

In 2021, the Company's retained share of losses after reinsurance was thus, at most:

- $233.15 million per onshore third-party liability claim and $162.5 million per offshore third-party liability claim, and
- $175 million per onshore property damage and business interruption claim and $125 million per offshore property damage claim.

Accordingly, in the event of any loss giving rise to an aggregate insurance claim, the maximum amount of risk retained by the Company (excluding the portion of claims in excess of the insured ceilings, if any) would be limited to $408.15 million per occurrence. In addition, each of the major refineries or petrochemical plants has a supplementary combined property damage and business interruption deductible of $75 million per loss per industrial site (which may comprise several plants).

3.4.2 Risk and insurance management policy

In this context, the risk and insurance management policy is to work closely with the relevant internal departments of each subsidiary to:

- define scenarios of major disaster risks (estimated maximum loss);
- assess the potential financial impact on the Company should a catastrophic event occur;
- help implement measures to limit the probability that a catastrophic event occurs and the financial consequences if such event should occur; and
- manage the level of financial risk from such events to be either covered internally by the Company or transferred to the insurance market.

3.4.3 Policy on insurance

TotalEnergies has worldwide property insurance and third-party liability coverage for all its consolidated subsidiaries and the majority of its non-consolidated associates. These programs are contracted with first-class insurers (or reinsurers and oil industry mutual insurance companies through ORC).

The amounts insured depend on the financial risks defined in the disaster scenarios and the coverage terms offered by the market (available capacities and price conditions).

More specifically for:

- third-party liability: because the maximum financial risk cannot be evaluated by a systematic approach, the amounts insured are based on market conditions and oil and gas industry practice. In 2021, the ceiling was $845 million (onshore) and $825 million (offshore) for any third-party liability incident (including liability in the event of an accident having an impact in the environment). In addition, the Company adopts, where appropriate, the necessary means to manage the compensation of victims in the event of an industrial accident for which it is liable; and
- property damage and business interruption: the amounts insured vary depending on the sector and on the site and are based on the estimated cost and scenarios of reconstruction under estimated maximum loss situations and on insurance market conditions. Business interruption insurance has been taken out in 2021 for most of the refining and petrochemical plants, liquefaction plants and terminals for gas-fired power plants. By way of illustration, for the maximum incidents estimated by TotalEnergies for physical damage (certain North Sea platforms and petrochemical refineries or plants), the maximum amount covered for the Company's share of these installations was approximately $2.01 billion in 2021 for the Refining & Chemicals segment and approximately $1.575 billion for the Exploration & Production segment.

Deductibles for property damage and third-party liability vary between €0.1 million and €10 million per incident depending on the level of risk and the degree of liability, and are borne by the relevant subsidiaries. For business interruption, coverage is triggered 90 days after the occurrence of the event giving rise to the interruption.

Other insurance contracts are subscribed in addition to property damage and third-party liability coverage, particularly in connection with the car fleets, credit insurance and employee benefits. These risks are essentially covered by outside insurance companies.

The above-described policy is provided as an example of a situation as of a given date and cannot be considered as representative of future conditions. The Company's policy on insurance may be changed at any time depending on market conditions, specific circumstances and General Management's assessment of the risks incurred and the adequacy of their coverage.

TotalEnergies considers that its insurance coverage is in line with industry practice and sufficient to cover normal risks in its operations. However, the Company is not insured against all potential risks. In the event of a major environmental disaster, for example, TotalEnergies' liability could exceed the maximum coverage provided by its third-party liability insurance. TotalEnergies cannot guarantee that the Company will not suffer any uninsured loss, and there can be no guarantee, particularly in the event of a major environmental disaster or industrial accident, that such loss would not have a material adverse effect on the Company.

3.5 Legal and arbitration proceedings

There are no governmental, legal or arbitration proceedings, including any proceeding of which the Corporation is aware that are pending or threatened against the Corporation, that could have, or could have had during the last 12 months, a material impact on TotalEnergies' financial situation or profitability.

Described below are the main administrative, legal and arbitration proceedings in which the Corporation and the other entities of TotalEnergies are involved.

FERC

The Office of Enforcement of the US Federal Energy Regulatory Commission (FERC) began in 2015 an investigation in connection with the natural gas trading activities in the United States of TotalEnergies Gas & Power North America, Inc. (TGPNA), a US subsidiary of TotalEnergies. The investigation covered transactions made by TGPNA between June 2009 and June 2012 on the natural gas market. TGPNA received a Notice of Alleged Violations from FERC on September 21, 2015. On April 28, 2016, FERC issued an order to show cause to TGPNA and two of its former employees, and to the Corporation and TotalEnergies Gas & Power Ltd., regarding the same facts. The case was remanded on July 15, 2021 to the FERC Administrative Judge for hearing and consideration on the merits. TGPNA contests the claims brought against it.

A class action, launched to seek damages from these three companies, was dismissed by a judgment of the US District court of New York issued on March 15, 2017. The Court of Appeal upheld this judgment on May 4, 2018. In September 2019, a California city initiated another class action against the same parties based on the same legal ground. This class action was dismissed by the US District court of New York on June 8, 2020. This judgment was confirmed on appeal by a ruling issued on December 3, 2021.

DISPUTE RELATING TO CLIMATE

In France, the Corporation was assigned in January 2020 before Nanterre's Court of Justice by certain associations and local communities in order to oblige the Company to complete its Vigilance Plan, by identifying in detail risks relating to a global warming above 1.5 °C, as well as indicating the expected amount of future greenhouse gas emissions related to the Company's activities and its product utilization via third parties. TotalEnergies estimates that it has fulfilled its obligations regarding vigilance duty.

In the United States, two subsidiaries of TotalEnergies were assigned in 2017 by certain communities and associations for their liability in climate change before a California Court. These two subsidiaries, as well as the 34 other companies and professional associations, are contesting the State Court's competence to rule this request. In September 2020, the Attorney General of the State of Delaware launched an indemnity claim based upon climate change against the Corporation, Total Specialties USA (now known as TotalEnergies Marketing USA, Inc.) and about 30 other oil companies before a court of this State. These companies are contesting the competence of such court to rule this request.

3.6 Vigilance Plan

3.6.1 Introduction

3.6.1.1 REGULATORY FRAMEWORK

In accordance with Article L. 225-102-4 of the French Commercial Code, the vigilance plan (hereinafter referred to as the “Vigilance Plan”) aims to set out the reasonable measures of vigilance put in place within the Company to identify risks of and prevent severe impacts on human rights, fundamental freedoms, human health and safety and the environment resulting from the activities of the Corporation and those of the companies it controls as defined in point II of Article L. 233-16 of the French Commercial Code, directly or indirectly, as well as the activities of subcontractors or suppliers with which it has an established commercial relationship, where such activities are linked to this relationship.

The Vigilance Plan covers the activities (hereinafter referred to as the “Activities” in this section) of TotalEnergies SE and its consolidated subsidiaries as defined in II of Article L. 233-16 of the French Commercial Code (hereinafter referred to as the “Subsidiaries” in this section)(1). It also covers the activities of suppliers of goods and services with which TotalEnergies SE and its Subsidiaries have an established commercial relationship, where such activities are associated with that relationship (hereinafter referred to as the “Suppliers”)(2).

TotalEnergies operates in over 130 countries in a variety of complex economic and socio-cultural contexts and in business areas that are likely to present risks that fall within the scope of the Vigilance Plan.

The reasonable measures of vigilance set out in this Vigilance Plan take into account the diversity and the geographic reach of the Company’s Activities. As part of its reporting of the implementation of the Vigilance Plan, TotalEnergies has chosen to illustrate its actions by referring to situations upon which it was specifically questioned.

3.6.1.2 METHODOLOGY AND PREPARATION OF THE VIGILANCE PLAN

TotalEnergies has integrated consideration of the impact of its Activities and those of its Suppliers on people’s health and safety, the environment and respect for human rights into its corporate culture.

Thus in formulating its Vigilance Plan, TotalEnergies relies on a solid foundation of procedures, management and reporting tools, including with respect to HSE and human rights. Experience acquired has contributed to develop further the Vigilance Plan.

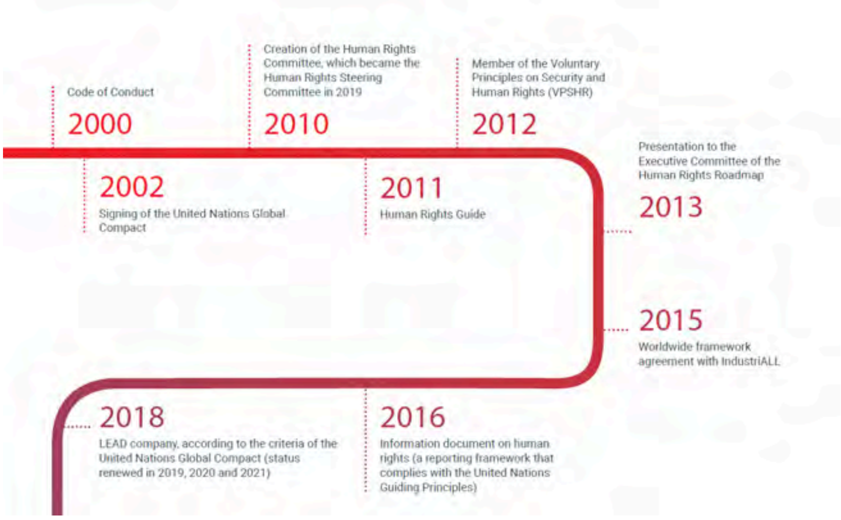
Health, safety and the environment (HSE) have long been the object of specific attention at Company level. Given their nature, the Activities give rise to health and safety risks for employees, the personnel of external contractors, and residents in the vicinity of industrial sites.

Since 2016, TotalEnergies has had an HSE Committee, which includes the members of the Executive Committee and is chaired by the Chairman and Chief Executive Officer. The Committee’s role is to generate momentum at top management level to ensure that safety is a value shared by all. All HSE functions at headquarters and in the Company's business segments are centralized within a single HSE division. The objective of this unified organization is to combine the strengths and expertise and to harmonize existing good practices, based on a One MAESTRO(3) reference framework common to all business segments. In practice, TotalEnergies takes a continuous improvement approach to HSE, involving every level of the organization. HSE objectives are presented to the Executive Committee every year. One MAESTRO standards, defined at Company level, are implemented by the Subsidiaries through their own HSE management systems.

Human rights are at the heart of the Company’s operations. Since 2000, TotalEnergies has adopted a Company Code of Conduct.

In 2002, TotalEnergies joined the United Nations Global Compact. Since 2010, the Company has been supported by a Human Rights Steering Committee. The human rights road map is presented and reviewed regularly at Executive Committee meetings. In 2013, the Executive Committee examined and validated the Company’s first human rights road map, and in 2016, its first human rights briefing paper, which has since been updated.

In 2021, TotalEnergies created a Sustainability & Climate division to which the Human Rights department is attached.



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(1) Certain companies, such as Hutchinson, Saft Groupe and SunPower, have set up risk management and impact prevention measures specific to their organizations. In addition, for newly acquired companies, reasonable vigilance measures are intended to be implemented progressively during the integration phase of these companies into the Company systems. They are therefore not included in the scope of the 2021 Vigilance Plan.

(2) In accordance with the regulatory provisions, suppliers with which the Company does not have an established commercial relationship do not fall within the scope of this Plan. This Plan reflects the sustainable procurement principles applicable to relationships with Suppliers, but is not aimed at replacing the measures in place at those Suppliers.

(3) MAESTRO stands for ‘Management and Expectations Standards Toward Robust Operations’.

The elaboration of the Vigilance Plan is part of a broader set of work to identify and analyse risks within TotalEnergies, including the Company's risk mapping. This process is based on an integrated approach that calls on the skills of the various functions involved (HSE, human rights, procurement, human resources, societal, security and legal).

In 2018, in the meetings of the Operational Committee of the European Works Council(1), Commitee members were provided with information on the law on the duty of vigilance and the methods used to prepare the Vigilance Plan, and were given an opportunity to comment.

The Board of Directors reviews the Vigilance Plan and its annual implementation report.

3.6.1.3 DIALOGUE WITH STAKEHOLDERS

TotalEnergies engages in dialogue with stakeholders at every level of the organization. In accordance with the Company's framework documents on societal matters, stakeholders are identified, mapped out and organized by level of priority according to their expectations and degree of involvement. This includes the following steps: list the main stakeholders for each Subsidiary and site (depots, refineries, etc.), categorize them and schedule consultation meetings to better understand expectations, concerns and opinions. The outcome of this process is the definition of action plans to manage the impacts of activities and consider local development needs, in order to build a long-term relationship based on trust. This process allows the Company to explain its activities to communities and other stakeholders, and to single out potentially vulnerable local populations. Its deployment continues in the Subsidiaries.

In order to facilitate this dialogue, certain Subsidiaries have established a network of dedicated contacts. For example, in some Subsidiaries within the Exploration & Production segment, a network of local community mediators is in place to maintain a constructive dialogue with local communities. These mediators act as Community Liaison Officers (CLO) and are tasked with establishing an ongoing dialogue with stakeholders on the ground (Stakeholder Engagement), including local authorities and communities and, more broadly, local players in civil society. Employed by TotalEnergies, sometimes coming from the local communities, they speak the local languages and understand local customs. They play a decisive role which is crucial in establishing good relations between TotalEnergies and its stakeholders and pay close attention to the most vulnerable populations.

A structured dialogue with stakeholders is established and maintained, primarily at local level. Subsidiaries manage local relations with civil society and are encouraged to enter into dialogue with non-governmental organizations (NGOs). The Company also cooperates with external experts specialized in preventing and managing conflict between businesses and local communities.

Additionally, relevant divisions of the Holding ensure a continuous dialogue with stakeholders of TotalEnergies. The Sustainability & Climate Division manages relations between the Company and civil society, represented notably by NGOs, as well as large institutions and multilateral agencies (e.g., Global Compact). TotalEnergies maintains ongoing exchanges with its employees and their representatives – whose role and position allows for privileged interactions, particularly with management. Social dialogue is a key component of the Company's corporate vision. It includes all types of negotiations, consultations or exchanges of information between TotalEnergies entities, employees and their representatives about economic and social issues related to company life. Topics discussed may vary according to each entity, however, shared concerns include health and safety, hours worked, compensation, training and equal opportunity. The Company strives to maintain this dialogue at both local and head office levels or centrally, as well as through its participation in corporate bodies or its signing of agreements.

In countries where employee representation is not required by law, Subsidiaries strive to set up such representation. A majority of Subsidiaries therefore have employee representatives, most of whom are elected.

At the European level, as part of the transformation of the Corporation into a European company (SE), an agreement was reached on April 15, 2020, to create the SE Works Council (known as the TotalEnergies European Works Council) to replace the former European Works Council, while maintaining continuity in its operations and missions.

The TotalEnergies European Works Council allows the sharing of information and exchanges on the Company's strategy and social, economic and financial situation, as well as on sustainable development, environmental and societal responsibility and safety matters. It is consulted on all significant proposed organizational changes impacting at least two companies in two European countries, to express its opinion, in addition to the procedures initiated before the national representative bodies. Innovative measures have been introduced to improve dialogue with the members of the TotalEnergies European Committee, including field safety visits and learning expeditions to discuss the Company's strategy directly on site.

The signature of international agreements also reflect the Company's commitment, including at top management level, to foster dialogue with employee representatives. In 2015, TotalEnergies signed a four-year global agreement with IndustriALL Global Union(2) on the promotion of human rights at work, diversity, the dialogue with employees and their representatives and the recognition of health and safety at work. TotalEnergies continues to apply the commitments of this global agreement.

Through this global agreement and the Fundamental Principles of Purchasing, TotalEnergies also asks its suppliers to respect freedom of expression, association and collective bargaining and, in countries where this right is restricted, to ensure that employees have the right to participate in a dialogue concerning their collective work situation.

In December 2017, TotalEnergies also joined the Global Deal initiative, a multi-stakeholder worldwide partnership whose goal is to encourage governments, companies, unions and other organizations to make concrete commitments to improve dialogue with employees. The Global Deal promotes the idea that effective dialogue with employees can contribute to decent work and quality jobs and, as a result, to more equality and inclusive growth, from which workers, companies and civil society benefit. In 2021, TotalEnergies continued to share its good practices with Global Deal member companies by co-leading a working group on social dialogue during the crisis and the recovery.

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(1) This committee was replaced by the TotalEnergies European Works Council following the transformation of the Corporation into a European company.

(2) International federation of trade unions representing more than 50 million employees in the energy, mining, manufacturing and industrial sectors in 140 countries.

3.6.2 Severe impact risk mapping

The mapping work presented below, which includes risks for people and the environment, was carried out using TotalEnergies' risk management tools.

3.6.2.1 SAFETY, HEALTH AND THE ENVIRONMENT

TotalEnergies defines the risk of a severe impact on safety, health or the environment as the probability of Activities having a direct and significant impact on the health or safety of **employees of TotalEnergies companies, employees of external contractors**(1) **and third parties, or on the environment** following a large scale pollution or a pollution impacting a sensitive natural environment(2).

TotalEnergies has developed regular safety, health and environment risk assessment procedures and tools applicable to operate its Activities at various levels (Company, activities and/or industrial sites):

- prior to investment decisions in industrial projects of the Company, acquisition and divestment decisions;
- during operations;
- prior to releasing new substances on the market.

With respect to potential major industrial accidents, analyses are based notably on incident scenarios at the site level, for each of which the probability of occurrence and potential consequences (in terms of severity) are assessed. Based on these parameters, a prioritization matrix is used to determine whether further measures are needed. These mainly include preventive measures but can also include mitigation measures that may be technical or organizational in nature. Each business segment produces, on a yearly basis, an inventory of its identified major industrial accident risks, which is submitted to management/committees in each segment and to the HSE Committee (refer to 3.6.1.2), providing a global overview of identified risks and of progress on action plans launched by the Subsidiaries operating the sites.

This work allowed to identify, analyze and prioritize the risks of severe impacts. These analyses have highlighted the following risks of severe impacts:

- risks to the safety of people and to the environment resulting from a major industrial accident on an offshore or onshore site. This accident could be an explosion, a fire or a leak resulting in fatalities or bodily harm, and/or accidental pollution on a large scale or on a sensitive natural environment, for example a well blowout;
- risks to the safety of people and to the environment related to the overall life cycle of the products manufactured, and to the substances and raw materials used;
- risks associated with transportation, for which the likelihood of an operational accident depends on the hazardous nature of the products handled, as well as on volumes, length of the journey and sensitivity of the regions through which products are transported (quality of infrastructure, population density, environment).

Climate change is a global risk for the planet and results from various human actions such as energy consumption. As an energy producer, TotalEnergies seeks to reduce direct greenhouse gas emissions resulting from its operated Activities. In 2021, worldwide greenhouse gas (GHG) emissions from the facilities operated by TotalEnergies amounted to 37 Mt CO_2e excluding the COVID-19 effect, less than 0.1% of total worldwide emissions, which amounted to more than 59 billion tons in 2019(3). In addition, TotalEnergies implements a strategy to tackle climate change challenges and reports on this in detail, notably in its statement of non-financial performance (refer to point 5.4 of chapter 5), in accordance with Articles L. 22-10-36 and L. 225-102-1 of the French Commercial Code.

3.6.2.2 HUMAN RIGHTS AND FUNDAMENTAL FREEDOMS

The risks of impacts on human rights for **TotalEnergies personnel and third parties** were identified according to the criteria defined in a well-established reference document for the mapping of human rights risks, the United Nations Guiding Principles Reporting Framework:

- severity: the scale of the impact on the human right(s); and/or
- scope: the number of persons affected or who could be affected; and/or
- the remediable nature of the impact: the ease with which the corresponding rights of the impacted persons can be restored.

TotalEnergies applied the United Nations Guiding Principles Reporting Framework, which defines the following process:

- identify all human rights at risk of being negatively impacted by a company's activities or business relations, by taking into account all relevant business activities and entities in the company and the point of view of the people exposed to a negative impact;
- prioritize potential negative impacts based on their potential gravity (severity and potential extent of the impact and the required remediation efforts) and their probability (while paying particular attention to very severe but unlikely impacts);
- explain the conclusions to internal and external stakeholders and check that factors have not been omitted.

This risk mapping work was carried out by TotalEnergies in 2016 in consultation with internal and external stakeholders. The process included workshops with representatives of key business activities of the Company (human resources, procurement, security, HSE, Ethics Committee, Human Rights Steering Committee) and of Subsidiaries operating in difficult environments or particularly exposed to risks to human rights and fundamental freedoms. A series of interviews was held with independent third parties (GoodCorporation, International Alert, Collaborative Learning Project). The participants were able to share return on experience on the ground (difficulties faced, proposals for improvements on issues related to human rights and HSE resulting from Subsidiary assessments). The questions raised at the Business Ethics Day were also taken into consideration. The results of the in-house survey of employees regarding their professional situation and perception of the company conducted at local or Company level, were also taken into account.

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(1) Personnel of companies working on a site operated by a Subsidiary.

(2) Sensitive natural environments include, in particular, remarkable or highly vulnerable natural areas, such as sea ice in the Arctic, as well as areas covered by significant regulatory protection such as Protected Area Categories I to IV as defined by the International Union for Conservation of Nature (IUCN), Ramsar areas, or natural sites listed on the UNESCO World Heritage List at December 31, 2021.

(3) U.N. Environment Program, 'Emissions Gap Report 2021'.

This work enabled TotalEnergies to identify and analyze the human rights risks that affect the Activities and to prioritize them according to their salience.

The salient risks are thus identified by comparing indicators and information provided by external stakeholders and internal return on experience. The dialogue with local stakeholders and feedback from the field, described above (refer to point 3.6.1.3 of this chapter) also contribute to this.

The mapping of salient risks, periodically updated, is supplemented by operational mappings such as the CSR risk mapping linked to TotalEnergies' purchasing by categories of goods and services (refer to 3.6.2.3). Risk mapping by the Security division also takes into account human rights and the VPSHR (Voluntary Principles on Security and Human Rights).

In 2019, TotalEnergies updated its procedures to analyze risks of impacts on human rights (taking into account the country, types of activity and types of raw materials or purchased products and services). This work was done with a specialized consultant, and included workshops with internal and external stakeholders. It took into account international country risk indicators established by a specialized third party. This process notably offers a support to Subsidiaries located in geographic areas at higher risk of impacts on human rights.

As a result, the following six salient risks were identified, divided among three key themes for the Company:

- **human rights in the workplace** of TotalEnergies' employees and those of its suppliers and other business partners:
  - forced labor and child labor;
  - discrimination;
  - just and favorable conditions of work and safety.
- **human rights and local communities**:
  - access to land;
  - the right to health and an adequate standard of living.
- **respect for human rights in security-related activities**:
  - the risk of misuse of force.

3.6.2.3 SUPPLIERS

The mapping of the risks of impacts on human rights, people's health and safety and the environment as a result of Activities is supplemented by CSR mapping of the risks linked to TotalEnergies' procurement, by category of goods and services, which has been in place since 2012. This allows the identification of the risks relating to human rights and social conditions and those relating to the environment that are associated with each procurement category. In 2020, TotalEnergies Global Procurement, the subsidiary dedicated to procurement, finalized the update of this mapping, based on research conducted by AFNOR experts on the human rights and environmental risks associated with each procurement category. This work was supplemented by workshops with buyers of these categories whose practical experience and knowledge greatly enhanced the results of this initial research. The Company's human rights and environmental experts were also involved throughout the entire process. This mapping includes particular risks relating to child labor, forced labor, working conditions, discrimination, workers' health and safety, as well as risks relating to pollution and adverse impacts to biodiversity. It is available to buyers.

3.6.3 Action principles and organization

TotalEnergies has defined in its referential framework principles which reflect the Company's values and aim at preventing impacts on human rights and health, safety and to the environment (the "Action Principles"). When the legal provisions applicable to Activities provide less protection than the Action Principles, TotalEnergies strives under all circumstances to give precedence to the latter, within the constraints of applicable regulations.

3.6.3.1 ORGANIZATION

TotalEnergies has a three-tier organization: Corporate, business segments and operational entities. Each tier is involved in and accountable for identifying and implementing measures in the Vigilance Plan deemed appropriate within the scope of the entity in question.

The Action Principles are driven by the **Executive Committee**.

The **Ethics Committee** is the guarantor of the implementation of the Code of Conduct. Its chairman, who reports to the Chairman and Chief Executive Officer of TotalEnergies SE, presents an annual ethics report to the Governance and Ethics Committee of the Board of Directors.

A new **Strategy & Sustainability division** was created in September 2021, illustrating the importance of the sustainable development issues that are at the heart of TotalEnergies' strategy. This general division includes in particular:

- The **HSE division** which brings together the Company's industrial health, safety, environmental and operational societal functions. Within this division, the HSE departments of the Exploration & Production, Integrated Gas, Renewables & Power, Refining & Chemicals and Marketing & Services segments are notably responsible for supporting the implementation of the Company's HSE policy. Specific expert teams deal with the following areas: major risks, human and organizational factors, environmental and societal issues, transportation and storage, crisis management and pollution prevention, standards and legislation, audits and return on experience. TotalEnergies has set up an HSE Committee chaired by the Chairman and Chief Executive Officer and made up notably of the members of the Executive Committee and HSE managers (refer to point 3.6.2.1). Its mission is to ensure that safety is a shared value.
- The new **Sustainability & Climate division,** whose mission includes to help implement TotalEnergies' climate and sustainable development (including human rights) road maps and environmental, social and governance (ESG) policies, with transparency as a guiding principle. In this division, the Human Rights department supports the Company's operational personnel with its expertise in implementing the Action Principles relating to human rights. This division also forms the link between the Company and civil society and is in charge of relations with non-governmental organizations (NGOs), major institutions or multi-lateral agencies at Company level. Also within this division, the Climate division is responsible for contributing to the implementation of TotalEnergies' Climate Road map, in line with its ambition to be carbon neutral (net zero emissions) by 2050, together with society.

Within the **People & Social Engagement division, the Strategy and Human Resources Policies division** is responsible in particular for defining TotalEnergies' human resources strategy and policies in line with the business challenges and the corporate project. In line with the multiple situations encountered in the field, it coordinates the diffusion and roll-out of new policies to support the various human resources departments in TotalEnergies' business segments. The Social Relations division is tasked with coordinating the Company's social relations policy, chairing the TotalEnergies European Works Council and negotiating within this scope.

The **Security division** is responsible for the protection of people, facilities and information, and pays particularly close attention to the protection of people and property, by conducting analyses and offering advice.

A dedicated cross-functional subsidiary, **TotalEnergies Global Procurement**, coordinates management of supplier relationships and provides in particular purchasing services for the Company's goods and services, whether for categories of products or services specific to one business activity or categories shared among several business activities(1).

This corporate organization acts in support of the business segments and Subsidiaries in the operational implementation of the Action Principles.

Within the business segments services and advice are offered to Subsidiaries to assist them in the operational implementation of TotalEnergies' requirements.

Depending on their size, type of activities and the risks to which they may be exposed, the Subsidiaries may have dedicated personnel for HSE, societal, human resources, ethical, security and procurement issues.

3.6.3.2 CODE OF CONDUCT

TotalEnergies' Vigilance Plan is based primarily on the Code of Conduct(2) which defines the Company's values, including safety and respect for others, and their application to human rights, the environment, and people's health and safety.

The Code particularly sets forth TotalEnergies' compliance with the following international standards:

- the principles of the Universal Declaration of Human Rights;
- the United Nations Guiding Principles on Business & Human Rights;
- the principles set out in the International Labor Organization's fundamental conventions;
- the principles of the United Nations Global Compact;
- the OECD Guidelines for Multinational Enterprises;
- the Voluntary Principles on Security and Human Rights, or VPSHR.

The Code of Conduct, which can be accessed on TotalEnergies' website, is aimed at all employees and external stakeholders (host countries, local communities, customers, suppliers, industrial and commercial partners and shareholders).

3.6.3.3 HUMAN RIGHTS

In addition to the Code of Conduct, matters relating to respect for human rights are included in a number of internal rules, such as those relating to ethics, human resources, societal, security and procurement. In addition to these, there are a number of practical tools dedicated specifically to societal issues.

For example, a rule concerning stakeholder and local impact management describes TotalEnergies' requirements for a unified approach to managing the societal risks and impacts of its operations. This is based on an assessment of the sensitivity of the societal context and the impacts relating to operations. Furthermore, the Charter of Principles and Guidelines regarding indigenous and tribal peoples states how TotalEnergies endeavors to know and understand the legitimate requirements of the communities living in its Subsidiaries' sphere of activities.

TotalEnergies' charters and rules are supplemented by guides and manuals at Company level or at the level of the business segment, which serve as reference documents for Subsidiaries on meeting requirements. Thus, there are guides relating to carrying out societal impact assessments and impact assessments on human rights, managing the local societal approach, and developing local content in projects.

General specifications define more technical requirements, such as the implementation of the social baseline study and analysis of the societal impact.

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(1) Present in more than 130 countries, the Company currently works with a network of more than 100,000 suppliers.

(2) SunPower has its own code of conduct and ethics.

As regards community grievance management, a guide describes the methodology and procedures for managing individual and collective grievances resulting from Activities, based on the United Nations Guiding Principles on Business and Human Rights eight effectiveness criteria.

Additionally, requirements relating to the implementation of VPSHR in conducting security operations are detailed in an internal rule concerning risk assessment, preliminary verifications, formalization of the relationship with security providers, training and management of possible incidents.

Last, for procurement, requirements relating to respect for human rights by Suppliers are specified in an internal rule defining the procurement principles for goods and services, including the Fundamental Principles of Purchasing, which reflect the principles of the Code of Conduct with regard to Suppliers.

3.6.3.4 SAFETY, HEALTH AND THE ENVIRONMENT

TotalEnergies conducts its operations on the basis of its **Safety Health Environment & Quality Charter** (available on TotalEnergies' website). It forms the common foundation for TotalEnergies' management frameworks, and sets out the basic principles applicable to safety, security, health, the environment, quality and societal commitment. TotalEnergies' directives and rules define the minimum requirements expected. General specifications, guides and manuals are available as a tool to implement these directives and rules. The Subsidiaries incorporate these requirements into their own management systems, whilst taking into account local specificities and regulatory requirements. The TotalEnergies framework is available to all employees.

An HSE reference framework common to all the business segments has been rolled out in order to give greater overall consistency to TotalEnergies' operations, while taking into account the specificities of each business segment. This reference framework, called One MAESTRO (Management and Expectations Standards Toward Robust Operations), applies to all the Company's operated sites as defined in point 5.11 of chapter 5 (scope of One MAESTRO).

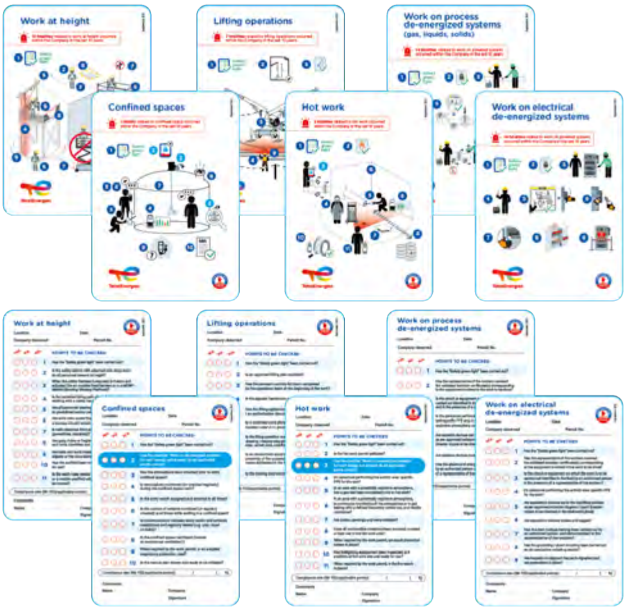
One MAESTRO is structured around ten fundamental principles: (1) leadership and management commitment, (2) compliance with laws, regulations and Company requirements, (3) risk management, (4) operational accountability, (5) contractors and suppliers, (6) expertise and training, (7) emergency preparedness, (8) learning from events, (9) monitoring, audit and inspection, (10) performance improvement.

In 2010, the Company also introduced the ***TotalEnergies' Golden Rules*** for safety at work. Widely circulated, they bring together the fundamental rules, which must be scrupulously observed by all personnel, whether employees or the staff of contractors, in all the countries and business segments in which the Company is active. The aim of the Golden Rules is to define simple, easy-to-remember rules based on situations reflecting a number of occupational accidents. These rules cover the following subjects:

TotalEnergies' Golden Rules

1 High-Risk Situations
2 Traffic
3 Body Mechanics and Tools
4 Protective Equipment
5 Work Permits
6 Lifting Operations
7 Powered Systems
8 Confined Spaces
9 Excavation Work
10 Work at Height
11 Change Management
12 Simultaneous Operations or Co-Activities

TotalEnergies has also rolled out the ***Our lives first: zero fatal accidents*** program, comprising the introduction of joint safety tours with contractors, the incorporation into the permit to work process of a ritual to be performed prior to undertaking work at the TotalEnergies' operated sites (Safety Green Light), and tools to step up on-site checks and assess compliance with safety rules for eight high-risk activities (working at height, lifting operations, work on process or powered systems, working in confined spaces, hot work, excavation work, manual cleaning using high-pressure jets and Industrial cleaning using mobile pump and vacuum truck).



In addition, anyone, irrespective of their level in the organization, is authorized to interrupt work in progress, if they notice a high-risk situation, by using their ***Stop Card***.

The *Stop Card* is a plastic-coated card. It grants its holder the authority to intervene and stop work in progress, if he/she notices high-risk actions or situations, or situations that may lead to an accident, with an assurance that no disciplinary action will be taken as a result, even if the intervention turns out to have been unnecessary.

If an action or situation seems hazardous for one or more people, a facility or the environment, the *Stop Card* provides a means of intervening. Uses of the Stop Card can range from a simple question to check that no risks are present, to interrupting the work in progress.

This interruption offers an opportunity to exchange with the colleagues involved (members of staff and their supervisor) with a view of finding a solution to the perceived problem. If necessary, changes are made to the way of working before resuming the work in progress.

If the problem cannot be solved immediately, the work is suspended, pending the implementation of suitable measures.

PREVENTING THE OCCURRENCE OF MAJOR INDUSTRIAL ACCIDENTS

To **prevent the occurrence of a major industrial accident** such as an explosion, fire, leakage of hazardous products or mass leakage that might cause death, physical injury, large-scale pollution or pollution at an environmentally sensitive site, or important damage to property, TotalEnergies implements suitable risk management policies and measures that apply to the Company's operated activities that are exposed to such risks. The Major Risks division of the Company's HSE division provides support in the application of this policy.

TotalEnergies' policy for the management of major industrial accident risks applies from the facilities design stage in order to minimize the potential impacts associated with its activities. The policy is described in the One MAESTRO reference framework. It provides for analysis of the risks related to the Company's industrial operations at each operated site subject to these risks, based on incident scenarios for which the probability of occurrence and the severity of the consequences are assessed. Based on these parameters, a prioritization matrix is used to determine whether further measures are needed. These mainly include preventive measures but can also include mitigation measures. They may be technical or organizational. These analyses are updated periodically, at least every five years, or when facilities are modified.

With regard to the design and construction of facilities, technical standards include applicable regulatory requirements and refer to industry best practices. The construction of the Company's facilities is entrusted to qualified contractors who undergo a demanding internal selection process and are monitored. In the event of a modification to a facility, the Company's rules define the management process to be adopted.

With regard to the management of operations and integrity of facilities operated by the Company, formal rules have been set out to prevent specific risks that have been identified either by means of risk analyses or from internal and industry feedback. For specific works, the preliminary risk analysis may lead to the establishment of a permit to work, the process of which, from preparation through to closure, is defined. The Company's reference framework also provides a process to manage the integrity of facilities, which includes, for example, preventive maintenance, facility inspections, identification of safety critical equipment for special monitoring, management of anomalies and downgraded situations, and regular audits. These rules are part of the One MAESTRO reference framework. Operations teams receive regular training in the management of operations in the form of companionship or in-person trainings. For example, in order to control the integrity of pipelines operated by the Company, they are subject to periodic surveys such as cathodic protection checks, ground or aerial surveillance or in line inspections. These actions are planned as part of the pipeline monitoring and maintenance programs. In areas with high human or environmental risks identified by the risk analysis, these controls and their frequency are reinforced.

PREVENTING TRANSPORT ACCIDENTS

In the field of **road transportation**, the Company has for many years adopted a policy intended to reduce the number of accidents by applying standards that are, in some cases, more stringent than certain local regulations. This policy, defined in the One MAESTRO reference framework, applies to all the Company's personnel and personnel of contractors working for Company entities. For example, it includes a ban on telephoning while driving, even with a hands-free set, a ban on using motorized two-wheeled vehicles for business travel, mandatory training for drivers, and the definition of strict technical specifications for Company vehicles (in particular, light vehicles must pass NCAP 5* tests). Additional requirements are defined depending on the level of road traffic risks in the country in question and the nature of the activity. Thus, in countries with high road traffic risks, vehicles are equipped with recorders of driving inputs and the conduct of drivers is monitored.

For **maritime and inland waterways transportation**, the process and criteria for selecting ships and barges are defined by the team in charge of vetting. These criteria take into account not only the ship or barge but also the crew, ensuring that the crew has all the qualifications and training required under the STCW (Standards of Training, Certification and Watchkeeping for Seafarers) convention. These same teams also verify the application of the safety management system defined for ships by the ISM (International Safety Management) Code of the IMO (International Maritime Organization) as well as industry recommendations such as OCIMF (Oil Companies International Marine Forum) and SIGTTO (Society of International Gas Tanker and Terminal Operators), which take into account the human factor to prevent accidents to people on board ships or barges. In addition, TotalEnergies' chartering contracts require that the crew belong to a recognized trade union affiliated to the ITF (International Transport Workers' Federation). The ITF represents the interests of transportation workers' unions in bodies that make decisions about jobs, conditions of employment or safety in the transportation sector, such as the International Labor Organization (ILO) or the International Maritime Organization (IMO).

With regard to **air transportation**, a carrier selection process exists to limit the risks relating to travel by Company and contractors' employees, if their journey is organized by TotalEnergies. This process is based on data from recognized international organizations: ICAO (International Civil Aviation Organization), IOSA (IATA Operational Safety Audit), IOGP (International Association of Oil and Gas Producers), and civil aviation authorities' recommendations. Airlines that do not have a rating from an international body are assessed by an independent body commissioned by the Company.

PREVENTING OCCUPATIONAL ACCIDENTS

TotalEnergies has a policy for **preventing occupational accidents** that applies to all employees of Subsidiaries and employees of contractors working on a site operated by one of these Subsidiaries. The safety results are monitored with the same attention for all. This policy is described in the One MAESTRO reference framework.

As part of the **policy for preventing workplace accidents**, TotalEnergies has defined rules and guidelines for HSE training, personal protective equipment and high-risk operations for employees of the Company and of the contractors working on sites operated by the Company. In order to continually move its practices forward, TotalEnergies also implements a process for analyzing accidents, irrespective of their nature, with the method used and the level of detail involved depending on the actual or potential level of severity of the event.

The Company's HSE division includes a division of specialists in high-risk operations (work at height, lifting, confined spaces, etc.) that consolidates in-house knowledge and relations with contractors, and issues the relevant One MAESTRO rules. The HSE division also includes a division aimed at providing support for Subsidiaries in their own voluntary approach to strengthen their safety culture. This division also develops and disseminates tools to improve human performance by identifying the Organizational and Human Factors of a work situation and defining appropriate measures.

PREVENTING OCCUPATIONAL HEALTH RISKS

With regard to the **prevention of occupational health risks**, the One MAESTRO framework provides that Subsidiaries of the Company identify and assess risks at the workplace in the short, medium and long term. To do this, the framework provides application guides for implementation. The analysis of these health risks relates to chemical, physical, biological, ergonomic and mental risks. This results in the roll-out of an action plan. An Industrial Health correspondent in subsidiaries is identified and tasked with implementing the policy for identifying and assessing work-related health risks. The actions are integrated into the entities' HSE action plans and can be audited as part of the One MAESTRO audits.

In general, **potential exposure to chemical or hazardous products** at a site operated by a Company entity or nearby is one of the most closely monitored risks in view of the potential consequences. New facility construction projects comply with international technical standards from the design stage in order to limit exposure. For production sites operated by a Company entity and subject to this risk, the One MAESTRO reference framework sets out the prevention process in several stages. First, hazardous products such as carcinogenic, mutagenic or toxic to reproduction (CMR) chemicals are listed and their risks identified. Second, potential exposure to levels that may present a risk to the health of personnel, contractors or local residents at the site or nearby are identified and assessed, and prevention or mitigation measures are implemented in order to control the risk. Last, the approach is checked (atmospheric checks, specific medical monitoring, audits etc.) in order to verify its effectiveness and implement improvement measures if necessary. This is also set out formally in a risk assessment file, which is revised regularly by the Subsidiary.

LIMITING THE ENVIRONMENTAL FOOTPRINT OF TotalEnergies ACTIVITIES

TotalEnergies implements a policy of avoiding, reducing and, where necessary, offsetting the environmental footprint of its operations.

Water and air protection

The Company's operations generate discharges such as smokes from combustion plants, emissions into the air from the various conversion processes and discharges of wastewater. In addition to complying with applicable legislation, TotalEnergies has drawn up rules and guidelines that the Subsidiaries can use to limit the quantities discharged. TotalEnergies has set itself targets for reducing sulfur dioxide (SO_2) emissions and is committed to limiting its hydrocarbon discharges into water. After analysis, the exposed sites can introduce various reduction systems that include organizational measures (such as using predictive models to control peaks in sulfur dioxide (SO_2) emissions based on weather forecast data and the improvement of combustion process management, etc.) and technical measures (wastewater treatment plants, using low NO_X burners and electrostatic scrubbers, etc.) All refineries controlled by the Company currently have this type of system.

For new facilities developed by the Company, the internal rules require impact assessments to be carried out and, if necessary, actions must be taken to limit the impact of these emissions.

Soil protection

The risks of soil pollution related to TotalEnergies' operations come mainly from accidental spills and waste storage. TotalEnergies has drawn up a guide that the Subsidiaries can use to prevent and contain this pollution. The recommended approach is based on four pillars:

- preventing leaks, by implementing, as far as possible, industry best practices in engineering, operations and transportation;
- carrying out maintenance at appropriate frequency to minimize the risk of leaks;
- overall monitoring of the environment to identify any soil and groundwater pollution; and
- managing any pollution from previous activities by means of containment and reduction or elimination operations.

In addition, a Company rule defines the following minimum requirements:

- systematic identification of each site's environmental and health impacts related to possible soil and groundwater contamination;
- assessment of soil and groundwater contamination based on various factors (extent of pollution inside or outside the site's boundaries, nature and concentrations of pollutants, presence of a vector that could allow the pollution to migrate, use of the land and groundwater in and around the site); and
- management of health or environmental impacts identified based on the use of the site.

Last, decommissioned facilities operated by the Company (i.e., chemical plants, service stations, mud pits or lagoons resulting from hydrocarbon extraction operations, wasteland on the site of decommissioned refinery units, etc.) impact the landscape and may, despite all the precautions taken, be sources of chronic or accidental pollution. In addition to the appropriate management of the waste associated with the dismantling and securing of sites, TotalEnergies has created a soil and groundwater depollution policy based on the assessment and management of the risks that such pollution may incur. For the sites at the end of their activity, the management of pollution is determined in accordance with regulatory obligations with an objective of continuing to control the use of the sites while favoring the possibility of redevelopment of TotalEnergies' activities (solar, reforestation, etc.) and protecting biodiversity. Remediation operations are carried out by specialized entities created by TotalEnergies.

MANAGING IMPACTS ON BIODIVERSITY AND ECOSYSTEMS DURING PROJECTS AND OPERATIONS

In 2016, the Company pledged to contribute to the success of the UN Sustainable Development Goals (SDGs), including those relating to biodiversity. In 2018, TotalEnergies signed up to the act4nature initiative promoted by the French Association of Enterprises for the Environment, now act4nature international.

In 2020, TotalEnergies set a new biodiversity ambition on the occasion of preparing for the United Nations' global biodiversity plan, which aims to protect global biodiversity and updates its public commitments concerning biodiversity. This ambition has been factored into the One MAESTRO reference framework. The core principles of this ambition are described in point 5.5.4 of chapter 5, which includes the following principles of action:

- The Company has made a commitment not to conduct any exploration activities in oil fields under sea ice in the Arctic;
- the Company has made a commitment to recognize the universal value of UNESCO's world natural heritage sites, by not conducting oil and gas exploration or production activity in these areas.
- for each new project located in an IUCN (International Union for Conservation of Nature) protected areas category I or II or a Ramsar site, the Company undertakes to implement measures to produce a net positive impact on biodiversity.

LIMITING RISKS FOR THE HEALTH AND SAFETY OF CONSUMERS

Unless certain precautions are taken, some of the petroleum or chemical products marketed by TotalEnergies pose potential consumer health and safety risks. Respecting regulatory requirements is the main measure to limit risk throughout the life cycle of these products. TotalEnergies has also defined the minimum requirements to be observed in order to market its petroleum or chemical products worldwide with the goal of reducing potential risks to consumer health and the environment. These include the identification and assessment of the risks inherent to these products and their use, as well as providing information to consumers. The material safety datasheets that accompany the petroleum and chemical products marketed by TotalEnergies (available in at least one of the languages used in the relevant country), as well as product labels, are two key sources of information.

The implementation of these requirements is monitored by teams of regulatory experts, toxicologists and ecotoxicologists within the Refining & Chemicals and Marketing & Services segments of the Company. The task of these teams is to ensure the preparation of safety documentation for the marketed petroleum and chemical products so that they correspond to the applications for which they are intended and to the applicable regulations. They therefore draw up the material safety datasheets and compliance certificates (contact with food, toys, pharmaceutical packaging, etc.) and ensure REACH[1] registration if necessary. They also monitor scientific and regulatory developments and verify the rapid implementation of new datasheets and updates within Company entities.

Governance of the process is rounded off within the business units or Subsidiaries of the Refining & Chemicals and Marketing & Services segments with the designation of a product manager who ensures compliance during the market release of his or her entity's petroleum and chemical products. The networks of product managers are coordinated by the Company's specialist teams either directly or via an intermediate regional level in the case of the Marketing & Services segment.

The safety datasheets for oil and gas produced by the Exploration & Production and Integrated Gas, Renewables & Power Subsidiaries are produced by the Marketing & Services expertise center. The compliance of the go-to-market process of these products is ensured by the Subsidiary.

For the Integrated Gas, Renewables & Power segment, the implementation of the Company's requirements for the marketing of chemical or petroleum products is carried out by each Subsidiary concerned according to its own organization.

3.6.3.5 FUNDAMENTAL PRINCIPLES OF PURCHASING

The relationship between the Company and its Suppliers is based on adhesion to the Fundamental Principles of Purchasing[2], which explain and break down the principles set forth in the Code of Conduct as they apply to suppliers.

The Fundamental Principles of Purchasing lay out the commitments that TotalEnergies expects from its suppliers in the following areas: respect for human rights at work, protection of health, safety and security, preservation of the environment, prevention of corruption, conflicts of interest and fraud, respect for competition law, as well as the promotion of economic and social development.

Subsidiaries ensure that the requirements of the Fundamental Principles of Purchasing are communicated to Suppliers and endeavor to include them in contracts or replace them with equivalent principles at the end of negotiation. These principles are also accessible to all suppliers in French and English on TotalEnergies' website.

3.6.3.6 INTERNAL CONTROL FRAMEWORK

TotalEnergies consistently ensures that an internal control framework, based on the referential of the Committee of Sponsoring Organizations of the Treadway Commission (COSO) is in place.

TotalEnergies has a reference framework that is supplemented by a series of practical recommendations and return on experience. The structure of this reference framework reflects that of TotalEnergies' organization: a Company level framework, frameworks by business segment, and a specific framework for each significant operational entity.

3.6.4 Assessment procedures

TotalEnergies has defined procedures to assess its Subsidiaries and Suppliers, including in collaboration with independent bodies, which help identify and prevent risks of impacts on human rights, health, safety and the environment. **Staff training, particularly of managers**, is the **necessary** complement to assist the Subsidiaries in the implementation of the TotalEnergies Action Principles (refer to point 3.6.5 in this chapter).

3.6.4.1 PROCEDURES FOR ASSESSING SUBSIDIARIES

HSE ASSESSMENTS

Assessment of the implementation of the HSE framework involves self-assessment by the Subsidiary and HSE audits by experts from TotalEnergies' HSE division.

Subsidiaries must undertake a **self-assessment** at least every two years.

The Audit and return on experience unit of the HSE division conducts an **HSE audit** at least every five years, according to an audit protocol. These audits deal with a set of activities and facilities governed by a single HSE management system. They address notably: management involvement, compliance with applicable rules, risk management, individual involvement at every level, relationships with suppliers present on the Subsidiary's site, skills, preparations for emergency situations, return on experience, self-assessment by the Subsidiary and the continual improvement process. The Company's HSE audit protocol is based on the One MAESTRO framework and includes the requirements of the international standards ISO 14001:2015 (environmental management) and ISO 45001:2018 (occupational health and safety management). The audit protocol is applied in full during self-assessments and according to a risk-based approach during audits. The goal is to identify potential gaps in the implementation of the rules by the Subsidiaries and to enable them to define and implement improvement actions. The progress of improvement actions is reported to management at the appropriate level in the management chain. The status of actions taken following audit observations beyond a defined severity level is reported to the business segment and HSE divisions every semester.

The HSE division defines the rule and reporting guide and ensures the implementation of the standards for the consolidation of data, provided by the Subsidiaries, related to the Company's greenhouse gas (GHG) emissions.

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(1) Registration, Evaluation, Authorization and restriction of CHemicals (REACH) EU Regulation.

(2) Saft Groupe and SunPower have defined fundamental principles of procurement specific to their activities (for example: SunPower Supplier Sustainability Guidelines).

ASSESSMENTS REGARDING HUMAN RIGHTS

The Company appoints a service provider specialized in **ethics and human rights assessments** to check the proper application in the Subsidiaries of the principles included in the Code of Conduct. These assessments include criteria relating to human rights. As part of the process, a panel of employees and external stakeholders of the Subsidiary is questioned in order to understand how its Activities are perceived locally. The content of the assessment is adapted to each Subsidiary and may address issues such as the involvement of Subsidiary management, employee awareness of the Code of Conduct, employee working conditions, supplier selection procedures, security measures taken or proactive collaboration with local stakeholders. Following the assessment, the Subsidiary defines and implements an action plan, and a monitoring procedure is put in place.

At project level, TotalEnergies conducts **human rights impact assessments** of the Company's Activities in sensitive situations (mainly based on criteria linked to the risks to human rights in each particular country) with independent organizations specialized in human rights, or in the prevention and management of conflicts between corporations and local communities. These assessments take account of the salient issues identified by the Company (refer to point 3.6.2.2 in this chapter).

Security, which is identified as a potential salient risk in the map of the risks of impacts on human rights, is subject to **risk assessment processes** at an entity and project level. The Security division is notably tasked with ensuring the implementation of TotalEnergies' commitments to enforce the Voluntary Principles on Security and Human Rights (VPSHR), a multi-stakeholder initiative that TotalEnergies joined in 2012, involving governments, companies and associations, that addresses relations with government or private security forces. As part of this process, the Subsidiary undertakes an assessment of risks in relation to both security and human rights. In addition, a VPSHR self-diagnostic tool has been developed to enable Subsidiaries to assess their own implementation of the VPSHR and to identify areas of improvement. This tool measures the Subsidiary's commitment to VPSHR, personnel training and relations with government security forces and private security companies.

Finally, an **annual self-assessment questionnaire** enables the Subsidiaries in the One MAESTRO scope to evaluate the degree of deployment of the **societal initiative** on the ground. Actions involving dialogue, impact management and the contribution to socioeconomic and cultural development are recorded and analyzed.

3.6.4.2 PROCEDURES FOR ASSESSING SUPPLIERS

With respect to Suppliers, a risk mapping related to procurement, by category of goods and services, was established in 2012 on the basis of questionnaires completed by the managers of each procurement category. This risk mapping is periodically reviewed. **Qualification procedures for Suppliers** of goods and services have been harmonized at Company level[1]. An internal framework was published in 2018. The qualification process includes a review of human rights at work, environment and health and safety. A risk analysis is carried out for each Supplier, followed where deemed necessary by a detailed assessment. The detailed assessment includes questionnaires on each of the aforementioned issues and, if needed, results in an action plan, a technical inspection of the site by employees or an audit of working conditions carried out by a consultant. An IT qualification tool has been in place since 2019 and is being gradually deployed, initially targeting significant entities.

In parallel, TotalEnergies has put in place a **Supplier assessment** procedure with a view to identifying and preventing risks of severe impacts on human rights and fundamental freedoms, and people's health and safety. The Company periodically audits Suppliers to assess working conditions during the life of the contract. A targeted annual audit plan is defined every year and includes Suppliers at risk with respect to human rights with the objective of auditing strategic Suppliers as well as Suppliers at risk every three years.

At the Subsidiary level, this qualification process may be complemented by **specific verifications of compliance with the VPSHR** by a Supplier. When private security companies are used to protect a Subsidiary, preliminary checks are made. They include a review of the recruitment process, technical and professional training (notably on the local context, the use of force and the respect for the rights of individuals), working conditions and the company's reputation. In addition, the proposed Supplier's employees are screened for previous conviction or implication in human rights violations.

Where deemed necessary in certain contexts such as palm oil or vetting, dedicated teams may be set up to conduct the qualification process.

The unit put in place in the Company for the selection of **suppliers of palm oil** seeks to ensure that the palm oil purchased is certified sustainable in accordance with the criteria required by the European Union (ISCC EU certification). These criteria include a review of carbon footprint, the preservation of forests, good use of land and respect for human rights. In addition to this mandatory certification, suppliers must have signed the Fundamental Principles of Purchasing and be members of the Roundtable on Sustainable Palm Oil (RSPO). TotalEnergies is committed to ceasing its palm oil supplies in 2023.

The **Vetting department of Trading & Shipping** defines and applies the selection criteria for the tankers and barges used to transport the Company's liquid petroleum or chemical and gas products. This review aims notably at ascertaining the proposed Supplier's technical qualities relative to internationally recognized industry practices, the crews' experience, and the quality of the shipowners' technical management. A green light from the Vetting department, granted strictly on the basis of technical data and independently of business considerations, is required for all ships and barges chartered by a Subsidiary, third parties transporting cargo belonging to TotalEnergies, or ships and barges that stop over at a terminal operated by a Subsidiary. Audits of shipowners also allows the Company to assess the quality of the technical management systems implemented by operators, crew selection and training, as well as the support provided to vessels.

TotalEnergies is actively involved in the Ship Inspection Report Program (SIRE), which was set up by the Oil Companies International Marine Forum (OCIMF) to allow the sharing of inspection reports amongst international oil and gas companies, thus contributing to the continuous improvement of safety in oil and gas shipping.

Last, since 2012, a large-scale inspection program of road transportation contractors has also been rolled out by Marketing & Services, the segment with the most road transportation within the Company, with the delivery of products to service stations and consumers. This program has been extended to the product transportation activities of the Polymers division of the Refining-Chemicals segment, to the liquid sulfur transportation activities of the Integrated Gas, Renewables & Power segment, and is being progressively extended to the Exploration-Production segment. It calls on independent transportation experts who inspect the practices and processes adopted by transportation contractors with regard to the recruitment and training of drivers, vehicle inspections and maintenance, route management, and the HSE management system. After inspection, an action plan is adopted. If there is a serious shortcoming or repeated poor results, the freight company may be excluded from the list of approved transportation contractors.

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(1) Crude oil and petroleum product purchasing by Trading & Shipping, gas and electricity purchasing by the subsidiary TotalEnergies Gas & Power Ltd, and the purchasing made by the subsidiaries Hutchinson, Saft Groupe and SunPower are subject to supplier qualification processes specific to their organizations.

3.6.5 Actions to mitigate risks and prevent severe impacts

Specific actions are taken to mitigate risks and prevent severe impacts, drawing mainly on the Action Principles and assessments described above.

They are also based on return on experience from HSE incidents and include training of TotalEnergies employees, programs to raise the awareness of Suppliers, as well as measures to manage emergency and crisis situations.

With respect to climate, which is a global risk for the planet resulting from all human activities, the Company has structured its approach in order to integrate climate challenges into its strategy and has defined specific objectives within different timeframes, in order to control and reduce the GHG emissions resulting from its Activities (Scope 1+2). These are reported in section 3.6.8.4 of this chapter.

3.6.5.1 RETURN ON EXPERIENCE

The Company implements a process for the analysis of accidents, irrespective of their nature, with the method used and the level of detail involved depending on the actual or potential level of severity of the event.

A return on experience may include an analysis of the incident including of its severity and result in communication to the relevant stakeholders or a wider population within the Company. The purpose of sharing return on experience is to ensure that Subsidiaries are informed and share lessons learned from the incident.

By way of example, a near-miss with a high severity potential undergoes an analysis similar to that of a severe accident. This analysis is considered an essential factor of progress. Depending on its relevance to the other TotalEnergies entities, it may trigger a safety alert and the communication of a formal return on experience. More generally, the corporate culture encourages formal and informal return on experience on all matters relevant to the Vigilance Plan.

3.6.5.2 AWARENESS-RAISING AND TRAINING OF TotalEnergies EMPLOYEES

The Company has a variety of communication and information channels in place, enabling all employees of TotalEnergies SE and its Subsidiaries to have access to the Action Principles defined by the Company in relation to human rights, health, safety and the environment.

Each employee receives a copy of the **Code of Conduct** to raise awareness of the Company's values, including safety and respect for others, which includes respect for human rights. The Code of Conduct is also available on the TotalEnergies website in twenty languages. Every new employee is required to read the Code of Conduct (and must certify to having done so). The TotalEnergies induction day includes an initiation to ethics and human rights and an online training on the challenges of business ethics is also available.

HSE training courses, incorporating on-line educational programs as well as technical training tailored to the various Activities, are offered to all Company employees. Programs dedicated to health, safety and the environment are deployed. They may be general or specific to a type of activity or subject area. By way of illustration, the general training depends on the participant's level of responsibility and experience in the Company: *HSE Leadership for Group Senior Executives*, *HSE training for managers*, and training for new recruits.

These training courses include since 2020 training actions related to climate challenges dedicated to all Company employees. A specific module is dedicated to Company senior executives and managers.

In the Subsidiaries as well as head office, teams regularly engage in crisis management exercises, the scenarios of which are based on potential incidents identified in the risk analysis. Dedicated training (initial and refresher training) also contributes to preparing employees for potential crises including in relation to the various roles played by members of the crisis team (for example crisis team leader, liaison with operations, experts and communicators etc.).

Training programs dedicated to human rights have been set up for senior executives, site directors and employees most exposed to these issues. Awareness-raising sessions are organized regularly for employees, for example as part of ethical assessments of Subsidiaries.

The Human Rights department is developing a training plan for Company employees to encourage understanding of issues relating to human rights and thereby better manage the associated risks. This training plan is rolled out as a priority among employees who are most exposed to human rights risks.

Specific training modules explaining TotalEnergies' ethical commitments and the Fundamental Principles of Purchasing have also been developed for the Company's procurement teams.

Every year, the Security division organizes a **training session on the VPSHR** for security managers in the Subsidiaries. Local visits are also organized to deliver in-person training in the Subsidiaries.

Internal channels of communication, such as **intranet** websites accessible to most employees, are also used to **raise employee awareness** of matters pertaining to human rights. Dedicated web pages on ethics and the respect for human rights present the priority areas identified by TotalEnergies. These web pages have several goals: to explain the Action Principles, present how TotalEnergies implements these principles and to help employees adopt the ethical conduct expected of them in their everyday work.

Events such as the annual ***Business Ethics Day*** are used to raise awareness among employees of TotalEnergies SE and its Subsidiaries.

A **Guide to Human Rights** is also made available to employees and stakeholders. Its goal is to raise TotalEnergies employees' awareness on issues relating to human rights in its industry (at work, with local communities and in relation to security) and it provides guidance as to the appropriate behavior to adopt in their activities and relationships with stakeholders. It includes case studies, specifically on Myanmar, Uganda and the Democratic Republic of the Congo. This guide serves as a reminder of the Company's commitments in relation to human rights. It offers proposed answers to common questions and concerns about human rights, notably child labor, forced labor, discriminatory practices and collective negotiations.

The **Practical guide to dealing with religious questions**, published in 2017, aims to provide practical solutions to issues raised by Company employees and managers worldwide. It draws on the experiences of the business segments in various countries and encourages dialogue, respect and listening as a way to find solutions suited to the local context. Many internal and external experts contributed to this document, including representatives of various religious communities. This guide has been translated into ten languages. It is available on the intranet and is also distributed at training courses.

The HSE Division organizes the Company's **World Safety Day** and **World Environment Day** in order to bring teams on board and raise their awareness of ways of implementing the Action Principles. Various **HSE guides** exist within the One MAESTRO reference framework to share HSE best practices with the Company's Subsidiaries. In addition, periodic HSE communications are published throughout the year (seminars, webinars, symposia, intranet). Safety culture is reinforced on a day-to-day basis by the Company's employees through safety moments at the beginning of meetings or before hazardous operations, consisting of a short discussion to reiterate the key safety messages and align participants with mutual commitments. A similar approach is being deployed to introduce sustainability moments.

3.6.5.3 AWARENESS-RAISING AND TRAINING OF SUPPLIERS

The **Fundamental principles of purchasing** constitute a contractual commitment by Suppliers and are also a means to raise awareness among Suppliers, notably on HSE and human rights issues. They are communicated to Suppliers at the time of their integration in the Supplier database. A brochure explaining these principles in detail is also handed out to Suppliers at annual meetings or events such as *Suppliers Day*. The Fundamental Principles of Purchasing are also available on the TotalEnergies website.

Training actions are also carried out for Suppliers, for example **training on responsible security and the VPSHR** delivered to employees of security service providers. Contracts with these service providers mention compliance with the VPSHR and the need to train their personnel about the VPSHR. Additionally, the Security division may deliver this training directly to security service providers.

Suppliers working on Subsidiary sites are made aware of the risks to health, safety and the environment of the activities of the site. They receive support in the management of risks related to their activities, those of the site and any potential interactions, such as in the work permit process or during site safety inspections.

3.6.5.4 RESPONSES TO EMERGENCY OR CRISIS SITUATIONS

Crisis management is organized to ensure sufficient preparedness and an efficient response to a crisis or emergency event.

In order to manage any major industrial accident efficiently, TotalEnergies has implemented a global crisis management system, based notably on a 24/7 on-call system, a set of unified procedures deployed in the Subsidiaries and on a dedicated crisis management center that makes it possible to manage two simultaneous crises from head office. The framework requires Subsidiaries to have in place plans and procedures for interventions in the event of leaks, fires or explosions and to test them at regular intervals.

3.6.6 Whistle-blowing mechanisms

TotalEnergies has several whistle-blowing mechanisms that are open **to employees, Suppliers and third parties**.

To support employees on a day-to-day basis, the Company encourages a climate of dialogue and trust enabling individuals to express their opinions and concerns. Employees can turn to their line manager, an HR or other manager, their Compliance Officer or their Ethics Officer.

The Company's employees, Suppliers, as well as any other stakeholder can contact the **Ethics Committee** to ask questions or report any incident involving a risk of non-compliance with the Code of Conduct by using a generic email address (ethics@total.com). This system was set up in 2008, in cooperation with TotalEnergies trade unions organizations on a European level. The Ethics Committee is a central structure, in which all business segments of TotalEnergies are represented. All its members are TotalEnergies employees with a good knowledge of its Activities and have demonstrated the independence and impartiality necessary for the performance of their duties. The Ethics Committee assures compliance with the Code of Conduct and ensures its proper implementation. It is assisted in its work by the relevant departments, as well as by a network of local Ethics Officers. The Chairperson of the Ethics Commitee, who reports to the Chairman and Chief Executive Officer of TotalEnergies SE, submits an annual Ethics report to the Governance and Ethics Committee of the Board of Directors. The members of the Ethics Committee are subject to a confidentiality obligation. The Committee ensures the confidentiality of the complaints, which can only be lifted with the agreement of the complainant. The system is supplemented by specific whistle-blowing mechanisms implemented at certain Subsidiaries.

Suppliers can also contact the **internal supplier mediator** using a generic email address (mediation.fournisseurs@totalenergies.com). Available to Suppliers and procurement teams, the mediator's role is to restore dialogue and help find solutions.

Based on the United Nations Guiding Principles on Business & Human Rights, the One MAESTRO framework requires TotalEnergies' operational entities to deploy procedures to **manage stakeholder grievances** related to the Subsidiary's activities (excluding business claims). This provides residents and local communities with a preferential channel to voice their concerns and grievances. Handling these grievances locally makes it possible to offer a response to anyone who feels that they have been negatively affected by the Activities and to improve internal processes in order to reduce impacts that may be caused by the Activities. Managing grievances consists of: informing the stakeholders of this free process; receiving and registering grievances; acknowledging receipt of the grievances and informing the stakeholders about the follow-up actions; if necessary, proposing a means of settling the grievances in collaboration with the stakeholders and monitoring the handling of the grievance. This process is regularly analyzed to see where improvements can be made.

These mechanisms can also be used to implement the **VPSHR**. In addition, **in the event of an incident, a reporting process** requires the Security division to be informed and an internal analysis to be performed to establish the facts, resulting in a final report. This allows the Subsidiary to re-assess its VPSHR process and to take measures to reduce the risk of incidents.

3.6.7 Monitoring procedures

Multi-disciplinary committees review the implementation of measures within their purview. Indicators are used to measure the effectiveness of the measures, progress made and to identify ways of improvement.

COMMITTEES

The **Ethics Committee** is particularly involved in monitoring compliance with the Code of Conduct and can be called upon for advice on its implementation.

The **Human Rights Steering Committee** is made up of representatives from different divisions (including security, procurement and societal) and business segments. It is chaired by the head of TotalEnergies' Sustainability & Climate division. It meets four times a year to coordinate the actions on human rights taken by the business segments and the Subsidiaries, as part of the implementation of the human rights road map submitted to the Executive Committee. All Country Chairs contribute to this monitoring process, notably by acting as the local point of contact for the Security division with respect to compliance with the VPSHR.

Representatives of the Management Committee of TotalEnergies Global Procurement and of the Sustainability & Climate, HSE and Legal divisions as well as of the Ethics Committee meet at least once a year within the **Sustainable Procurement Committee**, which monitors the effective implementation of the Responsible Procurement road map.

The **HSE division** has set up cross-functional committees of experts, including in the fields of safety, the environment and crisis management, and monitors the ongoing coordination of HSE issues.

REPORTING

The system of internal reporting and indicators for monitoring implementation of the actions undertaken in TotalEnergies in these areas is based on:

- for social indicators (including health in particular), a guide entitled the Corporate Social Reporting Protocol and Methodology;
- for safety indicators, a Company rule regarding HSE event and statistical reporting; a return on experience analysis process identifies, notably, events for which a formalized analysis report is required in order to draw lessons in terms of design and operation; and
- for environmental indicators, a Company reporting procedure, together with activity-specific instructions.

Consolidated objectives are defined for each key indicator and reviewed annually. The business segments apply these indicators as appropriate to their area of responsibility, analyze the results and set out a plan of action.

3.6.8 Implementation report(1)

3.6.8.1 HUMAN RIGHTS

This section is primarily intended to present implementation of measures with respect to Subsidiaries, while the implementation of measures specific to Suppliers is described at point 3.6.8.5 of this chapter.

SUBSIDIARY ASSESSMENTS

TotalEnergies conducts assessments and impact assessments of various kinds:

- Ethics and human rights assessments of Subsidiaries, in particular regarding the working conditions of TotalEnergies employees;
- Impact assessments to analyze the challenges and the societal context of industrial projects, supplemented, if necessary, by specific impact assessments on human rights;
- Subsidiary self-assessments.

Ethics and human rights assessments

Assessed entities are identified according to several criteria, including the level of risk of human rights violation in each country, the number of alerts received the previous year and the date of the Subsidiary's last assessment. These assessments help identify Subsidiaries' best practices, share them within the Company and identify areas for improvement. Knowledge and appropriation of the Code of Conduct are tested and reinforced by ethics and human rights awareness-raising sessions. Employees are encouraged to voice their ethical concerns in a confidential manner and report behaviors potentially contrary to the Code of Conduct.

In 2021, in the context of the COVID-19 pandemic, two ethics and human rights assessments were conducted. They concerned two Subsidiaries with a total of 517 employees (in Kenya and Poland). These assessments confirmed that the Code of Conduct has been taken on board by employees.

Action plans implemented following the assessments carried out in 2019 and 2020 in Subsidiaries in Brazil, Cameroon, Egypt, Nigeria, Madagascar and Russia (Vostok) were followed up in 2020 and 2021. It is planned to follow up the action plan for the Pau site (France) in 2022.

Impact assessments of industrial projects

When the decision is taken to develop a project, a detailed **baseline study is conducted** to identify in advance the stakeholders potentially affected, describe the local context and assess the main socio-economic and cultural stakes (risks and opportunities) in the affected area. A **societal impact assessment** is then conducted to evaluate and analyze the opportunities and direct, indirect or cumulative risks of the project in the short, medium and long term. In 2021, 103 of these studies were launched or carried out in the Integrated Gas, Renewables & Power segment (compared to 50 in 2020) and 13 in Exploration & Production (as in 2020).

In addition to these impact assessments, **specific human rights impact assessments** may also be conducted in high-risk areas or conflict zones with the support of independent experts.

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(1) In accordance with Article L.225-102-4 of the French Commercial Code, the report on the effective implementation of the Vigilance Plan is presented below. Since the identification of risks and the prevention of severe impacts on human rights, human health and safety and the environment overlap partially with certain risks covered in the non-financial performance statement (refer to chapter 5), TotalEnergies has chosen to report below on the implementation of its Vigilance Plan by incorporating certain aspects of its non-financial performance statement although the latter includes risks of varying degrees.

Example: Tilenga and EACOP projects, Uganda and Tanzania

In preparation for the final investment decision of the Lake Albert development which includes the Tilenga upstream oil project (operated by TotalEnergies EP Uganda) and the construction of the East African Crude Oil Pipeline (EACOP) in Uganda and Tanzania (in which TotalEnergies Holdings EACOP is a major shareholder) TotalEnergies has been active in ensuring that environmental stakes are taken into consideration, as well as the rights of concerned communities, in accordance with the stringent performance standards of the International Finance Corporation (IFC).

Transparency

In accordance with its guiding principle of transparency in engaging with civil society, since March 2021 TotalEnergies publishes studies, independent third-party reviews and social and environmental action plans related to both the Tilenga and EACOP projects. Such independent reviews help ensure that the projects are carried out in compliance with good international industry practices. Alongside the ongoing dialogue with the local communities, these reviews also allow potential improvements to be identified.

Human Rights Impact Assessment

In order to address the potential human rights impact of the projects, TotalEnergies launched a human rights risks and impact assessment in 2016 through societal and environmental impact assessments. These assessments were approved by the authorities in 2019 for Tilenga and the Tanzanian part of EACOP, and in 2021 for its Ugandan part. Based on the recommendations of these reports, TotalEnergies has decided to conduct specific human rights impact assessments in parallel with the approval process of the societal and environmental impact assessments. The specific human rights impact assessment for EACOP was published in September 2018. The Tilenga specific HRIA was carried out in 2021 and will be published in 2022.

The findings of the assessments and the implementation of the mitigation measures identified have been discussed with national and international NGOs and their comments were taken into consideration. For example, as a result of dialogue in the EACOP project, a scope of work has been developed and a call for tender process is in place to have a dedicated Gender Impact Assessment carried out.

Stakeholder Engagement

Regular Stakeholder Engagement occurs with the full spectrum of Project Stakeholders including Ugandan and Tanzanian local, national and regional governmental authorities; Project-affected Communities (PACs) and Project Affected People (PAPs)(1) ; traditional and religious authorities; local businesses and tourism operators; developers of associated facilities; CSOs and NGOs; academic and research organizations; and Intergovernmental organizations. A variety of methods and tools are used for such engagement including: village meetings, small group meetings, focus group discussions, one to one meetings, site visits and tours, alternative medium such as community drives etc. Engagement is supported by disclosure materials adapted to the audience including a range of written and visual material, traditional media including community radio, telecommunications and websites.

A field-based stakeholder engagement team including community relations and community liaison officers are present on the sites and are in dialogue with local communities and have developed strong relations with local government, civil society and community representatives, acting as a “bridge” between the project and communities.

In July 2021, TotalEnergies EP Uganda has further developed its organisation, creating a NGO & Human Rights Department to establish closer and more direct relationships with NGOs, and supervise human rights issues arising from TotalEnergies EP Uganda’s activities.

In Uganda, TotalEnergies has maintained for several years relations with the Coalition of Civil Society Organization - a network of over 60 Ugandan NGOs whose objective is to work towards the sustainable governance of oil and gas resources to maximize benefits to the people of Uganda. In addition, bilateral meetings are regularly conducted with civil society organizations and an innovative series of webinars known as “Let’s Talk!” has been launched providing a deep dive into topics of interest for civil society. For example, a session was held in November 2021 on the Tilenga project biodiversity survey and monitoring programme. Such webinars are followed by a written bulletin summarizing issues discussed as well as links to materials and further information.

In Tanzania, the Project meets with NGOs on a quarterly basis to present project progress. The Project team is working with communities and traditional leaders of Vulnerable Ethnic Groups self-identifying as Indigenous Peoples. Three Tanzanian NGOs have been supporting this work for more than one year. They have assisted at quarterly workshops with the traditional leaderships of the groups and are assisting with the development of community profiles for all of those communities directly impacted by the Project.

Since 2013, the Tilenga and EACOP projects have formed an independent Biodiversity and Livelihood Advisory Committee, composed of independent experts from various national and international organizations (WCS, Wetlands International, CIRAD…), whose objective is to help identify improvements or useful additional mitigations. In addition, a dialogue was initiated in 2020 with representatives of the International Union for Conservation of Nature (IUCN), concerning in particular the impacts of the Tilenga project on primate habitats and measures to mitigate these impacts.

Land Acquisition

The land acquisition processes for both projects are carried out in compliance with the IFC Performance Standards.

The land acquisition program for the Tilenga project is well advanced. The compensation process for the first tranche of land acquisition, known as “Resettlement Action Plan 1 (RAP1)” concerning 622 PAPs has been completed. Deployment of the program for RAPs 2 through 5, concerning 4,901 PAPs, began in March 2021. Improvements in implementation of the land acquisition process have been integrated into procedures for RAPs 2 to 5. As an example, it appeared to TotalEnergies EP Uganda that there may have been some misunderstanding about the cut-off date for some PAPs in RAP1.

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(1) A PAP (Project Affected Person) corresponds to a group of individuals forming a household or an entity (institution, company) which has been identified, within the framework of the studies carried out for the program of acquisition of the land necessary for the execution of the project. project, as having at least one asset impacted by the implementation of the project. An asset can be a dwelling, a construction, a plot of bare or cultivated land, plants, trees, crops.

TotalEnergies EP Uganda has reinforced information provided to communities in the implementation of RAPs 2 to 5 to ensure that PAPs understand that they may continue to cultivate their land until they have received their notice to vacate following compensation. Transitional food support assistance is offered as it is anticipated that certain PAPs may miss a planting season due to the resettlement process.

For the EACOP project, ten RAPS have been developed, one for Uganda and nine for Tanzania. The Priority Areas correspond to land for the construction camps and key sites that will be used for the project's initial operations in the country. RAP implementation activities include entitlement briefings (explanation of compensation options), signature of compensation agreements, payment of compensation, handover of replacement land, transitional support services delivery (food packages), and initial livelihood restoration activities (agricultural programmes aimed at ensuring or increasing food security, support for livestock and enterprise development) and replacement housing construction. The project has completed the acquisition process for land in the Priority Areas in Tanzania which concerns around 350 PAPs who have now been resettled and have received the foreseen compensation, transitional support is being delivered and livelihood restoration programs have commenced.

Due to delays in government approvals and signature of final project agreements, PAPs experienced a significant delay between valuation of assets and the signature of land acquisition contracts. In addition, the timetable for implementation was impacted by the COVID-19 pandemic and its related constraints (lockdown and limits on travel, notably between regions). To account for these delays, the Tilenga project decided to apply an uplift of additional financial compensation of 15% per year for the period between valuation of the inventory and payment. Delays have also been taken into account on the EACOP project where in Uganda the 15% uplift has been applied and in Tanzania interest has been applied in line with Tanzanian legal requirements and an uplift has been applied based on market research to establish full replacement value for land and structures, and an inflation uplift for crops and trees for the period of delay.

Livelihood restoration programs will be implemented for at least three years after land acquisition or until livelihoods are fully restored. During this period, as set out in the RAPs continuous socioeconomic monitoring of the impacted populations will be conducted to ensure that their medium-term living standards are not impacted.

VPHSR and Human Rights Defenders

The Company's approach to human rights due diligence in relation to security is through the continuous implementation of VPSHR. Security supervisors have been appointed to oversee daily security activities and constant dialogue occurs through regular meetings. In 2021, TotalEnergies EP Uganda conducted 26 VPHSR trainings sessions and a total of 123 Government Security Force members and 349 Private Security Company guards were trained during the year.

Some NGOs have raised concerns about a reduction in civic space in both Uganda and Tanzania especially in the area of the Lake Albert Development Projects. TotalEnergies EP Uganda is clear that it does not tolerate or contribute to attacks, or physical or legal threats, against those who safely and lawfully exercise their right to freedom of expression, peacefully protest or assemble.

Two concrete examples are representative of TotalEnergies EP Uganda's approach:

On May 25, 2021, TotalEnergies EP Uganda was alerted by a non-governmental organization that police detentions of a journalist and a Human Rights Defender had occurred near Buliisa, Uganda.

TotalEnergies EP Uganda was informed that prior to their detention these individuals were carrying out investigative research in proximity to the Tilenga project area. Following the non-governmental organization's request for support TotalEnergies EP Uganda took immediate action by contacting the relevant officials in order to insist on the need to respect the Human Rights of the persons detained. The UN Office of the High Commissioner for Human Rights (OHCHR) in Uganda was also informed. On May 28, 2021, the Chairman and Chief Executive Officer of TotalEnergies SE wrote a letter to the President of the Republic of Uganda to share his concerns on this issue and request that the rights of the concerned individuals be respected. He emphasized the importance that TotalEnergies places on freedom of speech and open dialogue with stakeholders. A response was provided by the President of the Republic of Uganda, which made it possible to establish a process of communication with the Ugandan authorities to facilitate the activities of representatives of NGOs and the media wishing to work on the Tilenga and EACOP projects, in compliance with the Ugandan law.

More generally, TotalEnergies EP Uganda is proactive in this area and regularly takes opportunities to discuss and promote the rights of Human Rights Defenders during its dialogue with Government, petroleum authorities and the police. In its contacts with all level of the authorities, it freely discusses with the authorities the importance of freedom of expression and the essential role that NGOs and Human Rights Defenders play in upholding rights and ensuring constructive dialogue and an open civic space.

A second example also occurred in May 2021 when a road was blocked by community members who wished to protest in relation to a pending court case in Masindi district related to a land disputes on ownership rights.

By law in Uganda, where persons wish to demonstrate, they are required to notify the local police due to restrictions on public gatherings under the Public Order Management Act. Under this act, the police are given discretion to allow or refuse public gatherings. Thus prior to public gatherings, demonstrators must write to the police notifying them of the purpose, date, time and venue of the gathering.

To facilitate the peaceful course of the demonstration, the Subsidiary's security was informed that this demonstration was likely to be held. Thanks to the prior development of a trusting and strong collaboration TotalEnergies EP Uganda was able to work with Government security forces and private security companies to insist on respectful management of the demonstration. De-escalation measures were prepared to ensure that protestors voices could be heard. A constructive dialogue took place which included TotalEnergies EP Uganda's community liaison officers and the demonstration ended peacefully.

Community grievance mechanisms

Community grievance mechanisms in line with the United Nations guiding principles on business and human rights effectiveness criteria have been put in place to receive and respond to community concerns and complaints including those of PAPs. There are a variety of access points to present grievances which include a local office manned daily, a toll free number, an email address and the possibility to address grievances to traditional and district government who relay such information to the project teams. Concerns and grievances are registered by a community liaison officers and the complainants receive a copy of the grievance form. The mechanisms have four main steps: receipt and acknowledge; register, assess and assign; investigate and respond and close out.

Grievances are recorded in a register. Where possible they are resolved within 24 hours but for more complex cases, the process has four levels of escalation. Where necessary external stakeholders and independent third parties assist in finding solutions for complex and sensitive cases.

Example: Mozambique LNG Project

TotalEnergies EP Mozambique Area 1 (TEPMA1) has held since 2019 a participation of 26.5%(1) and is the operator of the Mozambique LNG Area 1 project. It is the first onshore development of a liquefied natural gas (LNG) plant in the country located on the Afungi Peninsula in the Cabo Delgado province.

The project faces significant social challenges with: the displacement of households cultivating lands within the area of construction of the LNG facilities (7,000 ha), which was underway when project activities were suspended in April 2021 (see below), as well as impact on fishers' economy due to the establishment of a Marine Exclusion Zone.

Local security situation

Incidentally, the Cabo Delgado province has experienced the surge of a "terrorist" movement leading to attacks against villages and large towns and causing the displacement of hundreds of thousands of people.

After taking the town of Mocimbao do Praia, in the summer of 2020, located about 80 kilometers from the project site, the terrorist movement conducted attacks in the northeast Cabo Delgado Province by attacking populations. This situation reached a peak with the attack of the town of Palma located 6km away from the Afungi site on March 24th 2021. The intensity and duration of the attack prompted the evacuation of personnel from the site. This situation led TEPMA1 to declare force majeure. Since July 2021, the Mozambican government took military assistance from external partners (Southern African Development Community and Rwandese forces) to retake security control of Cabo Delgado.

Human rights due diligence and Human rights policy

Respect for human rights is a commitment and continuous focal area for TEPMA1 throughout the project.

A Human Rights Impact Assessment had been conducted in 2015 for the project which was then operated by Anadarko.

To update that assessment and complete it with assessments on the Voluntary Principles on Security and Human Rights (VPSHR) and social performance, a human rights due diligence was conducted in 2020 by LKL International Consulting. The due diligence resulted in an action plan addressing the following salient issues: Security (Community security and Interaction with public security providers), Resettlement, Women's rights and gender equity, Workers' rights (Freedom of association), Information and consultation, Community health and safety, Project-induced in-migration (PIIM), Access to remedy.

TEPMA1 formalized the learnings from these studies and its approach regarding human rights by adopting its Human Rights Policy in March 2021.

The due diligence report, the action plan and the human rights policy have been made available at the project's website.

VPSRH implementation

TEPMA1 as operator of Area 1, and MRV, the operator of a LNG project located in another area designated as "Area 4" have signed a Security Memorandum Of Understanding (MOU), in March 2019, amended in July 2020, with the Mozambican Ministry of National Defense (MDN) and Ministry of the Interior (MINT). The MOU provides for the deployment of police and army personnel together designated as the Joint Task Force (JTF), and their logistical support with the aim of ensuring the security of Project operations and workforce and the communities residing in the broader project area of operations. The MOU requires adherence to key human rights guidelines including the VPSHR.

Despite the aggravation of the security situation and the suspension of the activities since April 2021, implementing the VPSHR remains a priority for TEPMA1. VPSHR training sessions have been systematically conducted for all JTF officers deployed to site. In 2021, 1,027 officers were trained by qualified personnel from the project's security team. To improve the sustainability and the ownership of the training courses, an intensive Train-the-Trainers session was also delivered by an accredited international expert (Watchman) to 16 of the JTF commanders in June 2021. The commanders left the course with a practical kit to be used in an operational context, which has since enabled 716 members of the JTF to be trained. Consequently, the members of the JTF can now be trained directly by their superiors. A new Train-the-Trainers session is planned in 2022.

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(1) TEPMA1, operator, holds a share of 26.5% in the Mozambique LNG Area 1 project, and partners with ENH Rovuma Area Um. S.A. (15%), Mitsui E&P Mozambique Area1 Ltd. (20%), ONGC Videsh Ltd. (10%), Beas Rovuma Energy Mozambique Limited (10%), BPRL Ventures Mozambique B.V. (10%), and PTTEP Mozambique Area 1 Limited (8.5%).

In parallel, since June 2021 and in close cooperation with the project, the JTF command has appointed six officers in charge of relations with the local communities, involved in humanitarian and social activities. These efforts aim to build trust between local communities and the JTF, thereby contributing to a better resolution of any potential disputes.

Finally, TEPMA1 is also involved in the promotion of VPSHR at national level. TEPMA1 organized and sponsored a VPSHR awareness-raising day for 35 representatives of the civil society and the government in June 2021 and contributes to the national VPs Working Group created in November 2021.

VPSHR incident resolution

TEPMA1 has implemented a community grievance mechanism, managed remotely, supported notably by a 24h-toll-free telephone line to address any concerns or incidents.

When JTF-related incidents are reported, they are immediately investigated by TEPMA1, and referred to the JTF command for additional investigation and appropriate resolution.

In 2021, 18 grievances were raised against the JTF. Among those, 11 were investigation-confirmed VPSHR incidents (61%); they have been referred to the JTF command and were then monitored and, where needed, commented upon with that command to ensure their proper management. Also, one case was not a VPSHR incident (lawful detention of a suspected insurgent by security forces). Finally, on 6 occasions, the elements resulting from the investigations did not indicate conclusively whether the allegation was founded or not.

A monthly reporting is provided to the representatives of the Parties of the MOU and the VPSHR situation is regularly discussed with ministry authorities. VPSHR monitoring is the subject of constant attention of TEPMA1 which takes measures to preserve the confidentiality of complainants. Monthly meetings are organized with the Ministries of Defense and Interior, in particular to review the implementation of the VPSHR. In addition, TEPMA 1 monitors VPSHR incidents on a case-by-case basis by alerting and communicating directly with the authorities and taking the appropriate measures.

Catalisa project with Communities

Despite the sanitary and security context and the suspension of the Project, TEPMA1 has maintained and adapted the Catalisa project for communities as part of TotalEnergies' willingness to contribute to restoration of social life in Cabo Delgado.

The Catalisa project is creating new opportunities for producers and youth in Cabo Delgado, through inclusive, private sector-led economic development. In the 5-year period (2018-2022), Catalisa project is working on agribusiness development to increase local investment in the horticulture and poultry value chains, and in employment opportunities for young people aimed at training them for formal employment or becoming entrepreneurs. Over the year 2021, the program supported 126 active farmers under horticulture program and, 20 youth were placed in full time jobs, 11 in part time jobs, and 8 previous Business Plan Competition (BPC) winners were refinanced to start their businesses again.

Information is available on the Catalisa project website.

Subsidiary self-assessment

In addition to Subsidiary and industrial project assessments, two types of **Subsidiary self-assessment** should be noted.

Regarding the implementation of **VPSHR**, the self-assessment and risk analysis tools were updated and made available on a secure digital platform in 2020. In 2021, these tools were deployed to Subsidiaries in 101 countries with a response rate of 87%.This evolution allowed the completion of their deployment within the countries in which the Company operates, as well as the strengthening of monitoring and increased traceability of results.

With regard to the implementation of the **societal approach**, the Subsidiaries must carry out an annual self-assessment in this area and internal *reporting* to identify the societal actions carried out locally. These self-assessments are analyzed by the HSE division in order to adapt the support it provides to Subsidiaries (offers of training, assistance). In 2021, more than 96% of the Subsidiaries within the One MAESTRO perimeter had completed their self-assessment.

ACTIONS TO MITIGATE RISKS AND PREVENT IMPACTS

TotalEnergies has numerous tools for **raising employee awareness** of issues related to human rights. The Company held **training courses tailored to the challenges faced in the field** by employees who are particularly exposed to these issues.

In 2021, several training sessions were held as part of the implementation of the Human Rights training plan:

For all employees:

- An online module on human rights in the workplace with a focus on respecting the ILO's core conventions has been accessible to all Company employees since 2019 in all countries in which the Company operates. It is available in five languages. More than 35,000 management-level employees had taken this module at year-end 2021;
- The deployment of the series of conferences on non-discrimination in the workplace, which started in 2020, continued with a focus on the management of religious issues in the workplace. A second awareness-raising session was organized in partnership with Convivencia Conseil, a consulting firm specialized in religious issues.

For target groups:

Other specific training programs tailored to issues encountered on the ground were held throughout 2021, in particular:

- Annual training in ethics and human rights for newly appointed senior executives;
- A second session to raise awareness about crisis communication and management in relation to human rights, organized in partnership with the NGO SHIFT, for functions that are regularly involved in managing crises at headquarters (Communication, Public Affairs, Legal and Sustainability);
- A webinar on respect for human rights in the context of joint-ventures was held for employees in charge of managing associates in the Exploration-Production segment. It brought together 90 participants from around the world;
- An online training course on the salient risks and human rights issues in the Marketing & Services segment. Several online sessions were conducted in French and English and 60 employees (zone managers, network managers, network inspectors, etc.) representing some 60 countries attended.

In addition to the societal module incorporated into the HSE for Managers training program, remote training modules were developed for personnel of Subsidiaries in charge of societal issues. In 2021, eight sessions of the *HSE for Managers* training program including the societal module were delivered, with a total of 167 participants. Training on societal performance is also deployed in Exploration & Production to raise awareness among various lines of business about societal issues and the tools available. Six half-day sessions were conducted in 2021, with a total of 70 people trained. In 2021, the digital platform named Societal Academy, which makes the necessary educational resources accessible to Subsidiaries, such as rules, guides, training materials, feedback and best practices, was improved by the addition of new content. Webinars attended by nearly 190 participants were organized in October 2021 for the launch of the societal reporting campaign.

In certain situations, intervention by government security forces or private security companies is necessary to protect the Company Subsidiaries‘ staff and assets. TotalEnergies regularly organizes training sessions and awareness-raising activities for its employees on the risk of disproportionate use of force and, more specifically, on the VPSHR. In 2021, this awareness-raising work led the VPSHR specialists to revise the content of the training courses in order to make them more accessible and adapted to developments and issues related to human rights and security. This improvement is seen in particular in the introduction of a new online training module for Country Security Officers, who support Country Chairs in their role of being responsible for the Company’s security in the country and who are the correspondents of the Company’s Security division, charged among other things with implementing the VPSHR.

In addition, specific awareness-raising work on compliance with the VPSHR and their deployment in the entities considered most at risk is carried out annually. The contribution of the Subsidiaries to the annual ADRA (Auto-Diagnosis and Risk-Assessment) campaign enables the VPSHR teams of the Security division to assist them in improvement actions throughout the year.

WHISTLE-BLOWING MECHANISMS

TotalEnergies has set up several levels of whistle-blowing mechanisms that cover the entire Company, or are specific to certain projects.

In 2021, the **Ethics Committee** received close to 140 reports (internal, external, anonymous) regarding compliance with the Code of Conduct, and nearly 60% of these reports were about questions related to human resources. All reports received are dealt with and, when necessary, recommendations are made in order to lead to the implementation of corrective measures. Irrespective of whether the referral is well founded, mediation may be necessary. When the Ethics Committee observes a breach of the Code of Conduct, management draws the necessary conclusions and sanctions may be imposed in keeping with the applicable law and the procedures negotiated locally with staff representatives (examples include verbal reminders, written warnings, suspension or dismissal).

The *“Collection and processing of ethical complaints ”* procedure published internally and on the TotalEnergies website since December 2020, formally sets out the existing approach for collecting and processing complaints sent to the Ethics Committee by internal or external stakeholders concerning behaviors or situations contrary to the Code of Conduct. It ensures that the identity of the person making the report is protected, rules out any reprisals against them or against those taking part in the processing of the complaint, and respects applicable laws and regulations in terms of protecting personal data.

The Subsidiaries have also developed **mechanisms to manage grievances raised by external stakeholders**. Deployment is gradual throughout the Company. An internal guide was published in 2020 detailing the methodology for designing and effectively managing the grievance mechanism process. This guide contains practical tools drawing on international recommendations (International Petroleum Industry Environmental Conservation Association (IPIECA), International Council on Mining and Metals (ICMM), International Finance Corporation (IFC).

At year-end 2021, 100% of entities in the Exploration & Production, Refining & Chemicals and Marketing & Services segments of the One MAESTRO scope which had an operational activity in 2021, had implemented or improved their grievance management system (compared to 99% in 2020).

Grievances received by Subsidiaries in connection with the societal impact of their activities correspond to the following: access to land and habitat, economic losses/loss of livelihood, dangers for the environment and health, employment and value chain, road safety/logistics and transportation, adverse impact on culture and heritage, security and social conduct. Other grievances concern the quality of local dialogue and management of economic development projects.

In case of **incidents related to the implementation of the VPSHR,** a reporting is quickly made to the Security division, and a report is compiled after internal analysis to assess the facts and to determine the measures to be taken to reduce the risk of future incidents.

MONITORING PROCEDURES

At regular intervals, a **human rights roadmap** is presented to the Executive Committee to support the ongoing efforts to implement the Code of Conduct and respect human rights. The roadmap for 2021-2022 has been constructed with the various business segments and Company entities concerned. The Human Rights Steering Committee monitors the implementation of this roadmap.

For each specialty or business segment, the roadmap addresses questions of governance (for example, an internal procedure to be updated), new trainings to be developed, the prioritization of salient issues in a given specialty or segment, dialogue with stakeholders (for example, by appointing and training CLOs), risk assessment (for example, in the impact assessments of new projects), preventive and remediation actions, monitoring and communication. The Human Rights Department and the Ethics Committee rely on a network of more than 100 Ethics officers across the countries in which TotalEnergies operates. They are in charge of promoting the values set out in the Code of Conduct among employees working at Subsidiaries and ensuring that the Company’s commitments are correctly implemented at a local level.

Regarding the **VPSHR**, TotalEnergies takes part in **follow-up meetings** with the other members of the initiative as part of the process of continuous improvement. In March 2021, TotalEnergies published its 2020 VPSHR report, which contains information on the implementation of VPSHR in Subsidiaries worldwide, and reviews progress made. This report is available on the TotalEnergies website. The information set out in the report is based on annual reporting organized by the Security division that brings together the results of a VPSHR questionnaire, and of the risk and compliance analyses for each Subsidiary operating in a sensitive context. It contains examples of action taken to raise awareness and process incidents. The 2021 VPSHR report will be published in 2022.

3.6.8.2 HEALTH AND SAFETY

This section is primarily intended to present implementation of measures with respect to Subsidiaries, while the implementation of measures specific to Suppliers is described at point 3.6.8.5 of this chapter.

SUBSIDIARY ASSESSMENTS

In addition to the HSE self-assessments of the Subsidiaries at least every two years, the Subsidiaries operating the sites are audited every three to five years. The periodicity of HSE audits is defined according to a risk-based approach, which takes into account, among other things, the results of previous HSE audits and the status of the corresponding action plans.

In 2021, 41 HSE audits were conducted.

ACTIONS TO MITIGATE RISKS AND PREVENT IMPACTS

In terms of HSE, **training intended for various target groups** (new arrivals, managers, senior executives and directors) is provided in order to establish a broad-based, consistent body of knowledge that is shared by all:

- *Safety Pass:* these safety induction courses were started on January 1, 2018 for new recruits. Various courses exist depending on the position and cover the Company's main HSE risks, the risks linked to the site activity as well as those linked to the workplace. The theoretical content is supplemented by practical life-saving actions training sessions;
- *HSE for Managers* is aimed at current or future operational or functional managers within one of the Company's entities. This training was delivered in virtual classroom mode as well as face-to-face in 8 sessions in 2021, in which about 200 managers took part.
- *Safety Leadership for Executives* is intended for the Company's senior executives. Its objective is to give senior executives the tools allowing them to communicate and develop a safety culture within their organization. Three sessions were held in 2021 to train around fifty Company executives.

In order to ensure and reinforce knowledge of the reference framework, a knowledge evaluation tool containing over 3,000 multiple-choice questions was developed in 2018 for use by the HSE managers of Subsidiaries, operated sites and their teams. This tool can also be used to determine a suitable training plan, if necessary. More than 100 evaluations were carried out in 2021.

World Safety Day is held each year by the HSE division. The theme in 2021 was “The Golden Rules, everywhere, every day”. In addition, TotalEnergies encourages and promotes its Subsidiaries' safety initiatives. Each year, a safety contest is held and a prize is awarded to the best HSE initiative by a Subsidiary.

As regards crisis management, the intervention teams at Subsidiaries and head office practice their crisis management activities regularly on the basis of scenarios identified by the risk analyses. These personnel may follow dedicated training depending on their specific functions. In 2021, in the context of the COVID-19 pandemic, the Company consolidated its resilience capacity by testing its procedures and methodologies in different formats through crisis management exercises: face-to-face, remote or hybrid. This was made possible in particular through the development of digital crisis units for the headquarters, business segments and Subsidiaries and the deployment of associated training. In order to maintain training capacity regardless of how the situation developed, training for internal crisis management individuals was delivered either face-to-face or remotely depending on countries' accessibility. In 2021, 416 individuals (compared to 187 in 2020) were thus trained in crisis management in Subsidiaries and at head office.

TotalEnergies also continued to roll out its *Incident Management System* (IMS) at Subsidiaries operating hydrocarbon or gas exploration and production sites within the Exploration & Production and Integrated Gas, Renewables & Power segments. The IMS is a harmonized system for the management of emergency situations. It is described in an IPIECA good practices guide and is being progressively adopted by the majors. In 2021, 240 employees have been trained in IMS. Seven Exploration-Production subsidiaries carried out a large-scale application exercise, bringing the total number of trained employees to 581 and the number of subsidiaries where the IMS is deployed to 14.

Return on experience (feedback) on HSE incidents is regularly collected. A return on experience document describes the HSE incident or the corresponding accident, includes an analysis and recommendations applicable to similar situations. 91 documents (feedback, best practices, alerts) were disseminated within the Company in 2021.

MONITORING PROCEDURES

In the field of prevention of major accident risks, the Company monitors the number of Tier 1 and Tier 2 losses of containment as defined by the American Petroleum Institute (API) and the International Association of Oil & Gas Producers (IOGP). The Company set itself the target of having fewer than 70 Tier 1 and Tier 2 events in 2021. This target was not reached in 2021. The number of Tier 1 and Tier 2 events was lower than in 2020, although higher than in 2019. In addition to the 77 Tier 1 and Tier 2 operational events indicated in the table below, the Company recorded 4 Tier 1 or Tier 2 events due to acts of sabotage or theft in 2021.

Losses of containment[(a)]	2021	2020	2019
Losses of containment (Tier 1)	29	30	26
Losses of containment (Tier 2)	48	54	47
Losses of containment (Tier 1 and Tier 2)	77	84	73

(a) Tier 1 and Tier 2: indicator of the number of losses of primary containment with more or less significant consequences (fires, explosions, injuries, etc.), as defined by API 754 (for downstream) and IOGP 456 (for upstream). Excluding acts of sabotage and theft.

Tier 1 and 2 events had only moderate consequences such as lost time injuries, fires or pollution of limited extent or with no impact. The Company did not have any major industrial accidents in 2021.

In the field of road transportation, to measure the results of its policy, TotalEnergies has, for many years, been monitoring the number of severe road accidents involving its employees and those of contractors. The 50% reduction in the number of severe accidents between 2016 and 2021 is a testament to the efforts that have been made. In 2021, the number of severe road accidents involving light vehicles decreased significantly relative to 2020, confirming the progress recorded.

Based on the use of new technologies to prevent road accidents, TotalEnergies has made it mandatory for all new heavy trucks in the Marketing & Services segment to be equipped with certain driver assistance systems(1) wherever these technologies are offered by manufacturers. In Marketing & Services, the decision was also taken to deploy fatigue detection systems in countries with high road risk, after conclusive testing over several months. More than 3,200 transportation vehicles are expected to be equipped by the end of 2022, representing approximately 30% of the entire fleet under long-term contract. In addition, the second installment of the *SafeDriver* video campaign that began in 2019 is expected to continue into 2022, covering for example the topics of blind spots, fatigue and driving in difficult situations, distractions at the wheel and speed and safe distances.

Number of severe road accidents(a)	2021	2020	2019
Light vehicles and public transportation(b)	1	0	9
Heavy goods vehicles (trucks)(b)	20	27	24

(a) Overturned vehicle or other accident resulting in the injury of an occupant (declared accident).

(b) Vehicles under long-term contract (over 6 months) with TotalEnergies.

In the field of safety, in particular in the workplace, the indicators monitored by TotalEnergies include work-related accidents whether they occur at workplace, during transportation within the framework of long-term contracts, or during an industrial accident. In addition to its aim of zero fatalities in the exercise of its activities, TotalEnergies has set itself the target of continuously reducing the TRIR indicator and, for 2022, of reducing it below 0.70 for all personnel of the Company and its external contractors. The 2021 target was 0.75.

Safety indicators	2021	2020	2019
Millions of hours worked – All Personnel	389	389	467
Company Personnel	215	211	243
Contractors' employees(a)	174	178	224
Number of occupational fatalities – All Personnel	1	1	4
Company Personnel	1	0	0
Contractors' employees(a)	0	1	4
Number of occupational fatalities per hundred million hours worked – All Personnel	0.26	0.26	0.86
TRIR(b): number of recorded incidents per million hours worked – All Personnel	0.73	0.74	0.81
Company Personnel	0.59	0.63	0.74
Contractors' employees(a)	0.91	0.87	0.87
LTIR(c): (lost time injury rate) number of lost time accidents per million hours worked – All Personnel	0.48	0.48	0.48
Company Personnel	0.47	0.50	0.52
Contractors' employees(a)	0.48	0.46	0.43
SR(d): number of days lost due to accidents at work per million hours worked	15	17	17

(a) As defined in point 5.11.4 of chapter 5.

(b) TRIR: Total Recordable Incident Rate.

(c) Lost Time Injury Rate.

(d) SR: Severity rate. It replaces the SIR (Serious Injury Rate) indicator previously disclosed.

In 2021, of the 285 occupational accidents reported, 273 related to accidents at the workplace. 76% of these occurred, in decreasing order of the number accidents, when handling loads or objects, walking, using portable tools or working with powered systems.

The Company's efforts on safety over a period of more than ten years have allowed it to reduce the TRIR by more than 70% between 2010 and 2021. This improvement is due to constant efforts in the field of safety and, in particular:

- the implementation of the HSE frameworks, which are regularly updated and audited;
- the prevention of specific risks such as handling loads (ergonomics), road transport, walking;
- training and general awareness raising with safety issues for all levels of management (world safety day, special training for managers);
- HSE communication efforts targeting all Company personnel;
- the introduction of HSE objectives into the remuneration policy for TotalEnergies employees (refer to point 5.6.1.2 of chapter 5).

Despite the measures implemented, there was regrettably one accidental fatality among the Company's personnel in 2021. It occurred during annual planned maintenance checks on an electrical transformer in Kazakhstan.

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(1) Such as AEB (advanced emergency braking), LDW (lane departure warning) and EBS (electronic braking system) for motor vehicles and RSS (roll stability support) for semi-trailers.

In the field of occupational health, TotalEnergies uses the following indicators:

Health indicators (Global Workforce Analysis scope)	2021	2020	2019
Percentage of employees with specific occupational risks benefiting from regular medical monitoring	97%	97%	98%
Number of occupational illnesses recorded in the year (in accordance with local regulations)	158	136	128

3.6.8.3 ENVIRONMENT

This section is primarily intended to present implementation of measures with respect to subsidiaries, while the implementation of measures specific to Suppliers is described at point 3.6.8.5 of this chapter.

SUBSIDIARY ASSESSMENTS

HSE audits, which include a section on the environment, are described in point 3.6.8.2 of this chapter.

The One MAESTRO reference framework states that the environmental management systems of the sites operated by the Company that are important for the environment[1] must be ISO14001 certified within two years of start-up of operations or acquisition: 100% of these 79 sites were compliant in 2021. In addition to this requirement, at year-end 2021, a total of 279 sites operated by the Company were ISO14001 certified. In 2021, 22 new sites received ISO14001 certification.

ACTIONS TO MITIGATE RISKS AND PREVENT IMPACTS AND MONITORING PROCEDURES

In terms of **preventing the risk of accidental pollution**, TotalEnergies monitors indicators that allow it to assess the preparedness of Company operated sites for oil spills.

Oil spill preparedness	2021	2020	2019
Number of sites whose risk analysis identified at least one risk of major accidental pollution to surface water	119	119[(a)]	128
Proportion of those sites with an operational oil spill contingency plan	100%	100%	100%
Proportion of those sites that have performed an oil spill response exercise or whose exercise was prevented following a decision by the authorities	97%	88%	85%[(b)]

(a) The variation in the number of sites is due to changes in scope.

(b) The 2019 value was revised in order to account only for impediments following a decision by the authorities.

In accordance with industry best practices, TotalEnergies monitors accidental liquid hydrocarbon spills of more than one barrel. Spills that exceed a predetermined severity threshold are reviewed on a monthly basis and annual statistics are sent to the Company's Performance Management Committee. All spills are followed by corrective actions aimed at returning the environment to an acceptable state as quickly as possible.

Accidental liquid hydrocarbon spills of a volume of more than one barrel that affected the environment, excluding sabotage	2021	2020	2019
Number of spills	65	50	57
Total volume of spills *(thousands of m³)*	2.0	1.0	1.2
Total volume recovered *(thousands of m³)*	1.7	–	–

The increase in the volume of spills between 2020 and 2021 is mainly related to a leak in a buried pipe at the Port Arthur refinery (United States).

As part of TotalEnergies' policy of **avoiding**, **reducing** and where necessary **offsetting** the environmental footprint of its operations, discharges of substances are identified and quantified by type of environment (water, air or soil) so that appropriate measures can be taken to better control them.

In 2015, SO_2 emissions reached 59 kt. TotalEnergies has set itself the target of reducing its emissions by 75% in 2030 (compared to 2015), which entails not exceeding 15 kt.

Chronic discharges into the atmosphere	2021	2020	2019
SO_2 emissions *(in kt)*	16	34	39
NO_X emissions *(in kt)*	59	64	72
NMVOC emissions[(a)] *(in kt)*	58	69	83

(a) Non-methane volatile organic compounds.

SO_2 emissions that are likely to cause acid rain are regularly checked and reduced. In 2021, SO_2 emissions have significantly decreased due to the decrease in refinery activity (shutdowns, COVID-19 pandemic) and perimeter changes. Without conjonctural effects, those emissions would have reached 21 kt.

NO_X emissions mainly concern the hydrocarbon exploration and production activities. They are mostly located offshore, far from the coast.

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(1) Production subsidiaries of the Exploration & Production segment, sites producing more than 250,000 t/y in the Refining & Chemicals and Marketing & Services segments, as well as gas-fired power plants in the Integrated Gas, Renewables & Power segment.

Quality of water discharged	2021	2020	2019
Hydrocarbon content of offshore continuous water discharges *(in mg/l)*	13.7	12.8	13.0
% of sites that meet the target for the quality of offshore discharges *(30 mg/l)*	92%	100%(a)	100%(a)
Hydrocarbon content of onshore continuous water discharges *(in mg/l)*	2.6	1.9	1.7
% of sites that meet the target for the quality of onshore discharges of:			
goal 2010-2020: 15 mg/l	100%	100%	100%
goal 2030: 1 mg/l	80%	–	–

(a) Alwynn and Gryphon sites (United Kingdom) excluded, as their produced water discharges only occur during the maintenance periods of the water reinjection system and are subject to a specific regulatory declaration.

As part of the roll out of the **new biodiversity ambition** adopted by TotalEnergies in 2020, an overview of measures already taken and updated for 2021 under the four main areas of this new ambition is provided in point 5.5.4 of chapter 5.

3.6.8.4 CLIMATE

SCOPE OF REPORT

This part of the implementation report relates to greenhouse gas emissions resulting from the Company's Activities (Scope 1+2), in accordance with the provisions of Article L. 225-102-4 of the French Commercial Code. TotalEnergies also reports on indirect greenhouse gas emissions related to the use by customers of energy products (Scope 3) and related actions, in accordance with Article L. 225-102-1 of the French Commercial Code, in its non-financial performance statement (refer to point 5.4 of chapter 5).

GOVERNANCE

In order to contribute concrete responses to the issue of climate change, TotalEnergies relies on a structured organization and governance.

Climate issues are addressed at the highest level of the organization by the Board of Directors and the Executive Committee, which have fully committed to transforming TotalEnergies into a multi-energy company and a major player in the energy transition.

At the Shareholders' Meeting on May 28, 2021, for the first time, the Board of Directors decided to submit to the shareholders of TotalEnergies SE for their opinion the Corporation's ambition in terms of sustainable development and the energy transition towards carbon neutrality and its related targets by 2030. This resolution was approved by more than 90% of the votes cast.

In support of the Company's governance bodies, the Sustainability & Climate division shapes the approach to climate and accompanies the strategic and operational divisions of the Company's business segments. By defining and monitoring indicators, progress can be measured and the Company's actions can be adjusted (details of the indicators used are provided in point 5.4.4 of chapter 5).

Oversight by the Board of Directors

TotalEnergies Board of Directors endeavors to promote value creation by the business in the long term by taking into consideration the social and environmental challenges of its business activities. It determines the Company's strategic orientation and regularly reviews, in connection with this strategic orientation, the opportunities and risks such as financial, legal, operating, social and environmental risks, and the measures taken as a result. It thus ensures that climate-related issues are incorporated into the Company's strategy and the investment projects that are submitted to it. It examines climate change risks and opportunities during the annual strategic outlook review of the Company's business segments. It reviews performance each year.

The skills of the directors in the area of climate are presented in section 4.1.1.5 of chapter 4. A continuing training program relating to the climate for directors has been approved in 2021 and will be rolled out in 2022. It will include the Climate Fresco (a scientific, collaborative and creative workshop designed to raise awareness of climate change and in particular its causes and consequences), as well as various modules on the following themes: Energy, Climate Change and Environmental Risks; Energy and Climate; Climate Change and Financial Risks and Opportunities; Causes and issues of global warming.

To carry out its work, the Board of Directors relies on its Strategy & CSR Committee, whose internal rules were amended first in September 2017, and again in July 2018 in order to broaden its missions in the realm of CSR and in questions relating to the inclusion of climate-related issues in the Company's strategy. In this regard, the Strategy & CSR Committee met on October 26 and October 27, 2021, to review current climate issues and their consequences for the Corporation's strategy. On this occasion, the Board of Directors engaged in a dialogue with Mr. Fatih Birol, Executive Director of the International Energy Agency.

The Board of Directors has also been integrating climate issues into its compensation structures for several years. In 2021, the Board of Directors decided to change the criteria for determining the variable portion of the Chairman and Chief Executive Officer's compensation by introducing two new criteria to assess his personal contribution, weighing 25% of this variable portion, namely steering the strategy of transformation towards carbon neutrality and profitable growth in renewables and electricity. CSR performance is also a qualitative criterion for evaluating personal contribution. CSR performance is assessed by considering the extent to which climate issues are included in the Company's strategy, the Company's reputation in the field of CSR and the policy concerning all aspects of diversity. These criteria complement the quantitative HSE criteria and those introduced in 2019 relating to changes in GHG emissions (Scope 1+2).

The variable compensation of the Company's senior executives (approximately 300 people at the end of 2021) includes a criterion linked to the achievement of the GHG emissions reduction target (Scope 1+2).

Since 2020, the criteria for awarding performance shares to the Chairman and Chief Executive Officer and to all the Company's employees also include this target.

Role of management

TotalEnergies' Chairman and Chief Executive Officer, assisted by the Executive Committee, in accordance with the long-term strategic direction set by the Board of Directors, implements the strategy of the Company while making sure climate change challenges are taken into account and detailed in the operational road maps. The work is based in particular on risk mapping, which includes climate issues.

A Sustainability & Climate division, which reports to the President, Strategy & Sustainability, a member of the Executive Committee, coordinates the Company's actions in this area.

The Climate-Energy Steering Committee, chaired by the Vice President Climate which mainly includes representatives of Strategy and HSE management from the various business segments, is responsible for structuring the Company's approach to climate issues, and in particular for:

- proposing targets for reducing GHG emissions for the activities operated by the Company;
- proposing a strategy to reduce the carbon intensity of the energy products used by the Company's customers;
- monitoring existing or emerging CO_2 markets; and
- driving new technology initiatives, in particular with industrial partners, to reduce GHG emissions (energy efficiency, CO_2 capture and storage, for example).

STRATEGY: AN INTEGRATED MULTI-ENERGY COMPANY

A vision of a Net Zero TotalEnergies in 2050, together with society

The work carried out over the last year has produced a clearer picture of what a Net Zero TotalEnergies in 2050, together with society, and energy transition leader would look like, inspired in particular by the International Energy Agency's Net Zero vision. Reinvent in a net zero energy system means producing decarbonized electrons and molecules and developing carbon sinks to absorb the CO_2 from residual hydrocarbons (for producing chemicals, for example). This observation supplements the ambition presented to shareholders in May 2021.

In 2050:

- Around half of the energy produced by TotalEnergies would be renewable electricity with corresponding storage capacity, or around 500 TWh/year. This would require developing around 400 GW of renewable capacity.
- Decarbonized molecules would account for around 25% of the energy produced by TotalEnergies, equivalent to 50 Mt/year, in the form of biogas, hydrogen, or synthetic liquid fuels from the following circular reaction: $H_2 + CO_2 \rightarrow$ "e-fuels".
- TotalEnergies would produce around 1 Mb/d of hydrocarbons (or close to four times less than in 2030, in line with the reduction outlined in the IEA's Net Zero vision) made up primarily of liquefied natural gas (around 0.7 Mb/d, i.e., 25 to 30 Mt/y). Very low-cost oil would account for the rest. This oil would be used, in particular, by the petrochemicals industry to produce around 10 Mt/year of polymers - of which two-thirds from the circular economy.
- These hydrocarbons would represent around 10 Mt CO_2e/year of residual Scope 1 emissions, including methane emissions close to zero (below 0.1 Mt CO_2e/year),which would be fully offset by nature-based carbon sink solutions.

The Company will spend the next 10 years building the projects and skills needed to make TotalEnergies a net zero energy company by 2050, together with society.

Our multi-energy offering: ambition for 2030 and progress in 2021

To achieve carbon neutrality, the global energy mix will have to change considerably. Today, fossil energies still account for more than 80% of the mix(1). The markets for low carbon electricity and gas (natural gas, biogas and hydrogen) will need to expand, while coal will have to be eliminated and demand for oil will need to stabilize and then decline.

TotalEnergies is already carving out a position in this energy offering of the future and diversifying its energy mix by reducing the share of petroleum products and increasing natural gas, as transition fuel, and renewable electricity.

The energy mix of the Company's sales will shift significantly as well, and could stand at 50% gas, 30% petroleum products, 15% majority-renewable electricity and 5% biomass and hydrogen by 2030.

This movement to lower-carbon products will allow the Company to reduce the lifecycle carbon intensity of energy products sold by at least 20% by 2030.

Our production

TotalEnergies aims at an oil production peak this decade and then decreasing to around 1.4 Mb/d in 2030. It aims to increase gas production by around 50% between 2015 and 2030 (from 1.3 Mboe/d to 2 Mboe/d) and raise electricity generation to 120 TWh in 2030 from 1.7 TWh in 2015.

In 2021, the Company's energy production increased by nearly a quarter in relation to 2015.

Our sales

The Company is reducing its sales of petroleum products to align with production by 2030, or around 1.4 Mb/d. Sales of gas and electricity will rise sharply, doubling for gas and by a factor of 20 for electricity over the 2015-2030 period.

The lifecycle carbon intensity of our products

In 2021, TotalEnergies continued to reshape its mix thanks to increased sales of LNG (up 10% at 42 Mt in 2021 vs. 2020) and electricity (up 20% at 57 TWh in 2021 vs. 2020) and a 10% decrease in petroleum product sales. The lifecycle carbon intensity of products sold continued to improve with a 2% decline (excluding the impact of COVID-19).

Levers to decarbonize the energy mix of the Company are the following.

Growth in electricity will account for nearly two-thirds of the decrease in carbon intensity between 2015 and 2030. The second lever involves reducing sales of petroleum products and increasing production of gas (especially LNG) and sales of products based on biomass. Lastly, carbon sinks and lower emissions from the Company's facilities will each contribute around 5% of the decrease in carbon intensity.

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(1) Source: IEA Key World Energy Statistics 2021.

Electricity – Becoming a world leader in renewable electricity by integrating the value chain from production to sales

TotalEnergies wants to become one of the top five worldwide producers of renewable electricity (solar and wind). In 5 years, the Company has invested more than $10 billion, primarily in photovoltaic electricity and offshore wind, for an average of $2 billion per year. In 2021, TotalEnergies lifted its investments in electricity and renewables to more than $3 billion, i.e., 25% of its net investments. It intends to finance investments of more than $60 billion in renewable power generation capacity by 2030. The Company makes profitable investments, meaning projects with a return of more than 10%(1). The mix combines regulated markets with deregulated markets integrated across the entire electricity value chain. As a result, the Renewables & Electricity business's EBITDA(2) exceeded $1 billion in 2021.

In the past 4 years, the Company's gross installed capacity for renewable power grew from 0.7 GW in 2017 to more than 10 GW in 2021. The objective is to have **35 GW of gross capacity in 2025** and 100 GW in 2030. The 2025 figure is based on **projects that have been identified or are in development.** TotalEnergies' goal is to increase electricity production from 21 TWh in 2021 to 120 TWh in 2030.

TotalEnergies' broad international footprint gives it a competitive advantage for identifying and developing profitable renewables projects. For that reason, TotalEnergies created a "Renewable Explorers" network in 2021 in some 60 host countries.

Since 2015, TotalEnergies has been building a portfolio of flexible power generation using combined-cycle gas turbine (CCGT) plants, with a capacity of 4 GW at year-end 2021. These plants complement the development of renewables by supporting the grid during periods of peak demand or when there is not enough sunshine or wind. Ultimately, the CCGT units are targeted for decarbonization, either by changing from gas to biomethane or hydrogen or by sequestering their emissions through carbon capture and storage (CCS).

Further accelerating our positions in photovoltaic solar energy in 2021

TotalEnergies' solar portfolio expanded rapidly in 2020 and again in 2021, notably in India and the United States. This growth will continue, as solar energy accounts for three-quarters of the 35 GW the Company wants to develop by 2025.

Continued scaling up in offshore wind in 2021

Offshore wind offers high utilization rates with significant development potential and better acceptability than onshore wind, notably in Europe. TotalEnergies sees strong growth potential in offshore wind energy, especially since it can leverage its teams' expertise in managing and operating offshore megaprojects.

The offshore wind projects portfolio's total capacity exceeds 10 GW, **of which two-thirds fixed-bottom and one-third floating.**

Launch in 2021 of several stationary electricity storage projects to support renewables

Electricity storage solutions are necessary to offset the intermittence of solar and wind projects, make the most of daily volatility in the electricity markets and ensure grid stability. In this segment, TotalEnergies benefits from the technological expertise of Saft, which also aims to make the most of this fast-growing market.

Natural Gas, Transition Fuel

For TotalEnergies, natural gas is a key transition energy. It plays a major role in power generation thanks to its flexibility and capacity for responding to the strong growth in demand fueled by the electrification of uses. Natural gas releases half the greenhouse gas emissions of coal in power generation and, when used as a substitute, makes it possible to achieve substantial reductions as is already in the case in the United States and United Kingdom. Obviously, for gas to play this role, all the participants in the value chain – businesses and States – must pull together to fight methane emissions, as was underlined at the COP26 meeting in Glasgow with the commitment from 105 States to reduce methane emissions by 30% by 2030. TotalEnergies has committed to reducing methane emissions by 80% by 2030(3).

Main strengths of gas

- Widely available resources, well redistributed worldwide thanks to LNG.
- A simple and immediate solution for decarbonizing electricity and industry, especially in high energy consuming sectors like steel and cement manufacturing.
- An ideal partner for renewables, which are intermittent and seasonable by nature.
- A core component of numerous coal-consuming countries' roadmaps for getting to net zero.
- A source for massively developing blue hydrogen with carbon capture and storage (CCS) technologies.

TotalEnergies' strategy

- Increase the share of natural gas in the sales mix to 50% by 2030.
- Strengthen the Company's position among the Top 3 in LNG.
- Cover the entire gas value chain, from production and trading to gas-fired power plants and retailing.
- Reduce the gas value chain's emissions and eliminate methane emissions.
- Work with local partners to promote the shift from coal to natural gas.

Ranking among the top three worldwide in low carbon LNG by 2030

Once liquefied, natural gas can be transported and delivered to places of use. Global demand for liquefied natural gas (LNG) has seen strong growth, rising by 9% a year between 2015 and 2021. With 42 Mt sold in 2021, TotalEnergies is the world's second largest non-state-owned LNG company. It aims to sell 50 Mt per year by 2025, i.e. to maintain a stable global market share of 10%. In 2021, 99% of the Company's LNG sales went to countries that have committed to carbon neutrality.

Reducing our LNG value chain's emissions intensity

This growth requires an exemplary strategy for greenhouse gas emissions. In reducing emissions across the LNG chain, the priority is on methane**.** The Company is also working on improving liquefaction plant performance, notably in the United States, Qatar and Russia, with energy efficiency projects, electrification using renewable solar and wind energy, and native carbon capture and storage. Lastly, TotalEnergies is renewing its fleet of LNG carriers with new vessels that emit on average 40% less CO_2 than older ships.

Petroleum products: adapting to demand

Demand for petroleum products is expected to stagnate and then decline between now and 2030 thanks to technological progress and evolving uses. By 2050, demand will have dropped significantly. Petroleum products will have to meet increasingly stringent requirements on limiting the emissions related to their extraction and use.

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(1) Return on equity, including partial divestments.

(2) Adjusted EBITDA (Earnings Before Interest, Tax, Depreciation and Amortization) corresponds to the adjusted earnings before depreciation, depletion and impairment of tangible and intangible assets and mineral interests, income tax expense and cost of net debt, i.e., all operating income and contribution of equity affiliates to net income.

(3) Refer to "Eliminating our Methane emissions" later in this chapter.

TotalEnergies is reducing the share of petroleum products in its sales mix, from 65% in 2015 to 44% in 2021, with a targeted 30% in 2030. The objective is for the Company's petroleum product sales not to exceed its oil production, which itself will peak during the decade before declining, or around 1.4 Mb/d in 2030.

Investments remain necessary to satisfy demand, given the natural decline in field output. The Company gives priority to oil projects with low technical costs (typically below $20/b) and a low breakeven point (typically below $30/b). All new projects are assessed for their contribution to the average carbon intensity of their category in the Upstream portfolio. All approved projects must help to reduce this intensity. New hydrocarbon developments are limited to the least emitting fields. In 2021, for example, TotalEnergies decided to exit Venezuela, considering that production of the Orinoco Belt's heavy oils did not meet its greenhouse gas emissions objectives.

The Tilenga and EACOP projects in Uganda were approved with a low technical cost of $11 per barrel and CO_2 emissions significantly below those of the current portfolio (13 kg CO_2 per barrel vs. 18 kg CO_2 per barrel).

Late 2021, the Company broadened its presence in Brazil's offshore Atapu and Sépia fields, which represent low-cost, low-emissions reserves.

In addition, TotalEnergies respects exclusion zones and good environmental practices. TotalEnergies will not explore for oil in the Arctic Sea ice and will not approve any capacity increases in Canada's oil sands.

In September 2021, TotalEnergies signed major multi-energy agreements in Iraq covering the construction of a new gas network and treatment units, the construction of a large-scale seawater treatment unit and the construction of a 1 GW photovoltaic power plant.

Promoting circular management of resources

TotalEnergies joined the Platform for Accelerating the Circular Economy (PACE) in 2022. This initiative launched by the World Economic Forum and now hosted by the World Resources Institute aims to speed the transition to a more circular economy. The Company pledges to double the circularity of its businesses within the next ten years. It contributes to the circular economy at different points in the value chain: through purchasing, sales and production, as well as through the management of its own waste.

Biofuels

Over their lifecycle, biofuels emit over 50% less CO_2e than their fossil equivalents (in accordance with European standards), making them a key element in the decarbonization of liquid fuels. TotalEnergies currently has a biofuel production capacity of 500 kt/year, primarily at the La Mède refinery in France. Its goal is to increase that to **2 Mt by 2025 and 5 Mt by 2030, sustainably produced.**

Today, more than 90% of the biofuels in the market are first generation, meaning they are made from virgin vegetable oils or sugar. TotalEnergies is investing in advanced biofuels projects based on animal fat or used oils, thereby limiting the competition for and impact on arable land. These advanced biofuels will add to the range of first-generation biofuels. Looking further out, the Company is investing in R&D into so-called second- and third-generation biofuels based on micro-algae, but they still raise numerous technological challenges.

TotalEnergies has converted its La Mède refinery in France into a world-class biorefinery to meet its ambition of being a biofuel market leader. The facility produces hydrotreated vegetable oil (HVO - a precursor for renewable diesel and sustainable aviation fuel), bionaphtha (a precursor for renewable polymers) and bioLPG (renewable liquefied gas) for use in mobility or heating.

The agricultural feedstock used to make these products complies with sustainability and traceability requirements concerning carbon footprint, non-deforestation and land use. The Company has made a commitment to stop sourcing palm oil in 2023 and aims to increase the share of used cooking oil and animal fat in feedstock to 50% by 2025. TotalEnergies' future Grandpuits zero-crude complex will also produce biofuel.

Biogas

Biogas, produced from the anaerobic digestion of organic waste, is a renewable gas comprised primarily of methane. Compatible with existing transportation and storage infrastructure, it has a key role to play in decarbonizing gas products and reducing greenhouse gas emissions through the development of a circular economy. The Company aims to produce **2 TWh/year of biomethane starting in 2025 and more than 5 TWh/year by 2030 worldwide.**

In early 2021, TotalEnergies became a major player in biogas in France by acquiring Fonroche Biogaz, with 500 GWh/year of installed capacity. In late 2021, TotalEnergies and Clean Energy Fuel Corp.(1) broke ground for their first biomethane production unit in Friona, Texas. The output will be used as an alternative fuel for mobility, thereby helping to decarbonize road transportation. The facility will use livestock manure to produce more than 40 GWh/year of biomethane; as a result, 45 kt CO_2e/year emissions will be avoided.

In early 2022, TotalEnergies and Veolia joined forces to produce biomethane from Veolia waste and water treatment facilities operating in more than 15 countries, with the goal of producing up to 1.5 TWh of biomethane a year by 2025.

Hydrogen

Hydrogen is an energy carrier between primary energy source and final application that does not generate any CO_2 during its lifecycle if it was produced in a decarbonized process. Growing generation of decarbonized electricity is creating opportunities to produce green hydrogen via electrolysis of water using decarbonized electricity. In addition, the development of carbon storage is paving the way for the development of blue hydrogen using natural gas.

The European Union's objectives - more than 40 GW of electrolyzers powered by renewable electricity to produce up to 10 Mt of renewable hydrogen a year by 2030(2) - help accelerate decarbonized hydrogen projects, particularly for industries where decarbonization and/or electrification are difficult. TotalEnergies is working with its suppliers and partners to decarbonize all of the hydrogen used in its European refineries by 2030. This represents a reduction in CO_2 emissions of 3 Mt/year. Further out, the Company aims to pioneer mass production of clean and low carbon hydrogen to serve demand for hydrogen fuel as soon as the market takes off**.**

TotalEnergies, working with Engie, is developing the Masshylia green hydrogen project at the La Mède biorefinery. The project will be powered by solar and wind farms with an overall capacity of close to 300 MW. Its 125 MW electrolyzer will produce more than 10 kt/y of green hydrogen to meet the needs of the biorefinery and help reduce its emissions by 140 kt CO_2/year.

At the Zeeland refinery, the Company plans to capture carbon from the steam methane reforming unit (SMR) that produces hydrogen from natural gas. It is also developing a 150 MW electrolyzer intended to be linked to an offshore wind field. In all the Company has six projects in progress in Europe.

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(1) TotalEnergies holds a capital share of 19.09% of Clean Energy Fuels Corp., U.S. Company listed on NASDAQ (as of 31 December 2021).

(2) Source: *A hydrogen strategy for a climate-neutral Europe*, European Commission, 2020

Synthetic or e-fuels

The production of synthetic fuels from renewable hydrogen and captured CO_2 is a promising avenue for decarbonizing transportation. The pace at which these e-fuels scale up will depend on the development of green hydrogen. Besides being low carbon themselves, they offer the advantage of recycling CO_2. E-fuels are one of the solutions for getting to net zero via carbon capture and utilization technologies.

TotalEnergies is staking out a position in this market, notably to help decarbonize the aviation industry with sustainable aviation fuel. In early 2022, TotalEnergies joined a Masdar and Siemens initiative in the United Arab Emirates to build a pilot unit for producing green hydrogen that will be used to convert CO_2 into sustainable aviation fuel.

Bioplastics and recycled plastics

The circular economy for plastics is based on three axes:

- Axis 1. **Mechanical recycling,** which is the most mature technology in the market. Mechanical recycling processes materials from selective sorting and collection centers and is suited to the needs of industries such as automobile manufacturing and construction. The Company's Synova subsidiary, with a production capacity of 45 kt at year-end 2021, is involved in this part of the value chain. It aims to produce 100 kt as from 2025.
- Axis 2. **Advanced recycling,** which can process waste that cannot be recycled mechanically and serve other markets, such as food-grade plastics. TotalEnergies currently produces polymers from advanced recycling at the Antwerp complex using TACoil produced by partner Plastic Energy, with which the Company has joined forces to build a production unit at Grandpuits. TotalEnergies is also partnering with Honeywell to promote advanced recycling of plastics in Europe and the United States.
- Axis 3. **Bioplastics.** The Company provides customers with biopolymers made from biofeedstocks based on vegetable oils or used cooking oils processed at the La Mède biorefinery (and Grandpuits tomorrow), as well as polylactic acid (PLA), a fully recyclable and compostable bioplastic based on starch or sugar produced by its joint venture with Corbion at the PLA plant in Rayong, Thailand and future unit at Grandpuits in France.

In 2021, the Company produced 60 kt of recycled and bioplastic. It aims to produce 30% recycled or biopolymers by 2030, or one million tons.

OUR CLIMATE AMBITION: NET ZERO EMISSIONS BY 2050, TOGETHER WITH SOCIETY

The world's energy mix needs to change if the objectives of the Paris Agreement are to be achieved. As a broad energy company, therefore, TotalEnergies has factored this development into its strategy and set itself the ambition of achieving carbon neutrality (net zero emissions) by 2050, together with society.

TotalEnergies promotes a policy of reducing GHG emissions based on

the following principles in order of priority:

- avoid emissions;
- reduce them by using the best available technologies;
- offset the residual emissions thus minimized.

Our levers to achieve our ambition of net zero emissions:

To meet its ambition of carbon neutrality in 2050, TotalEnergies is transforming into a multi-energy company and deploying specific action plans to reduce its emissions and achieve its short and medium-term objectives. In particular, the Company is taking action to reduce emissions from its operated industrial facilities (Scope 1+2) by over 40% by 2030.

1) Reducing emissions by using the best available technologies

Our objectives

TotalEnergies' primary responsibility as an industrial operator is to reduce the emissions resulting from its operations.

In early 2019, TotalEnergies announced its aim to reduce emissions from its operated facilities to less than 40 million tons by 2025 and set itself the target of cutting Scope 1+2 net emissions (including carbon sinks) for its operated activities by at least 40% in 2030 relative to 2015.

These objectives for operated emissions include emissions related to the growth strategy in electricity deployed since 2015, which led to the development of a flexible power generation portfolio based on CCGT plants. These CCGT emissions, virtually nil in 2015, stood at 4 Mt in 2021 and could amount to more than 6 Mt in 2025.

The main driver for achieving these objectives is to develop emissions-reduction projects at the Company's industrial sites using best available technologies. This means improving energy efficiency, reducing flaring and methane emissions, supplying sites with renewable electricity and deploying carbon capture and storage for residual emissions. To achieve the net emissions objective, nature-based projects (NBS - Nature Based Solutions) will help offset a limited share (5 to 10 Mt CO_2e/year) of emissions by 2030.

Since late 2018, a dedicated team for reducing greenhouse gas emissions, known as the CO_2 Fighters, has been tracking GHG emissions across the Company. It's tasked with encouraging a low-carbon mindset within the Company, initiating energy efficiency projects, accelerating the electrification process at facilities and helping to introduce greener forms of energy consumption. The team has overseen more than 400 emissions reduction projects, most of which have cost less than $10 per ton of CO_2. By 2025, 160 upstream projects and more than 200 downstream projects will yield reductions in Scope 1+2 emissions of 2.5 Mt CO_2 and 4.5 Mt CO_2 respectively.

A reduction target for 2030 in step with the 2030 objectives of Net Zero 2050 countries

TotalEnergies set its target of a **40% reduction in net emissions** (Scope 1+2) from its operated facilities between 2015 and 2030 with an eye to the European Union's objectives for 2030 and the objectives of countries with a net zero by 2050 pledge as part of the Paris Agreement.

To qualify the level of this ambition, the Company called on two independent third parties known for their expertise in energy and decarbonization to analyze the greenhouse gas emissions reduction objectives for 2030 of countries committed to net zero by 2050 as of COP26 in Glasgow: **Carbone 4**, a consultancy specialized in low-carbon strategy in France and the **Center on Global Energy Policy** at Columbia University in the United States.

These objectives, taken from each country's nationally determined contributions (NDCs), cover direct emissions on their territory, comparable to Scope 1 for businesses.

Carbone 4 makes a distinction between 2 scopes:

- Countries that explicitly mention their net zero by 2050 ambition in their NDC, having set a 2030 target consistent with that ambition.
- All countries that have publicly announced their net zero by 2050 ambition, notably at COP26, including those that have not updated their NDC since then.

The more restricted scope includes the 35 most ambitious countries(1), which have committed to reducing the net emissions(2) by **39 to 40%** between 2015 and 2030. The broader scope includes 43 countries(3)

committed to a **28 to 31%** reduction over the same period.

In its study(4), Columbia University's Center on Global Energy Policy puts the reduction commitment for all countries with a net zero by 2050 pledge at **27% between 2015 and 2030**.

The European Union's "Fit for 55" objective of a 55% decrease between 1990 and 2030 corresponds to a **37% decrease between 2015 and 2030**(5).

The IEA's NZE scenario

In its 1.5 °C scenario, the IEA is aiming for carbon neutrality by 2050, which requires a **39% reduction in net emissions from energy** between 2015 and 2030 (from 34 to 21 billion tons of CO_2e).

Our progress in 2021

Scope 1+2 emissions decreased from 41.5 Mt in 2020 to **37.0 Mt** (excluding COVID-19 effect) in 2021 thanks to 120 emissions-reduction initiatives carried out across the Company and portfolio management aligned with our strategy (divestment of the Lindsey refinery in the United Kingdom and the halt of Grandpuits in France).

These data include the commissioning of two combined cycle gas turbine plants.

Improving the efficiency of the Company's facilities

A portion of the direct emissions from the Company's facilities corresponds to energy losses through flaring, venting(6), etc. or fugitive emissions. This part is a minority (about 15%) but should be reduced as a priority. The second, more important part (about 85%) corresponds to energy use, either by combustion, for example to generate electricity, or within industrial processes, and is the subject of the Company's energy efficiency improvement projects.

- **Reducing flaring**

Restricting routine flaring is a priority for reducing GHG emissions. Since 2000, TotalEnergies has made a commitment to discontinue routine flaring on its new projects. As a founding member of the World Bank's "Zero Routine Flaring by 2030" initiative since 2014, the Company has pledged to end the practice altogether by 2030. Routine flaring has been reduced by 90% since 2010, and the Company has set a new target to bring the level below 0.1 million cubic meters per day as from 2025.

Occasional, or non-routine, flaring connected with operational issues or the start-up of facilities has also been addressed with action plans, as has safety flaring, which is used to protect facilities. In Argentina and Bolivia, for example, the Company has reduced safety flaring by half, thanks to continuous monitoring of gas flows and optimized flaring parameters.

- **Using less energy**

Improving energy efficiency means reducing the quantity of energy used to produce a given amount of energy, so emissions are reduced as well.

Exploration & Production is enhancing energy efficiency through projects to reduce the quantity of gas its facilities use to produce the energy they need.

Refining & Chemicals, for which energy consumption is a key factor in production costs, is continuing its efforts of recent years to improve energy efficiency as part of an investment plan totaling $450 million over the period 2018-2025.

Improving energy efficiency also entails finding new ways to use waste heat from units. Several refineries, including Leuna in Germany, have mapped and quantified their sources of waste heat. Research is underway to see how heat from nearby industrial and municipal ecosystems can be put to use.

The Company has made a firm commitment to embracing digital technology at its sites as a driver in improving energy performance. As of the end of 2021, 26 out of the 46 operated sites using more than 50,000 toe/year were equipped with an auditable energy management system using for instance ISO 50001 certification for their energy management system(7).

- **Decarbonizing electricity purchases (Scope 2)**

In 2020, with its "Go-Green" project, TotalEnergies decided to aim for net zero emissions for all electricity purchases at its operated sites in Europe by 2025. All electricity needs at the Company's industrial and commercial sites, as well as its offices, will be met by renewable power obtained through the Company's regional generation capacity in Europe; a similar strategy has been adopted in the United States. Taken together, this will represent around 7 TWh/year.

- In Europe, electricity will be provided by solar farms acquired in Spain in 2020, offering capacity of 5 GW and production of 10 TWh/year by 2025. 6 TWh/year will be routed to European sites under a PPA(8). The Electricity Trading teams will manage the contract with Refining & Chemicals and excess production will be sold to third parties.
- For the United States, in 2021 the Company acquired a portfolio of 2.2 GW in solar projects and 0.6 GW in battery storage projects to cover 100% of electricity needs at operated industrial sites, including the Port Arthur refining and petrochemical complex and the La Porte and Carville petrochemical sites.

As a result, the Company is on track to reduce Scope 2 emissions across its operated scope by more than 2 Mt CO_2/year as of 2025.

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(1) EU-27, United States, Japan, Canada, Australia, United Kingdom, South Korea, Argentina and South Africa.

(2) Including sequestration capacity of forests.

(3) Restricted scope + Brazil, Colombia, Israel, United Arab Emirates, Peru, Thailand, Malaysia and Vietnam.

(4) "Tallying updated NDCs to gauge emissions reductions in 2030 and progress toward Net Zero" published on March 2, 2022

(5) EU-27. Adding in Norway, the United Kingdom and Switzerland, the reduction ambition is 39% between 2015 and 2030.

(6) Venting: emissions associated with the venting of gases, on an occasional or continuous basis, at certain facilities, such as water treatment, hydrocarbon loading and unloading, glycol dehydrators and pneumatic devices fueled by natural gas.

(7) The ISO 50001 standard accompanies the implementation in companies of an energy management system that allows a better use of energy.

(8) Power Purchasing Agreement.

Tend towards zero methane emissions

Methane is a greenhouse gas with a global warming potential 25 times higher than that of CO_2 over 100 years. In 2021, the IPCC assessed methane's contribution to current warming at 0.5 °C since pre-industrial times. COP26 highlighted the major role that methane emissions reduction must play in limiting global warming, both in its final conclusion (the Glasgow Climate Pact) and through the Global Methane Pledge, a commitment by 105 countries, led by the United States and the European Union⁽¹⁾, to reduce their methane emissions by 30% from 2020 levels by 2030.

- **New objectives**

The Company has been working on reducing its methane emissions for several years. It halved its operated methane emissions between 2010 and 2020. In line with the Glasgow agreements, the Company is setting new targets for the decade to come: reductions from 2020 levels of **50% by 2025 and 80% by 2030**.

The Company is also maintaining its target of keeping methane intensity⁽²⁾ below 0.1% across its operated gas facilities.

Achieving those objectives requires improved measuring capability and redoubled efforts on emissions sources.

- **Measuring methane emissions more accurately**

Methane emissions have numerous and dispersed sources. TotalEnergies is a pioneer in detecting and quantifying emissions across the entire value chain.

The Company operates a site for testing methane emissions measurement technology. Known as the TADI complex⁽³⁾, it is unparalleled in Europe; only one comparable site exists worldwide, in the United States⁽⁴⁾.

In addition, TotalEnergies is speeding up deployment of its drone-mounted methane detection technology, AUSEA⁽⁵⁾, at all of its operated sites starting in 2022.

The Company is also enhancing its reporting as part of OGMP 2.0, the second phase of the United Nations Development Programme's Oil & Gas Methane Partnership. OGMP 2.0 outlines a reporting framework that encompasses the entire gas value chain and non-operated scope, including a breakdown of emissions by source, information on inventory methodologies and the use of airborne measurement campaigns.

In late 2021, TotalEnergies was awarded Gold Standard⁽⁶⁾ status by the OGMP. It will implement the necessary continuous improvement measures to maintain this level for methane emissions measurement and reporting.

- **Abating emissions at each source**

Methane emissions are primarily attributable to venting (more than half the total) and flaring⁽⁷⁾ (a quarter of the total); the rest are fugitive emissions (i.e., leaks at valves, flanges and couplings) or the product of incomplete gas combustion at our facilities (turbines, furnaces, boilers, etc.).

In order to tend towards zero methane emissions, stronger action will be taken on each of these emission sources:

- Reductions in venting: projects to reroute vents to the gas export system or the flare and to reduce instrument gas on producing assets. In 2021, the decline from the year before linked to reductions in venting came to 6 kt per year (projects in Gabon and the United Kingdom).
- Reductions in flaring: In 2021, the decrease in flaring from 2020 reduced emissions by 1.8 kt/year.
- Leak reduction: annual campaigns to identify and repair leaks at all operated sites will be deployed starting in 2022. In 2021, emissions declined by 4 kt as a result of leak reduction efforts, including a significant upgrade to the OML 58 facility in Nigeria.

Moreover, all new projects include strict design criteria for preventing methane emissions: no instrument gas, no continuous cold venting and the systematic use of closed flares. All of these practices have been implemented at the CLOV site in Angola, Moho-Nord in the Republic of the Congo and Egina in Nigeria.

Capturing and storing carbon at our facilities

Reducing emissions at the facilities also means developing industrial processes for carbon capture, transport and storage (CCS⁽⁸⁾), a field in which TotalEnergies wields critical expertise in large-scale project management, gas treatment and geoscience.

The Company has been contributing to the development of CCS solutions in the Norwegian Sea since 1996 to reduce emissions from the Sleipner⁽⁹⁾ and Snøhvit natural gas fields. The CO_2 associated with that natural gas, known as native CO_2, is isolated and injected into the subsurface. From 2010 to 2013, TotalEnergies developed a pilot project in Lacq, France, involving a complete CCS chain, in which carbon from a steam generator was captured using oxy-combustion technology (a European first) and then transported and stored in an depleted reservoir.

This experience in CCS opens the door to large-scale projects for reducing carbon emissions resulting from hydrogen production at the Company's refineries in Europe. Current CO_2 storage projects are located in the North Sea to take advantage of its significant potential, particularly in depleted fields operated by TotalEnergies. Moreover, the regulatory environment within the E.U. is favorable to such projects. Not only will they provide a way to reduce the Company's own emissions, but thanks to additional capacity, it can also offer CO_2 emissions storage to its customers to reduce their Scope 1 and the Scope 3 emissions of the Company.

The 2021 budget for the entire CCS system was $100 million and TotalEnergies is now aiming to expanding storage capacity of about **10 Mt CO_2/year by 2030**.

- In Norway, the Company, together with Equinor and Shell, launched Northern Lights, the first large-scale carbon transport and storage project. Approved by the Norwegian government in 2020, the project is currently in the construction phase. It will allow industrial emitters in Norway and elsewhere in Europe to store their emissions.
- In the Netherlands, TotalEnergies and its partners are studying the Aramis project designed to develop a logistics chain and hub in the port of Rotterdam to transport CO_2 to depleted offshore fields, some of which are operated by TotalEnergies.
- In the United Kingdom, the Company is working with its partners on the Northern Endurance Partnership transport and storage project, which aims to decarbonize the Teesside and Humberside industrial regions.

Offsetting residual emissions with natural carbon sinks

In addition to taking action to prevent and reduce greenhouse gas emissions, it will be necessary to offset residual carbon emissions if TotalEnergies is to achieve net zero emissions together with society. For that reason, it is investing in natural carbon sinks, such as forests, regenerative agriculture and wetlands.

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(1) These 105 countries represent 70% of the global economy and account for nearly half of the planet's anthropogenic methane emissions.

(2) The intensity of methane emissions in relation to the commercial gas produced, expressed in a volume/volume ratio.

(3) TotalEnergies Anomaly Detection Initiative.

(4) METEC, Colorado State University.

(5) Airborne Ultra-light Spectrometer for Environmental Applications.

(6) International Methane Emissions Observatory (IMEO) report under OGMP2.0

(7) Emissions associated with incomplete gas combustion, based on a standardized estimate of 2% of volumes flared.

(8) Carbon capture and storage.

(9) TotalEnergies sold its interest in this field in 2016.

The model for managing areas must be integrated and shared with the local population. Within this framework, operations may comprise a variety of techniques (conservation, afforestation-reforestation, agroforestry, agricultural transition, blue carbon, etc.) and appropriate types of contracts (purchase contract, sustainable financing mechanism, impact funds, financed project, etc.). The goal is to combine and balance the value of agricultural and forestry revenues with the value of co-benefits for the population, soil, biodiversity, and the water cycle and that of carbon credits. When this is done, the local standard of living improves and the causes of degradation and deforestation, which are major sources of greenhouse gas emissions, recede. The Company works with experienced partners to manage the long-term approach required and the risks involved in these complex projects. The projects are certified in accordance with the highest standards, including Vera VCS and CCB.

Backed by an average annual budget of $100 million between 2020 and 2030, TotalEnergies aims to build up a stock of 100 million credits(1) and develop the annual capacity to produce at least five million credits a year as from 2030. The Company does not intend to trade these carbon credits but rather to gradually use its stock and annual production to neutralize its residual Scope 1+2 emissions as from 2030. As of end-2021, TotalEnergies' stock stood a little under 7 million certified credits. The cumulative budget for all of the signed operations amounts to nearly $350 million over their lifetime, for an anticipated aggregate volume of credits of 23 million in 2030 and 31 million in 2050.

2) Progress in 2021

The credibility of the Company's ambition for 2050 hinges on its ability to show the progress it has made so far, and it is firmly committed to doing that by publishing its 2021 results in meeting its targets online, often in advance:

- Emissions from operated facilities have declined by **approximately 20% since 2015**. This includes 4 Mt of emissions from CCGT power plants following on the implementation of the Company's new strategy in electricity to have flexible generation capacity ; the decline for operated oil & gas activities thus actually came to 30%.

OBJECTIVES AND INDICATORS RELATED TO CLIMATE CHANGE

TotalEnergies has set targets and introduced a number of indicators to steer its performance.

The Company's climate targets include among others the following:

2030 targets for operated facilities worldwide (Scope 1+2)	In facts
– Reduce GHG emissions (**Scope 1+2**) on operated facilities from 46 Mt CO_2e in 2015 to less than 40 Mt CO_2e by 2025. By 2030, the target is a reduction of at least 40% of net emissions(2) compared to 2015 for its operated activities, thus bringing them to between 25 Mt and 30 Mt CO_2e	– A reduction in GHG emissions (Scope 1+2) of operated facilities from 46 Mt CO_2e to **37.0 Mt CO_2e** excluding the effect of COVID-19(3) between 2015 and 2021
– Improve the **energy efficiency** of operated facilities by **1%** per year from 2010	– **13%** improvement in energy efficiency between 2010 and 2021
– Reduce **methane emissions** of operated facilities by 50% between 2020 and 2025, and by 80% between 2020 and 2030	– Methane emissions already reduced by **50%** between 2010 and 2020 and by 23% between 2020 and 2021
– Maintain **methane emissions intensity** below 0.1% of commercial gas produced at operated gas facilities	– Methane intensity of Upstream hydrocarbon activities of less than **0.1%** for operated gas facilities
– Reduce **routine flaring**(4) to less than 0.1 Mm^3/d by 2025, with the goal of eliminating it by 2030	– More than **90%** reduction in routine flaring between 2010 and 2021

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(1) One credit corresponds to one ton of sequestered CO_2.

(2) The calculation of net emissions takes into account negative emissions from natural sinks like forests, regenerative agriculture and wetlands.

(3) Refer to point 5.11 of chapter 5 for the assessment of the COVID-19 effect.

(4) Routine flaring, as defined by the working group of the Global Gas Flaring Reduction program within the framework of the World Bank's Zero Routine Flaring initiative.

It should be noted that the decrease in the Company's GHG emissions in 2020, and to a lesser extent in 2021, is partly related to the impact of the COVID-19 pandemic on TotalEnergies's activities, hence the reference to estimates excluding the COVID-19 effect.

Indicators related to climate change(1)

		Operated emissions			
GHG emissions		2021	2020	2019	2015
SCOPE 1 **Direct GHG emissions**	Mt CO_2e	**34* (33)**	**38* (36)**	**41**	**42**
BREAKDOWN BY SEGMENT					
Upstream oil & gas activities	Mt CO_2e	14	16	18	19
Integrated Gas, Renewables & Power, excluding upstream gas operations	Mt CO_2e	5	3	3	–
Refining & Chemicals	Mt CO_2e	15* *(14)*	17	20	22
Marketing & Services	Mt CO_2e	<1	<1	<1	<1
BREAKDOWN BY GEOGRAPHY					
Europe: EU 27 + Norway + UK + Switzerland	Mt CO_2e	20* *(19)*	22* *(21)*	24	22
Eurasia (incl. Russia) / Oceania	Mt CO_2e	1	1	1	5
Africa	Mt CO_2e	9	10	11	12
Americas	Mt CO_2e	5	4	4	4
BREAKDOWN BY TYPE OF GAS					
CO_2	Mt CO_2e	32	34	39	39
CH_4	Mt CO_2e	1	2	2	2
N_2O	Mt CO_2e	<1	<1	<1	<1
SCOPE 2 **Indirect emissions from energy use**	Mt CO_2e	**2* (2)**	**3* (3)**	**4**	**4**
Of which Europe: EU 27+ Norway + UK + Switzerland	Mt CO_2e	1* *(1)*	2* *(2)*	2	2
SCOPE 1+2	Mt CO_2e	**37* (35.7)**	**41* (38)**	**44**	**46**
Intensity of GHG emissions (Scope 1+2) of Upstream oil & gas activities(a)	kg CO_2e/boe	17	18	19	21

		Operated emissions			
Methane emissions		2021	2020	2019	2015
Methane emissions	kt CH_4	49	64	68	94
BREAKDOWN BY SEGMENT					
Upstream oil & gas activities	kt CH_4	48	62	66	92
Integrated Gas, Renewables & Power, excluding upstream gas operations	kt CH_4	<1	<1	<1	0
Refining & Chemicals	kt CH_4	1	1	1	1
Marketing & Services	kt CH_4	0	0	0	0
BREAKDOWN BY GEOGRAPHY					
Europe: EU 27 + Norway + UK + Switzerland	kt CH_4	7	12	15	9
Eurasia (incl. Russia) / Oceania	kt CH_4	1	3	3	33
Africa	kt CH_4	23	31	39	49
Americas	kt CH_4	18	18	10	3
Intensity of methane emissions from operated oil & gas facilities (Upstream)	%	0.13	0.15	0.16	0.23
Intensity of methane emissions from operated gas facilitie	%	<0.1	<0.1	<0.1	<0.1

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(1) Refer to point 5.11 of chapter 5 for the reporting perimeter.

		Operated emissions			
Other indicators		2021	2020	2019	2015
Net primary energy consumption (operated scope)	TWh	148	147	160	153
Global energy efficiency indicator (GEEI)	Base 100 in 2010	87.0	90.2	88.0	90.8
Flared gas (Upstream oil & gas activities operated scope) (including safety flaring, routine flaring and non-routine flaring)	Mm^3/d	3.6	4.2	5.7	7.2
Of which routine flaring	Mm^3/d	0.7	0.6	0.9	2.3(b)

* Valuation of these indicators excluding the COVID-19 effect.

(a) This indicator doesn't include integrated LNG assets in its perimeter.

(b) Volumes estimated upon historical data.

3.6.8.5 SUPPLIERS

SUPPLIER ASSESSMENT

The supplier qualification process

The IT Supplier qualification tool developed in 2019,gradually rolled out, is designed to automate and document the supplier qualification process. More than 15,000 Suppliers have been integrated in this qualification tool, representing about 15% of the Company' suppliers base and almost 25% of the Suppliers with a spend over 50k$. Deployment slowed during the COVID-19 pandemic in 2020 and 2021, and is resuming in 2022.

The Supplier assessment process

Since 2016, the Company has conducted audits on working conditions among suppliers. A targeted audit plan is defined each year and includes at-risk Suppliers. In 2021, 83 audits were conducted in the context of the COVID-19 pandemic, below the annual objective of 100 audits. Action plans are developed to remedy the non-conformities identified during these audits. In 2021, these audits covered more than 25,000 suppliers' workers.

A dedicated committee monitoring human rights audits of suppliers was also created in 2021 and meets every two months with the participation of the Company's human rights teams, members of the TotalEnergies Global Procurement Management Committee and the sustainable Procurement Department.

The Company plans to audit 100% of priority suppliers in terms of human rights (800 suppliers) via on-site and documentary audits by 2024.

In addition, the Company plans to implement and pilot innovative systems such as “workers' voice surveys” to gather live feedback from workers on their working conditions in major operated projects, including EACOP and Tilenga in Tanzania and Uganda.

For example, TotalEnergies launched an industry initiative in 2018 with BP, Equinor and Shell to implement a platform allowing to mutualize suppliers' human rights audits. These founding members were joined by new members such as Wintershall, AkerBP, ConocoPhilips and Var Energy. The platform, which has been operational since 2020, should be extended to other interested corporations in the sector. The objective of this initiative is to promote better practices regarding respect for human rights at work in the industry, while trying to reduce the suppliers' “audit fatigue”. In 2021, nearly 150 assessments were conducted through this platform.

Other initiatives

Specific initiatives are in place for certain categories of procurement.

Thus, projects aimed at improving the transparency of the Company’s supply chain, including traceability audits of the photovoltaic panel supply chain, were initiated in 2021 and will continue in 2022.

Similarly, in 2021, in addition to its annual campaign to collect data from its suppliers about conflict minerals, Saft Groupe (Saft) launched a new campaign to obtain information from its suppliers about their cobalt supplies and compiled a new Cobalt Reporting Template (CRT) for Saft’s specific activity in 2020 based on the Reporting Templates provided by the Responsible Minerals Initiative® (RMI®). This tool enables the transfer of information via the supply chain about foundries/refineries and helps to determine the cobalt’s country of origin. As part of a progress-led approach, Saft Groupe is also a member of the Global Battery Alliance (GBA), within the World Economic Forum (WEF), a global platform for establishing and collaborating on a sustainable battery value chain.

Finally, pursuant to Rule 13p-1 of the U.S. Securities Exchange Act of 1934, as amended, which implemented certain provisions of the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010, since 2014, TotalEnergies has filed with the United States Securities and Exchange Commission (SEC) an annual document relating to “conflict minerals”(1) sourced from the Democratic Republic of the Congo or neighboring countries. The document indicates whether, during the preceding calendar year, any such minerals were necessary to the functionality or production of a product manufactured by TotalEnergies SE or one of its consolidated entities (or contracted to be manufactured). The purpose of this regulation is to prevent the direct or indirect funding of armed groups in central Africa. For more information, please refer to TotalEnergies’ most recent publication, available on the TotalEnergies website or sec.gov.

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(1) Rule 13p-1 defines “conflict minerals” (irrespective of their geographical origin) as: columbite-tantalite (coltan), cassiterite, gold and wolframite as well as their derivatives, which are limited to tantalum, tin and tungsten.

MITIGATION AND PREVENTIVE ACTIONS

In 2020, TotalEnergies updated its Fundamental Principles of Purchasing that Suppliers are required to comply with. The purpose of this update is to align the principles with the latest version of the Code of Conduct and provide more detail about to the necessity of upholding human rights. It is specified in particular that Suppliers must ensure that their own suppliers and subcontractors respect applicable laws, as well as principles equivalent to those set out in the Universal Declaration of Human Rights, the Fundamental Conventions of the International Labor Organization (ILO), the United Nations Guiding Principles on Business and Human Rights, the United Nations Global Compact, Voluntary Principles on Security and Human Rights and the OECD Guidelines for Multinational Enterprises. Clarification was provided about the details of effective policies and procedures to be implemented by Suppliers, such as: the prohibition and prevention of child labor, prohibition and prevention of forced labor, working conditions, remuneration and compensation; protection of health and safety; prohibition and prevention of any discrimination and harassment in the workplace; freedom of speech, association and collective bargaining, freedom of thought, conscience and religion and grievances. Following this update, in 2021, an awareness campaign was conducted among the Company's buyers and purchasing lawyers to remind them of good practices. In addition, and in order to help Suppliers implement these Principles correctly, a Practical Guide on Human Rights at Work was prepared in 2021 for distribution to Suppliers in 2022.

Training of buyers

TotalEnergies has set up a number of channels of communication to raise employees' awareness of risks and concerns relating to its supply chain. Training modules explaining the Company's ethical commitments and the Fundamental Principles of Purchasing have been developed for and made available to buyers of the Company. All new employees of TotalEnergies Global Procurement receive training which includes a section on sustainable procurement, presenting the Fundamental Principles of Purchasing and the sustainable procurement roadmap. Awareness-raising sessions are held regularly on specific topics. For example, in 2021, 91% of TotalEnergies Global Procurement buyers completed the online human rights module. Finally, sustainable procurement and sustainable development aspects are now systematically integrated into all purchasing events, such as the International Procurement Day in June 2021, which brought together 452 participants (buyers and procurement support functions) with a session dedicated to sustainable procurement as well as two spotlight sessions, on human rights and the climate.

A set of communication tools intended to help procurement representatives initiate discussions on the Fundamental Principles of Purchasing is also circulated within TotalEnergies Global Procurement. The materials used in the annual performance review include a section on human rights.

Awareness-raising and training of suppliers

Awareness-raising activities are carried out during meetings with suppliers, in particular during the *Suppliers Day* , which is held every two years and brings together the Company's strategic Suppliers and provides an opportunity for communicating with participants on the Fundamental Principles of Purchasing. Given the health context of the last two years, it was not possible to hold this event. However in 2021 TotalEnergies' International Procurement Office (IPO) in Shanghai, China, was able to organize two supplier days, attended by some 260 people, during which human rights, the environment and safety were discussed. The subsidiaries also organize events on these subjects, such as the supplier forum held by the Exploration-Production subsidiary in Mozambique, which brought together 107 suppliers and focused on respect for human rights in the workplace.

Progress with other companies

Since 2018 TotalEnergies has been a member of the Action Platform on Decent Work in Global Supply Chains organized by the United Nations Global Compact, and in that capacity it takes part in various workshops that aim to help the Global Compact member companies make progress in that area. In December 2018, the Company committed to pursuing its efforts with regard to decent work and respect for human rights in its supply chain by signing six commitments contained in the United Nations Global Compact. The Company's buyers also take part in international working groups on responsible procurement. TotalEnergies is also a member of the IPIECA Supply Chain Working Group. As an extension of the workshops held since 2015, TotalEnergies continued to take part in the *Operationalization of the U.N Guiding Principles* work organized by the IPIECA, aimed at both oil and gas companies and engineering, procurement and construction (EPC) contractors.

WHISTLEBLOWING MECHANISMS

In the context of the development of good practices in business relations, TotalEnergies has carried out regular awareness-raising programs with its employees on mediation as an alternative means of dispute resolution. In 2021, the annual day open to the Company's employees, both legal and operational, to enable them to understand the benefits of mediation, could not take place due to the constraints of the COVID-19 pandemic. A brochure designed to increase awareness of the mediation process is available to all Company employees.In parallel with this, an email address (mediation.fournisseurs@totalenergies.com) is available on the TotalEnergies website to enable the Company's suppliers to contact the dedicated internal mediator. Its mission is to facilitate relations between the Company and its French and international suppliers. The general purchasing terms and conditions also mention the possibility of recourse to mediation.

MONITORING PROCEDURES

The Responsible Purchasing department, created in 2020, within TotalEnergies Global Procurement (whose functions were previously performed by the Supplier Relations department), further developed the Responsible Purchasing roadmap in 2021, particularly with regard to respect for human rights, health, safety and the environment in the supply chain. The objectives of the roadmap were reviewed by the Executive Committee and its implementation is monitored by the Responsible Purchasing Committee, which brings together the Management Committee of TotalEnergies Global Procurement and, in particular, representatives of the Human Rights department and the HSE division.

4

Report on corporate governance

[REDACTED SECTION: CERTAIN TEXT HAS BEEN REDACTED.]

The information set out in this chapter forms the Board of Directors' report on corporate governance, produced pursuant to Article L. 225-37 of the French Commercial Code. This report was prepared on the basis of the deliberations of the Board of Directors, and with the assistance of several of the Corporation's corporate functional divisions, including in particular the Legal, Finance and People & Social Engagement Departments. After the sections relevant to their respective duties were reviewed by the Governance and Ethics Committee and the Compensation Committee, the report was approved by the Board of Directors.

4.1 Administration and management bodies

4.1.1 Composition of the Board of Directors

As of March 16, 2022

14 directors	**1** Lead Independent Director	**82%** independent directors[a]	**5.2 years** average length of service on the Board	**45.5%** of women[b]	**5** nationalities represented

(a) Excluding the director representing employee shareholders and the directors representing employees, in accordance with the recommendations of the AFEP-MEDEF Code (point 9.3). For more information, refer to point 4.1.1.4 of this chapter.

(b) Excluding the directors representing employees in accordance with Article L. 225-27-1 of the French Commercial Code and the director representing employee shareholders in accordance with Articles L. 225-23 and L. 22-10-5 of the French Commercial Code.

The Corporation is administered by a Board of Directors whose 14 members include a director representing employee shareholders elected on the proposal of the shareholders specified in Article L. 225-102 of the French Commercial Code, in accordance with the provisions of Articles L. 225-23 and L. 22-10-5 of the French Commercial Code (hereafter referred to as the "director representing employee shareholders"), and two directors representing employees appointed in accordance with the provisions of Article L. 225-27-1 of the French Commercial Code and the Corporation's Articles of Association (the first appointed by the Central Economic and Employee Interest Committee of the Upstream Global Services UES Amont – Global Services – Holding and the second appointed by the SE Committee, known as "TotalEnergies European Works Council").

Mr. Patrick Pouyanné is the Chairman and Chief Executive Officer of TotalEnergies SE. He has served as Chairman of the Board of Directors since December 19, 2015, the date on which the functions of Chairman of the Board of Directors and Chief Executive Officer of the Corporation were combined (refer to point 4.1.5.1 of this chapter).

A Lead Independent Director is in place. His duties are specified in the Rules of Procedure of the Board of Directors (refer to point 4.1.2.1 of this chapter).

Directors are appointed for a three-year period (Article 11 of the Corporation's Articles of Association)(1). The terms of office of the members of the Board are staggered to space more evenly the renewal of appointments and to ensure the continuity of the work of the Board of Directors and its Committees, in accordance with the recommendations of the AFEP-MEDEF Code, which the Corporation refers to.

The profiles, experience and expertise of the directors are detailed in the biographies hereafter.

CHANGES THAT OCCURRED WITHIN THE MEMBERSHIP OF THE BOARD OF DIRECTORS AND COMMITTEES DURING FISCAL YEAR 2021

Appendix 3 of the AFEP-MEDEF Code – Situation as of March 16, 2022

	Departure	Appointment/designation	Reappointment
Board of Directors			
05/28/2021	Patrick Artus	Jacques Aschenbroich	Patrick Pouyanné
		Glenn Hubbard	Anne-Marie Idrac
Audit Committee			
05/28/2021	Patrick Artus	Patricia Barbizet	
		Romain Garcia-Ivaldi[a]	
Compensation Committee			
05/28/2021	Patricia Barbizet		
Strategy & CSR Committee			
05/28/2021	Patrick Artus	Angel Pobo[a]	

(a) Director representing employees.

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(1) The Articles of Association also contain specific provisions concerning the terms of office of directors representing employees, taking into account the method of their appointment.

OVERVIEW OF THE BOARD OF DIRECTORS AS OF MARCH 16, 2022

Appendix 3 of the AFEP-MEDEF Code

	Personal information				Experience	Position on the Board				Participation in Board Committees
As of March 16, 2022	Age	Sex	Nationality	Number of shares	Number of directorships[a]	Independence	Initial date of appointment	Term of office expires	Length of service on the Board	
Patrick Pouyanné *Chairman and Chief Executive Officer*	58	M	🇫🇷	267,487	1	x	2015	2024	7	✓
Jacques Aschenbroich	67	M	🇫🇷	1,000	2	✓	2021	2024	1	
Patricia Barbizet	66	F	🇫🇷	11,050	3	x	2008	2023	14	✓
Marie-Christine Coisne-Roquette *Lead Independent Director*	65	F	🇫🇷	4,559	2	✓	2011	2023	11	✓
Jérôme Contamine	64	M	🇫🇷	10,275	2	✓	2020	2023	2	✓
Lise Croteau	61	F	🇨🇦	1,100	4	✓	2019	2022	3	✓
Mark Cutifani	63	M	🇦🇺	2,000	1	✓	2017	2023	5	✓
Valérie Della Puppa Tibi *Director representing employee shareholders*	53	F	🇫🇷	30	0	n/a	2019	2022	3	✓
Romain Garcia-Ivaldi *Director representing employees*	33	M	🇫🇷	178	0	n/a	2020	2023	2	✓
Maria van der Hoeven	72	F	🇳🇱	1,500	1	✓	2016	2022	6	✓
Glenn Hubbard	63	M	🇺🇸	1,000	2	✓	2021	2024	1	
Anne-Marie Idrac	70	F	🇫🇷	1,539	3	✓	2012	2024	10	✓
Jean Lemierre	71	M	🇫🇷	1,042	1	✓	2016	2022	6	✓
Angel Pobo *Director representing employees*	52	M	🇫🇷	339	0	n/a	2020	2023	2	✓

(a) Number of directorships held by the director at listed companies outside his or her group, including foreign companies, assessed in accordance with the recommendations of the AFEP-MEDEF Code, point 19 (refer to point 4.1.1.3 of this chapter).

As of March 16, 2022

Audit Committee

5 members

75% independent members[a]

Maria van der Hoeven*
Patricia Barbizet
Jérôme Contamine**
Lise Croteau**
Romain Garcia-Ivaldi[b]

Governance and Ethics Committee

4 members

75% independent members

Marie-Christine Coisne-Roquette*
Patricia Barbizet
Anne-Marie Idrac
Jean Lemierre

Compensation Committee

3 members

100% independent members[a]

Mark Cutifani*
Marie-Christine Coisne-Roquette
Valérie Della Puppa Tibi[c]

Strategy & CSR Committee

6 members

60% independent members[a]

Patrick Pouyanné*
Patricia Barbizet
Marie-Christine Coisne-Roquette
Anne-Marie Idrac
Jean Lemierre
Angel Pobo[b]

(a) Excluding the director representing employee shareholders and the directors representing employees, in accordance with the recommendations of the AFEP-MEDEF Code (point 9.3).

(b) Director representing employees.

(c) Director representing employee shareholders.

*Chair of the Committee.

**Financial expert.

RENEWAL OF DIRECTORSHIPS AND APPOINTMENT PROPOSED TO THE SHAREHOLDERS' MEETING TO BE HELD ON MAY 25, 2022

The directorships of Ms. Lise Croteau, Ms. Valérie Della Puppa Tibi, Ms. Maria van der Hoeven and Mr. Jean Lemierre expire at the Annual Ordinary Shareholders' Meeting on May 25, 2022.

Renewal of directorships

At its meeting on March 16, 2022, the Board of Directors, upon the proposal of the Governance and Ethics Committee, decided to submit to the Annual Shareholders' Meeting to be held on May 25, 2022, the renewal of the directorships of Ms. Lise Croteau, Ms. Maria van der Hoeven and Mr. Jean Lemierre for a three-year term, to expire at the end of the Annual Shareholders' Meeting to be held in 2025 to approve the 2024 financial statements.

- **Ms. Lise Croteau**, a Canadian national, has been a director of TotalEnergies SE since May 29, 2019. After serving as Executive Vice President and Chief Financial Officer of Hydro-Québec, one of the world's largest producers of hydroelectricity, Ms. Lise Croteau now uses her skills and knowledge of renewables and of the management of risks related to climate change in the service of the companies in which she sits as an independent director. Since 2018, she has been a director of Boralex, the Canadian leader in renewable energy, and since June 2019, a director of Québecor inc. Ms. Lise Croteau will continue to provide the Board of Directors and the Audit Committee with her expertise in this area.
- **Ms. Maria van der Hoeven**, a Dutch national, has been a director of TotalEnergies SE since May 24, 2016. She chairs the Audit Committee. Ms. Maria van der Hoeven led the International Energy Agency (IEA) from 2011 to 2015 during a period of great change in the global energy economy, with, in particular, a focus on the consideration of climate change in energy policy. One of her main priorities has been the implementation of a new strategy to integrate the main emerging players of the energy sector of the 21st century. Another of her priorities was to extend energy services to the one billion people in the world who had no access to them. In recognition of the IEA's efforts to address the crisis of energy poverty, Maria van der Hoeven served on the advisory board of the UN Sustainable Energy for All initiative. She was named a Senior Fellow of the Clingendael International Energy Program in 2015. Her personal skills led to her appointment as Vice-Chair of the European Decarbonisation Pathways Initiative High-Level Experts Group of the European Commission, whose final report was published in November 2018. Maria van der Hoeven was also appointed as a member of the Global Commission on Economics and Climate and the Global Commission on the Geopolitics of Energy Transformation, an independent initiative launched at the IRENA Assembly in January 2018. Previously, Ms. van der Hoeven served as the Minister of Economic Affairs of the Netherlands from 2007 to 2010, during which time she influenced energy policy on the national, regional and global levels. Before becoming Minister of Economic Affairs, Maria van der Hoeven was Minister of Education, Culture and Science from 2002 to 2007. She was a member of the Board of Directors of Rocky Mountain Institute, an organization recognized in the field of the energy transition. Mrs. van der Hoeven will continue to provide the Board of Directors and the Audit Committee with her knowledge of the energy sector.
- **Mr. Jean Lemierre**, a French national, has been a director of TotalEnergies SE since May 24, 2016. He is a member of the Governance and Ethics Committee and of the Strategy & CSR Committee. Mr. Lemierre is the Chairman of BNP Paribas. As early as 2015, BNP Paribas committed to accelerate the energy transition by aligning its financing and investment activities with the conclusions of the Paris Agreement. In 2021, the group took another important step in the fight against global warming and the energy transition towards a more planet-friendly economy, by joining the Net-Zero Banking Alliance; this initiative brings together banks wishing to contribute to the financing of a "net zero" economy by 2050, in particular through strong commitments to align the greenhouse gas emissions generated by their lending and investment activities with a target of global carbon neutrality by 2050. In addition, Jean Lemierre has been the Vice-Chairman of the Paris Europlace Association since 2014, whose priorities include the promotion of sustainable and responsible finance. In this context, Paris Europlace's objective is to perpetuate and raise awareness of the Paris financial center's action in environmental and sustainable finance and to develop initiatives on the European and international levels in these various fields. As a result, Paris Europlace launched a new initiative "Paris Green & Sustainable Finance" in May 2016, which became "Finance for Tomorrow" in June 2017. This initiative aims to promote sustainable finance in France and internationally, by helping to redirect financial flows ("Shift the Trillions") towards a low-carbon and inclusive economy, consistent with the Paris Agreement. With his experience and competence in sustainable finance, Jean Lemierre will continue to contribute to the reflections of the Board of Directors and the Strategy & CSR Committee, of which he is a member, on these subjects.

Appointment of the director representing employee shareholders

The directorship of Ms. Valérie Della Puppa Tibi, director representing employee shareholders, expires at the annual Ordinary Shareholders' Meeting on May 25, 2022.

The Shareholders' Meeting on May 25, 2022 will be called on to appoint the new director representing employee shareholders from the four candidates designated following a process to designate candidates for the position of director representing employee shareholders to the Board of Directors of TotalEnergies SE, launched at the end of 2021. The four candidates are the following:

- **Ms. Emma De Jonge**, a Dutch national, was designated by the Supervisory Board of the collective investments fund (FCPE) TotalEnergies Actionnariat France (111.1 million TotalEnergies shares held, as of December 31, 2021) at the Supervisory Board meeting on December 2, 2021;
- **Ms. Agueda Marin**, a Spanish national, was designated by the Supervisory Board of the collective investments fund (FCPE) TotalEnergies Actionnariat International Capitalisation (38.8 million TotalEnergies shares held, as of December 31, 2021) at the Supervisory Board meeting on December 7, 2021;
- **Ms. Marina Delendik**, a Russian national, was designated by the Supervisory Board of the collective investments fund (FCPE) TotalEnergies INTL Capital (2.1 million TotalEnergies shares held, as of December 31, 2021) at the Supervisory Board meeting on December 7, 2021;
- **Mr. Alexandre Garrot**, a French national, was elected as a candidate by the employee shareholders with individual voting rights (23.3 million TotalEnergies shares held, as of December 31, 2021) as this candidate received the highest number of votes in the ballot counted on January 12, 2022, and reached the representative threshold equal to at least 5% of the shares held by the employees exercising their individual voting rights.

In accordance with Article 11 of the Corporation's Articles of Association, on the proposal of the Governance and Ethics Committee, the Board of Directors, at its meeting on March 16, 2022, placed on the agenda of the Shareholders' Meeting on May 25, 2022, the resolutions adopted by the Board of Directors and approved the first candidate.

The candidate for the position of director representing employee shareholders who receives the highest number of votes from the shareholders present or represented at the Ordinary Shareholders' Meeting will be designated as the director representing employee shareholders.

Composition of the Committees of the Board of Directors at the end of the Shareholders' Meeting on May 25, 2022

On the proposal of the Governance and Ethics Committee, the Board of Directors decided at its meeting of March 16, 2022, to modify the composition of the Committees of the Board of Directors at the end of the Shareholders' Meeting on May 25, 2022. As of that date, the composition of these Committees will be as follow:

As of May 25, 2022

Audit Committee

5 members

75% independent members(a)

Maria van der Hoeven*
Patricia Barbizet
Jérôme Contamine**
Lise Croteau**
Romain Garcia-Ivaldi(b)

Governance and Ethics Committee

5 members

80% independent members

Marie-Christine Coisne-Roquette*
Jacques Aschenbroich
Patricia Barbizet
Anne-Marie Idrac
Jean Lemierre

Compensation Committee

4 members

100% independent members(a)

Mark Cutifani*
Marie-Christine Coisne-Roquette
Jacques Aschenbroich
Angel Pobo(b)

Strategy & CSR Committee

6 members

60% independent members(a)

Patrick Pouyanné*
Patricia Barbizet
Marie-Christine Coisne-Roquette
Anne-Marie Idrac
Jean Lemierre
Director representing employee shareholders

(a) Excluding the director representing employee shareholders and the directors representing employees, in accordance with the recommendations of the AFEP-MEDEF Code (point 9.3).

(b) Director representing employees.

*Chair of the Committee.

**Financial expert.

4.1.1.1 PROFILES, EXPERIENCE ET EXPERTISE OF THE DIRECTORS (INFORMATION AS OF DECEMBER 31, 2021)(1)

Patrick Pouyanné

Chairman and Chief Executive Officer of TotalEnergies SE*
Chairman of the Strategy & CSR Committee

Born on June 24, 1963 (French)
Director of TotalEnergies SE since the Annual Shareholders' Meeting on May 29, 2015
Last reappointment: Annual Shareholders' Meeting on May 28, 2021
End of current term: 2024 Annual Shareholders' Meeting

Number of TotalEnergies shares held: 267,487
Number of TotalEnergies Actionnariat France collective investment fund units held: 11,289.8801 (as of December 31, 2021)

Business address: TotalEnergies SE, 2 place Jean Millier, La Défense 6, 92400 Courbevoie, France

Main function: Chairman and Chief Executive Officer of TotalEnergies SE*

Biography & Professional Experience

A graduate of École Polytechnique and a Chief Engineer of France's Corps des Mines, Mr. Pouyanné held, between 1989 and 1996, various administrative positions in the Ministry of Industry and other cabinet positions (technical advisor to the Prime Minister – Édouard Balladur – in the fields of the Environment and Industry from 1993 to 1995, Chief of staff for the Minister for Information and Aerospace Technologies – François Fillon – from 1995 to 1996). In January 1997, he joined TotalEnergies' Exploration & Production division, first as Chief Administrative Officer in Angola, before becoming Company representative in Qatar and President of the Exploration and Production subsidiary in that country in 1999. In August 2002, he was appointed President, Finance, Economy and IT for Exploration & Production. In January 2006, he became Senior Vice President, Strategy, Business Development and R&D in Exploration & Production and was appointed a member of the Company's Management Committee in May 2006. In March 2011, Mr. Pouyanné was appointed Deputy General Manager, Chemicals, and Deputy General Manager, Petrochemicals. In January 2012, he became President, Refining & Chemicals and a member of the Company's Executive Committee.

On October 22, 2014, he became Chief Executive Officer of TOTAL S.A. and Chairman of the Company's Executive Committee. On May 29, 2015, he was appointed by the Annual Shareholders' Meeting as director for a three-year term. The Board of Directors appointed him as Chairman of the Board of Directors as of December 19, 2015. Mr. Pouyanné thus became the Chairman and Chief Executive Officer. Following the renewal of Mr. Pouyanné's directorship at the Shareholders' Meeting on June 1, 2018 and then on May 28, 2021 for a three-year period, the Board of Directors renewed Mr. Pouyanné's term of office as Chairman and Chief Executive Officer for a period equal to that of his directorship.

Mr. Pouyanné is thus the Chairman and Chief Executive Officer of TotalEnergies SE.

Mr. Pouyanné has also been the Chairman of the Alliance pour l'Education – United Way association since June 2018, having accepted this office as Chairman and Chief Executive Officer of the Corporation. In addition, he has been a member of the Board of Directors of Capgemini (since May 2017), of the Board of Directors of École Polytechnique (since September 2018), of the Institut Polytechnique of Paris (since September 2019), of the Association Française des Entreprises Privées (French association of private companies) (since 2014), of the Institut du Monde Arabe (since 2017) and of the foundation La France s'engage (since 2017).

Directorships and functions held

Directorships held at any company during fiscal year 2021

Within the Company

- Chairman and Chief Executive Officer of TotalEnergies SE* and Chairman of the Strategy & CSR Committee

Outside the Company

- Director of Capgemini S.E.* (since May 10, 2017) and member of the Strategy & CSR Committee and member of the Ethics & Governance Committee

Directorships that have expired in the previous five years

None

Other positions held during fiscal year 2021

- Chairman of the l'Association Alliance pour l'Education – United Way (since June 2018)
- Member of the Board of Directors of École Polytechnique (a public scientific, cultural and professional establishment under French law) (since September 2018)
- Member of the Board of Directors of the Institut Polytechnique de Paris (since September 2019)
- Member of the Board of Directors of AFEP (French Association of private companies) (since 2014)
- Member of the Board of Directors of the Institut du Monde Arabe (since 2017)
- Member of the Board of Directors of the La France s'engage foundation (since September 2017)

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(1) Including the information referred to in Articles L. 22-10-10 and L. 225-37-4 of the French Commercial Code, and point 12.1 of Annex I to Commission Delegated Regulation EU 2019/980 of March 14, 2019, supplementing Regulation (EU) 2017/1129 of the European Parliament and of the Council on the form, content, review and approval of the prospectus to be published when securities are offered to the public or admitted to trading on a regulated market.

* For information relating to the offices held by directors, companies marked with an asterisk are listed companies.

Jacques Aschenbroich

Independent director

Born on June 3, 1954 (French)
Director of TotalEnergies SE since the Annual Shareholders' Meeting on May 28, 2021
End of current term: 2024 Annual Shareholders' Meeting

Number of TotalEnergies shares held: 1,000 (as of December 31, 2021)

Business address: 100 rue de Courcelles, 75017 Paris, France

Main function: Chairman and Chief Executive Officer of Valeo* until January 26, 2022

(Chairman of the Board of Directors of Valeo* since then)

Biography & Professional Experience

As an engineer graduate of the Corps des Mines, Mr. Jacques Aschenbroich held several positions in the French administration and served in the Prime Minister's office in 1987 and 1988. He then pursued an industrial career in the Saint-Gobain group from 1988 to 2008. After having managed subsidiaries in Brazil and Germany, he became Managing Director of the Flat Glass division of Compagnie de Saint-Gobain and went on to become Chairman of Saint-Gobain Vitrage in 1996.

As Senior Vice-President of Compagnie de Saint-Gobain from October 2001 to December 2008, he managed the flat glass and high-performance materials sectors as from January 2007 and, as the Vice-Chairman of Saint-Gobain Corporation and General Delegate to the United States and Canada, he directed the operations of the group in the United States as from September 1, 2007. He was also a director of Esso SAF until June 2009. In March 2009, he is appointed director and Chief Executive Officer and on February 18, 2016, Chairman and Chief Executive Officer of Valeo.

Directorships and functions held

Directorships held at any company during fiscal year 2021

Within the Valeo group

- Chairman and Chief Executive Officer of Valeo*

Outside the Valeo group

- Director of TotalEnergies SE* since May 28, 2021
- Director of BNP Paribas* and member of the Financial Statements Committee
- Director of Veolia Environnement and Chairman of the Research, Innovation and Sustainable Development Committee and member of the Accounts and Audit Committee (until May 28, 2021)

Directorships that have expired in the previous five years

- Director of Veolia Environnement and Chairman of the Comité de recherche, innovation et développement durable and member of the Comité des comptes et de l'audit (until May 28, 2021)
- Chairman of Valeo Finance, Valeo S.p.A. (Italy) and Valeo (UK) Limited (United Kingdom)

Other positions held during fiscal year 2021

None

Patricia Barbizet

Director
Member of the Audit Committee
Member of the Governance and Ethics Committee
Member of the Strategy & CSR Committee

Born on April 17, 1955 (French)
Director of TotalEnergies SE since the Annual Shareholders' Meeting on May 16, 2008
Last reappointment: Annual Shareholders' Meeting on May 29, 2020
End of current term: 2023 Annual Shareholders' Meeting

Number of TotalEnergies shares held: 11,050(1) (as of December 31, 2021)

Business address: Temaris et Associés SAS, 40 rue François 1er, 75008 Paris, France

Main function: Chairwoman of Temaris et Associés SAS

Biography & Professional Experience

A graduate of École Supérieure de Commerce de Paris (ESCP-Europe) in 1976, Patricia Barbizet started her career in the Treasury division of Renault Véhicules Industriels, and then as CFO of Renault Crédit International. In 1989, she joined the group of François Pinault as CFO, and was CEO of Artémis, the Pinault family's investment company, between 1992 and 2018. She was also CEO and Chairwoman of Christie's from 2014 to 2016.

Patricia Barbizet was Vice Chairwoman of the Board of Directors of Kering and Vice Chairwoman of Christie's Plc. She has been a member of the Board of Directors of TotalEnergies SE since 2008, and was a director of Bouygues, Air France-KLM and PSA Peugeot-Citroën. She chaired the Investment Committee of the Fonds Stratégique d'Investissement (FSI) from 2008 to 2013.

Directorships and functions held

Directorships held at any company during fiscal year 2021

- Chairwoman of Temaris et Associés SAS since October 2018
- Director of TotalEnergies SE*, member of the Audit Committee since May 28, 2021, member of the Governance and Ethics Committee and the Strategy & CSR Committee
- Director of Axa* since April 2018
- Director of Pernod Ricard* since November 2018
- Director of Colombus Holdings since July 2019

Directorships that have expired in the previous five years

- Director of Groupe Fnac Darty* until May 2019
- Director of Artémis until July 2018
- Chief Executive Officer of Artémis until January 2018
- Deputy Chairwoman of Christie's International plc until January 2018
- Director and Vice Chairwoman of the Board of Directors of Kering S.A.* until December 2018
- General Manager (non-executive) and member of the Supervisory Board of Financière Pinault until January 2018
- Permanent representative of Artémis, member of the Board of Directors of Agefi until January 2018
- Permanent representative of Artémis, member of the Board of Directors of Sebdo le Point until January 2018
- Member of the Management Board of Société Civile du Vignoble de Château Latour until January 2018
- Director of Yves Saint Laurent until November 2018
- Amministratore & Amministratore Delagato of Palazzo Grassi until January 2018
- Member of the Supervisory Board of Ponant until January 2018
- Representative of Artémis on the Supervisory Board of Collection Pinault Paris until January 2018

Other positions held during fiscal year 2021

- Chairwoman of Cité de la Musique – Philharmonie de Paris (EPIC)
- Chairwoman of the Supervisory Board of Investissements d'Avenir (French governmental body)
- Chairwoman of the Haut Comité de Gouvernance d'Entreprise (HCGE)

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(1) Excluding acquisitions in 2020 completed by Temaris et Associés SAS, legal entity related to Patricia Barbizet.

Marie-Christine Coisne-Roquette

Independent director – Lead Independent Director
Chairwoman of the Governance and Ethics Committee
Member of the Compensation Committee
Member of the Strategy & CSR Committee

Born on November 4, 1956 (French)
Director of TotalEnergies SE since the Annual Shareholders' Meeting on May 13, 2011
Last reappointment: Annual Shareholders' Meeting on May 29, 2020
End of current term: 2023 Annual Shareholders' Meeting

Number of TotalEnergies shares held: 4,559 (as of December 31, 2021)

Business address: Sonepar, 25 rue d'Astorg, 75008 Paris, France

Main function: Chairwoman of Sonepar S.A.S. and of Colam Entreprendre SAS

Biography & Professional Experience

Ms. Coisne-Roquette has a Bachelor's Degree in English. A lawyer by training, with a French Masters' in law and a Specialized Law Certificate from the New York bar, she started her career as an attorney in 1981 at the Paris and New York bars, as an associate of Cabinet Sonier & Associés in Paris. In 1984, she became a member of the Board of Directors of Colam Entreprendre, a family holding company that she joined full time in 1988. As Chairwoman of the Board of Colam Entreprendre and the Sonepar Supervisory Board, she consolidated family ownership, reorganized the group structures and strengthened its shareholding base to sustain the group's growth strategy. Chairwoman and Chief Executive Officer of Sonepar as of 2002, Marie-Christine Coisne-Roquette became Chairwoman of Sonepar S.A.S. in 2016. At the same time, she heads Colam Entreprendre as its Chairwoman and Chief Executive Officer. Formerly a member of the Young Presidents' Organization (YPO), she served on the Executive Committee of MEDEF (France's main employers' association) for 13 years and was Chairwoman of its Tax Commission from 2005 to 2013. She was a member of the Economic, Social and Environmental Council from 2013 and 2015 and is currently a director of TotalEnergies SE.

Directorships and functions held

Directorships held at any company during fiscal year 2021

Within the Sonepar group

- Chairwoman of Sonepar S.A.S.
- Chairwoman of Colam Entreprendre S.A.S.
- Director of Sonepack SAS since mid-2020
- Chairwoman of the Board of Directors of Développement Mobilier et Industriel (S.A.S.)
- Managing Partner of Ker Coro (société civile immobilière)

Outside the Sonepar group

- Director of TotalEnergies SE*, Lead Independent Director, Chairwoman of the Governance and Ethics Committee, member of the Compensation Committee and the Strategy & CSR Committee
- Director of EssilorLuxottica*

Directorships that have expired in the previous five years

- Chief Executive Office of Sonepack S.A.S. until mid-2020
- Chairwoman of CMI until June 2020
- Member of the Supervisory Board of Akuo Energy S.A.S. (until June 2020)
- Legal representative of Sonepar S.A.S., co-manager of Sonedis (*société civile*) until October 29, 2018

Other positions held during fiscal year 2021

- Director at FONDACT
- Director at the Fondation Recherche Alzheimer
- Member of the Board of Directors of AFEP (French association of private companies)
- Vice Chair of the Board of Directors of the Association Nationale des Sociétés par Actions (ANSA)
- Member of the Bureau and director of MEDEF International

Jérôme Contamine

Independent director
Member of the Audit Committee

Born on November 23, 1957 (French)
Director of TotalEnergies SE since the Annual Shareholders' Meeting on May 29, 2020
End of current term: 2023 Annual Shareholders' Meeting

Number of TotalEnergies shares held: 10,275
Number of TotalEnergies Actionnariat France collective investment fund units held: 751.9159
(as of December 31, 2021)

Business address: TotalEnergies SE, 2 place Jean Millier, La Défense 6, 92400 Courbevoie, France

Main function: Independent director

Biography & Professional Experience

The French-born Mr. Contamine is a graduate of Ecole Polytechnique, ENSAE and ENA. After spending four years as an auditor of the French Court of Auditors (Cour des Comptes), he served in a variety of positions between 1988 and 2000 at Elf Aquitaine and later TotalEnergies. From 2000 to 2009, he was Executive Vice President of Finance at Veolia Environnement and he was a member of the Board of Directors of Valeo from 2006 to 2017. From 2009 to 2018, he was Chief Financial Officer of Sanofi. Mr. Contamine is a director, a member of the Audit and Internal Control Committee and the Chairman of the Compensation Committee of Société Générale.

Directorships and functions held

Directorships held at any company during fiscal year 2021

- Director of TotalEnergies SE* and member of the Audit Committee
- Director of Société Générale*, member of the Audit and Internal Control Committee and Chairman of the Compensation Committee
- Chairman of Sigateo

Directorships that have expired in the previous five years

- Director of Valeo*

Other positions held during fiscal year 2021

- Member of the Financial Committee of the Fondation des Apprentis d'Auteuil

Lise Croteau

Independent director
Member of the Audit Committee

Born on May 5, 1960 (Canadian)
Director of TotalEnergies SE since the Annual Shareholders' Meeting on May 29, 2019
End of current term: Annual Shareholders' Meeting on May 25, 2022

Number of TotalEnergies shares held: 100
Number of TotalEnergies ADS held: 1,000 (as of December 31, 2021)

Business address: 580 Chemin de la Réserve, Mont-Tremblant, Québec, J8E 3L8, Canada

Main function: Independent director

Biography & Professional Experience

Ms. Croteau began her career as an auditor joining Hydro-Québec in 1986 where she held financial management and control position of increasing responsibility. From 2015 to 2018, she held the position of Executive Vice President and Chief Financial Officer of Hydro-Québec prior to retiring. A chartered professional accountant since 1984, Ms. Croteau holds a Bachelor’s degree in Business Administration and in 2008 was named a Fellow of the Order of Chartered Professional Accountants of Québec in recognition of her contribution to the profession.

Ms. Croteau has been an independent director of Boralex since 2018, the Chair of the Audit Committee since 2019 and a member of the Investment and Risk Management Committee since 2021. Boralex, listed in Toronto, is a Canadian leader in renewable energies with operations in wind, solar, hydroelectricity and storage. It also has operations in France, the United States and the United Kingdom.

Since June 2019, Ms. Croteau has been a director on the Boards of Québecor inc. and Québecor Média inc. as well as a member of the Human Resources and Corporate Governance Committee. Québecor is a Canadian leader in the telecommunications, entertainment, news media and culture fields.

Directorships and functions held

Directorships held at any company during fiscal year 2021

- Director of TotalEnergies SE* and member of the Audit Committee
- Director of Québecor inc.* since June 16, 2019
- Director of Québecor Média inc.* since June 16, 2019
- Director of Boralex* since 2018, Chairwoman of the Audit Committee since 2019 and member of the Investment and Risk Management Committee since 2021

Directorships that have expired in the previous five years

- Director of TVA Group Inc.* until June 16, 2019

Other positions held during fiscal year 2021

None

Mark Cutifani

Independent director

Chairman of the Compensation Committee

Born on May 2, 1958 (Australian)
Director of TotalEnergies SE since the Annual Shareholders' Meeting on May 26, 2017
Last reappointment: Annual Shareholders' Meeting on May 29, 2020
End of current term: 2023 Annual Shareholders' Meeting

Number of TotalEnergies shares held: 2,000 (as of December 31, 2021)

Business address: Anglo American plc. Group, 20 Carlton House Terrace, London, SW1Y 5AN, United Kingdom

Main function: Chief Executive of Anglo American plc.* until April 19, 2022

Biography & Professional Experience

Mr. Cutifani was appointed director and Chief Executive of Anglo American plc. on April 3, 2013. He is a member of the Board’s Sustainability Committee and chairs the Group Management Committee. Mr. Cutifani has more than 45 years of experience in the mining industry in various parts of the world, covering a broad range of products. Mark Cutifani is a non-executive director of Anglo American Platinum Limited, Chairman of Anglo American South Africa and Chairman of De Beers plc. He was previously the Chief Executive Officer of AngloGold Ashanti Limited. Before joining AngloGold Ashanti, Mr. Cutifani was COO responsible for global nickel business at Vale. Prior to that, he held various management roles at Normandy Group, Sons of Gwalia, Western Mining Corporation, Kalgoorlie Consolidated Gold Mines and CRA (Rio Tinto).

Mr. Cutifani has a degree in Mining Engineering (with honors) from the University of Wollongong in Australia. He is a Fellow of the Royal Academy of Engineering, the Australasian Institute of Mining and Metallurgy and the Institute of Materials, Minerals and Mining in the United Kingdom.

Mr. Cutifani received an honorary doctorate from the University of Wollongong in Australia in 2013 and an honorary doctorate from Laurentian University in Canada in 2016.

Directorships and functions held

Directorships held at any company during fiscal year 2021

Within the Anglo American group

- Director and Chief Executive of Anglo American plc.*
- *Non-executive director* of Anglo American Platinum Limited
- Chairman of De Beers plc.
- Chairman of De Beers Investments plc.

Outside the Anglo American group

- Director of TotalEnergies SE* and chairman of the Compensation Committee

Directorships that have expired in the previous five years

None

Other positions held during fiscal year 2021

None

Valérie Della Puppa Tibi

Director representing employee shareholders

Member of the Compensation Committee

Born on August 22, 1968 (French)
Director representing employee shareholders of TotalEnergies SE since the Annual Shareholders' Meeting on May 29, 2019
End of current term: Annual Shareholders' Meeting on May 25, 2022

Number of TotalEnergies shares held: 30
Number of TotalEnergies Actionnariat France collective investment fund units held: 440.66
Number of TotalEnergies France Capital+ collective investment fund units held: 18.96 (as of December 31, 2021)

Business address: TotalEnergies SE, 2 place Jean Millier, La Défense 6, 92400 Courbevoie, France

Main function: Employee of TotalEnergies SE*

Biography & Professional Experience

A graduate of the Institut Universitaire de Technologie de Sceaux (Paris XI) in International Trade, Ms. Della Puppa Tibi joined the Company in 1989. She held several positions in international logistics at the Marine Lubricants unit of the Lubrifiants subsidiary. Ms. Della Puppa Tibi also studied at the Conservatoire des Arts et Métiers (International Trade curriculum - Marketing, International Trade, Commodity Markets courses) as well as studying languages (English, Spanish and Italian). In 2002, she joined the Réseau France as a contract pilot for the maintenance of service stations. In 2011, Ms. Della Puppa Tibi joined the Procurement Division of the Refining and Marketing as e-procurement manager, then became Lead Buyer upon the creation of TotalEnergies Global Procurement in 2017.

Ms. Della Puppa Tibi has also been member of the TotalEnergies European Works Council (SE Committee), and a full elected member of the Supervisory Board of the TotalEnergies Actionnariat France and an alternate elected member of the Supervisory Board of the TotalEnergies France Capital+ collective investment funds.

Directorships and functions held

Directorships held at any company during fiscal year 2021

- Director representing employee shareholders of TotalEnergies SE* and member of the Compensation Committee

Directorships that have expired in the previous five years

None

Other positions held during fiscal year 2021

- Member of the TotalEnergies European Works Council (SE Committee)
- Full elected member of the Supervisory Board of the TotalEnergies Actionnariat France and alternate elected member of the Supervisory Board of the TotalEnergies France Capital+ collective investment funds
- Elected member of the UES Amont – Global Services – Holding, Paris Social and Economic Committee

Romain Garcia-Ivaldi

Director representing employees
Member of the Audit Committee

Born on September 14, 1988 (French)
Director representing employees of TotalEnergies SE, appointed by the Central Economic and Employee Interest Committee of the Corporation on June 9, 2020
End of current term: 2023 Annual Shareholders' Meeting

Number of TotalEnergies shares held: 178
Number of TotalEnergies Actionnariat France collective investment fund units held: 3,157.637
Number of FCPE TotalEnergies France Capital+ collective investment fund units held: 40.12
(as of December 31, 2021)

Business address: TotalEnergies SE, 2 place Jean Millier, La Défense 6, 92400 Courbevoie, France

Main function: Employee of TotalEnergies SE*

Biography & Professional Experience

A graduate of ENSTA Paris engineering school and IFP School, Mr. Garcia-Ivaldi began his career at TotalEnergies in 2012 as an economist on oil and gas projects in Americas region. Between 2012 and 2015, he was a reservoir engineer, serving in a variety of positions in Paris and Lagos (Nigeria). He is currently an economist of new business for TotalEnergies SE. He also obtained the “Certificat Administrateur de Sociétés” IFA-Sciences Po.

Mr. Garcia-Ivaldi was chairman of the Supervisory Board of the TotalEnergies Actionnariat France and TotalEnergies France Capital+ employee shareholding funds from November 9, 2018 to June 17, 2020.

Directorships and functions held

Directorships held at any company during fiscal year 2021

- Director representing employees of TotalEnergies SE* and, since May 28, 2021, member of the Audit Committee

Directorships that have expired in the previous five years

None

Other positions held during fiscal year 2021

None

Maria van der Hoeven

Independent director

Chairwoman of the Audit Committee

Born on September 13, 1949 (Dutch)
Director of TotalEnergies SE since the Annual Shareholders' Meeting on May 24, 2016
Last reappointment: Annual Shareholders' Meeting on May 29, 2019
End of current term: Annual Shareholders' Meeting on May 25, 2022

Number of TotalEnergies shares held: 1,500 (as of December 31, 2021)

Business address: Sadatdomein 31, 6229 HC Maastricht, The Netherlands

Main function: Independent director

Biography & Professional Experience

Ms. van der Hoeven trained as a teacher, becoming a professor in economic sciences and administration then a school counselor. She subsequently headed the Adult Vocational Education Center in Maastricht for seven years, before leading the Limburg Technology Center. She was a member of the Dutch Parliament, served as Minister of Education, Culture and Science from 2002 to 2007, and was Minister of Economic Affairs of the Netherlands from 2007 to 2010. Ms. van der Hoeven was Executive Director of the International Energy Agency (IEA) from September 2011 to August 2015. During this period, she helped to increase the number of members of the Agency and emphasized the close link between climate and energy policy. In September 2015, Ms. van der Hoeven joined the Board of Trustees of Rocky Mountain Institute (USA) and in the spring of 2016, she became a member of the Supervisory Board of Innogy SE (Germany). Ms. van der Hoeven was Vice Chairwoman of the High-level Panel of the European Decarbonisation Pathways Initiative within the European Commission between 2016 and 2018. Since January 2020, she has been a member of the Supervisory Board of COVRA, a privately held Dutch company that serves as the central depository for radioactive waste in the Netherlands.

Directorships and functions held

Directorships held at any company during fiscal year 2021

- Director of TotalEnergies SE* and, since May 28, 2021, Chairwoman of the Audit Committee
- Member of the Supervisory Board of COVRA since January 2020 (Netherlands)
- Member of the Board of Trustees of Rocky Mountain Institute (USA) until October 30, 2021

Directorships that have expired in the previous five years

- Member of the Board of Trustees of Rocky Mountain Institute (USA) until October 30, 2021
- Member of the Supervisory Board of Innogy SE* until October 4, 2019

Other positions held during fiscal year 2021

- Member of the EACLN, European Audit Committee Leaders Network, since August 2021
- Member of the Supervisory Board of Erasmus Entreprise (Netherlands) since June 2021
- Special Advisor on energy literacy to the Secretary General of World Energy Council (WEC) since May 2021
- Member of the Board of Leaders pour la Paix (France) since January 2019
- Member of the International Advisory Panel on Energy in Singapore since January 2019
- Senior fellow in CIEP (Netherlands)

Glenn Hubbard

Independent director

Born on September 4, 1958 (American)
Director of TotalEnergies SE since the Annual Shareholders' Meeting on May 28, 2021
End of current term: 2024 Annual Shareholders' Meeting

Number of TotalEnergies shares held: 1,000 (as of December 31, 2021)

Business address: 607 Uris Hall, 3022 Broadway, New York, NY 10027, United States

Main function: Russell L. Carson Professor of Finance and Economics, Columbia University and Chairman of the Board, MetLife, Inc.

Biography & Professional Experience

Mr. Glenn Hubbard obtained in 1983 a PhD in Economics at Harvard University. After graduation, he joined Northwestern University as Assistant Professor of Economics, where he stayed for five years. In 1988 he joined Columbia University, where he continues to teach today. Since then, he has been a visiting professor at Harvard's Kennedy School of Government and Harvard Business School as well as The University of Chicago. In 1991, Glenn Hubbard was appointed Deputy Assistant Secretary for Tax Policy at the United States Department of the Treasury. In 1993, he joined the Federal Reserve Bank of New York's Panel of Economic Advisors, a position he vacated in 2001 when he became Chairman of the United States Council of Economic Advisers (CEA). He also served as Chair of the Economic Policy Committee of the Organization for Economic Cooperation and Development (OECD) as well as a Member of the White House National Economic Council, National Security Council, and the President's Council on Science and Technology. He stepped down as Chair of the CEA in 2003, returning to Columbia University. In 2007, he also rejoined the Panel of Economic Advisors for the Federal Reserve Bank of New York, a position he maintained for 10 years. In 2004, he joined the Boards of Dex Media, KKR Financial Corporation, and Automatic Data Processing (ADP), positions he held for many years. In 2004, he was named Dean of Columbia Business School (Columbia University's graduate school of business), keeping this position until 2019. In 2007, Glenn Hubbard joined the Board of MetLife, Inc. where he continues to serve today after being named Lead Independent Director in 2017 and Chairman in 2019.

Directorships and functions held

Directorships held at any company during fiscal year 2021

- Chairman of the Board of MetLife, Inc.*
- Director of BlackRock Fixed Income Funds
- Director of TotalEnergies SE* since May 28, 2021

Directorships that have expired in the previous five years

- Director of Automatic Data Processing until November 2020

Other positions held during fiscal year 2021

- Co-Chair, Committee on Capital markets Regulation
- Board Member of Resources for the Future

Anne-Marie Idrac

Independent director

Member of the Governance and Ethics Committee
Member of the Strategy & CSR Committee

Born on July 27, 1951 (French)
Director of TotalEnergies SE since the Annual Shareholders' Meeting on May 11, 2012
Last reappointment: Annual Shareholders' Meeting on May 28, 2021
End of current term: 2024 Annual Shareholders' Meeting

Number of TotalEnergies shares held: 1,539 (as of December 31, 2021)

Business address: 9 place Vauban 75007 Paris, France

Main function: Independent director

Biography & Professional Experience

A graduate of Institut d'Études Politiques de Paris and formerly a student at École Nationale d'Administration (ENA-1974), Ms. Idrac began her career holding various positions as a senior civil servant at the French Ministry of Infrastructure (Ministère de l'Équipement) in the fields of environment, housing, urban planning and transportation. She served as Executive Director of the public institution in charge of the development of Cergy-Pontoise (Établissement public d'Aménagement de Cergy-Pontoise) from 1990 to 1993 and Director of land transport from 1993 to 1995. Ms. Idrac was France's State Secretary for Transportation from May 1995 to June 1997, elected member of Parliament for Yvelines from 1997 to 2002, regional councilor for Île-de-France from 1998 to 2002 and State Secretary for Foreign Trade from March 2008 to November 2010. She also served as Chairwoman and Chief Executive Officer of RATP from 2002 to 2006 and then as Chairwoman of SNCF from 2006 to 2008.

Directorships and functions held

Directorships held at any company during fiscal year 2021

- Director of TotalEnergies SE*, member of the Governance and Ethics Committee and the Strategy & CSR Committee
- Director of Air France-KLM* and Chairwoman of the Sustainable Development and Compliance Committee
- Director of Bouygues* until June 2021, Chairwoman of the CSR Committee and member of the Audit Committee
- Director of Saint Gobain* and Chairwoman of the Nominations and Compensation Committee
- Director of Sanef since October 2019

Directorships that have expired in the previous five years

- Chairwoman of the Supervisory Board of Toulouse-Blagnac Airport until May 2018
- Director of Bouygues* until June 2021

Other positions held during fiscal year 2021

- Chairwoman of the professional association France Logistique since January 2020
- Member of the Board of Directors of the Fondation Robert Schuman
- Chairwoman of the Fondation Alima since November 2020

Jean Lemierre

Independent director
Member of the Governance and Ethics Committee
Member of the Strategy & CSR Committee

Born on June 6, 1950 (French)
Director of TotalEnergies SE since the Annual Shareholders' Meeting on May 24, 2016
Last reappointment: Annual Shareholders' Meeting on May 29, 2019
End of current term: Annual Shareholders' Meeting on May 25, 2022

Number of TotalEnergies shares held: 1,042 (as of December 31, 2021)

Business address: BNP Paribas, 3 rue d'Antin 75002 Paris, France

Main function: Chairman of the Board of Directors of BNP Paribas*

Biography & Professional Experience

Mr. Lemierre is a graduate of the Institut d'Études Politiques de Paris and the École Nationale d'Administration. He also has an undergraduate law degree. Mr. Lemierre held various positions at the French tax authority, including as Head of the Fiscal Legislation Department and Director-General of Taxes. He was then appointed as Cabinet Director at the French Ministry of Economy and Finance before becoming Director of the French Treasury in October 1995. Between 2000 and 2008, he was President of the European Bank for Reconstruction and Development (EBRD). He became an advisor to the Chairman of BNP Paribas in 2008 and has been Chairman of the Board of Directors of BNP Paribas since December 1, 2014. During his career, Mr. Lemierre has also been a member of the European Monetary Committee (1995-1998), Chairman of the European Union Economic and Financial Committee (1999-2000) and Chairman of the Paris Club (1999-2000). He later became a member of the International Advisory Council of China Investment Corporation (CIC) and the International Advisory Council of China Development Bank (CDB). He is currently Chairman of the Centre d'Études Prospectives et d'Informations Internationales (CEPII) and a member of the Institute of International Finance (IIF).

Directorships and functions held

Directorships held at any company during fiscal year 2021

Within the BNP Paribas group

- Chairman of the Board of Directors of BNP Paribas*
- Director of TEB Holding AS

Outside the BNP Paribas group

- Director of TotalEnergies SE*, member of the Governance and Ethics Committee and of the Strategy & CSR Committee

Directorships that have expired in the previous five years

None

Other positions held during fiscal year 2021

- Member of the Board of Directors of AFEP (French association of private companies)
- Chairman of Centre d'Études Prospectives et d'Informations Internationales (CEPII)
- Member of the Institute of International Finance (IIF)
- Member of the International Advisory Board of Orange*
- Member of the International Advisory Council of China Development Bank* (CDB)
- Member of the International Advisory Council of China Investment Corporation (CIC)
- Member of the International Advisory Panel (IAP) of the Monetary Authority of Singapore (MAS)
- Vice-Chairman of Paris Europlace since 2014

Angel Pobo

Director representing employees

Member of the Strategy & CSR Committee

Born on August 14, 1969 (French)
Director representing employees of TotalEnergies SE, appointed by the SE Committee, known as the TotalEnergies European Works Council, on October 14, 2020
End of current term: 2023 Annual Shareholders' Meeting

Number of TotalEnergies shares held: 339
Number of TotalEnergies Actionnariat France collective investment fund units held: 1,400.2234
Number of TotalEnergies France Capital+ collective investment fund units held: 46.35 (as of December 31, 2021)

Business address: TotalEnergies SE, 2 place Jean Millier, La Défense 6, 92400 Courbevoie, France

Main function: Employee of TotalEnergies SE*

Biography & Professional Experience

Mr. Pobo joined TotalEnergies in 1989 as part of Argedis, the subsidiary responsible for service station management and operations in France, where he held a variety of positions before becoming site director in 1998. In 2013, he became a member of the European Works Council. He was the central union representative for the Marketing & Services Unit of Economic and Employee Interest (UES) from 2014 to 2017, and then for the Upstream/Global Services/Holding Company UES beginning in 2017. He is also the union representative on the Economic and Employee Interest Committee and the Central Economic and Employee Interest Committee. On October 14, 2020, he was appointed by the SE Committee, known as the European Works Committee, to sit on the Board of Directors of TotalEnergies SE as a director representing employees and accordingly resigned from his union responsibilities.

Directorships and functions held

Directorships held at any company during fiscal year 2021

- Director representing employees of TotalEnergies SE* and, since May 28, 2021, member of the Strategy & CSR Committee

Directorships that have expired in the previous five years

None

Other positions held during fiscal year 2021

- Mayor of Aubais (France)

DIRECTORSHIPS OF TotalEnergies SE THAT EXPIRED IN 2021

Patrick Artus

Independent director
until May 28, 2021

Chairman of the Audit Committee and member of the Strategy & CSR Committee
until May 28, 2021

Born on October 14, 1951 (French)
Director of TotalEnergies SE since the Annual Shareholders' Meeting on May 15, 2009 until the Annual Shareholders' Meeting on May 28, 2021

Main function: Head of the Research Department and member of the Executive Committee of Natixis*

Biography & Professional Experience

A graduate of École Polytechnique, École Nationale de la Statistique et de l'Administration Économique (ENSAE) and the Institut d'Études Politiques de Paris, Mr. Artus began his career at INSEE (the French National Institute for Statistics and Economic Studies) where his work included economic forecasting and modeling. He then worked at the Economics Department of the OECD (1980), later becoming the Head of Research at ENSAE from 1982 to 1985. He was the scientific advisor at the Research Department of the Banque de France, before joining the Natixis Group as the head of the Research Department, and has been a member of its Executive Committee since May 2013. He is an associate professor at the Paris School of Economics. He is also a member of the Cercle des Économistes.

Mandats et fonctions exercés

Directorships held at any company during fiscal year 2021[1]

Within the Natixis group

- Head of the Research Department and member of the Executive Committee of Natixis*

Outside the Natixis group

- Director of TotalEnergies SE*, chairman of the Audit Committee and member of the Strategy & CSR Committee until May 28, 2021

Directorships that have expired in the previous five years

- Director of TotalEnergies SE*, chairman of the Audit Committee and member of the Strategy & CSR Committee until May 28, 2021

Other positions held during fiscal year 2021

None

4.1.1.2 ABSENCE OF CONFLICTS OF INTEREST OR CONVICTIONS

The Board of Directors' Rules of Procedure stipulate the specific rules for preventing conflicts of interest applicable to directors in the following terms (refer to point 4.1.2.1 of this chapter for the full version of the Rules of Procedure):

"2.5. Duty of loyalty

Directors must not take advantage of their office or duties to gain, for themselves or a third party, any monetary or non-monetary benefit.

They must notify the Chairman of the Board of Directors and the Lead Independent Director, if one has been appointed, of any existing or potential conflict of interest with the Corporation or any subsidiary of the Company, and they must refrain from participating in the vote relating to the corresponding resolution as well as from participating in any debates preceding such vote.

Directors must inform the Board of Directors of their participation in any transaction that directly involves the Corporation, or any subsidiary of the Company, before such transaction is finalized.

Directors must not assume personal responsibilities in companies or businesses having activities in competition with those of the Corporation or any subsidiary of the Company without first having informed the Board of Directors.

Directors undertake not to seek or accept from the Corporation, or from companies related to the Corporation, directly or indirectly, any advantages liable to be considered as being of a nature that may compromise their independence. "

"7.2 Duties of the Lead Independent Director

5. Prevention of conflicts of interest

Within the Governance and Ethics Committee, the Lead Independent Director organizes the performance of due diligence in order to identify and analyze potential conflicts of interest within the Board of Directors. He informs the Chairman and Chief Executive Officer of any conflicts of interest identified as a result and reports to the Board of Directors on these activities.

Pursuant to the obligation to declare conflicts of interest set out in article 2.5 of these Rules, any director affected by an existing or potential conflict of interest must inform the Chairman and Chief Executive Officer and the Lead Independent Director."

The Lead Independent Director has performed due diligence in order to identify and analyze potential conflicts of interest. The Lead Independent Director was consulted in January 2022 by a director, before the latter accepted a directorship in a Belgian-listed company that is active in biotech, about a potential conflict of interest that could arise in this context. The Lead Independent Director concluded there was no conflict of interest, and this director then accepted the directorship that was on offer in this company.

On the basis of the work carried out, the Board of Directors noted the absence of potential conflicts of interest between the directors' duties with respect to TotalEnergies and their private interests.

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(1) Information as of May 28, 2021.

To the Corporation's knowledge, there is no family relationship among the members of the Board of Directors of TotalEnergies SE; there is no arrangement or agreement with the major shareholders, customers or suppliers under which a director was selected; and there is no service agreement that binds a director to TotalEnergies SE or to any of its subsidiaries and provides for special benefits under the terms thereof.

The current directors of TotalEnergies have informed the Corporation that they have not been convicted of fraud, have not been associated with bankruptcy, sequestration, receivership or court-ordered liquidation proceedings, and have not been subject to any incrimination, conviction or sanction pronounced by an administrative authority or professional body, nor have they been prohibited from managing a company or disqualified as stipulated in item 12.1 of Annex I of Commission Delegated Regulation (EU) 2019/980 of March 14, 2019, over the last five years.

4.1.1.3 PLURALITY OF DIRECTORSHIPS HELD BY DIRECTORS

The number of directorships held by directors in listed companies outside their group, including foreign companies, was assessed as of December 31, 2021, in accordance with the recommendations of the AFEP-MEDEF Code (point 19), which states that "*an executive officer should not hold more than two other directorships in listed corporations, including foreign corporations, outside of his or her group. [This] limit [...] does not apply to directorships held by an executive officer in subsidiaries and holdings, held alone or together with others, of companies whose main activity is to acquire and manage such holdings. [...] A director may not hold more than four other directorships in listed corporations, including foreign corporations, outside of the group.*"

SUMMARY OF OTHER DIRECTORSHIPS HELD BY MEMBERS OF THE BOARD OF DIRECTORS

As of December 31, 2021	Number of directorships held at listed companies[(a)]	Compliance with the criteria of the AFEP-MEDEF Code
Patrick Pouyanné	1	✓
Jacques Aschenbroich	2	✓
Patricia Barbizet	3	✓
Marie-Christine Coisne-Roquette	2	✓
Jérôme Contamine	2	✓
Lise Croteau	4	✓
Mark Cutifani	1	✓
Valérie Della Puppa Tibi(b)	0	✓
Romain Garcia-Ivaldi(c)	0	✓
Maria van der Hoeven	1	✓
Glenn Hubbard	2	✓
Anne-Marie Idrac	3	✓
Jean Lemierre	1	✓
Angel Pobo(c)	0	✓

(a) In accordance with the criteria of the AFEP-MEDEF Code.
(b) Director representing employee shareholders.
(c) Director representing employees.

4.1.1.4 DIRECTORS' INDEPENDENCE

At its meeting on February 9, 2022, the Board of Directors, on the proposal of the Governance and Ethics Committee, reviewed the independence of the Corporation's directors as of December 31, 2021. At that Committee's proposal, the Board considered that, pursuant to the AFEP-MEDEF Code to which the Corporation refers, a director is independent when "*he or she has no relationship of any kind whatsoever with the corporation, its group or its management that may interfere with the exercise of his or her freedom of judgment*".

For each director, this assessment was based on the independence criteria set forth in points 9.5 to 9.7 of the AFEP-MEDEF Code, updated in January 2020, and as described below.

Criterion 1: Employee corporate officer within the previous five years

"Not to be or not to have been within the previous five years:

- *an employee or executive officer of the company;*
- *an employee, executive officer or director of a company consolidated within the corporation;*
- *an employee, executive officer or director of the company's parent company or a company consolidated within this parent company. "*

Criterion 2: Cross-directorships

"Not to be an executive officer of a company in which the corporation holds a directorship, directly or indirectly, or in which an employee appointed as such or an executive officer of the corporation (currently in office or having held such office within the last five years) holds a directorship. "

Criterion 3: Significant business relationships

"Not to be a customer, supplier, commercial banker, investment banker or consultant:

- *that is significant to the corporation or its group;*
- *or for which the corporation or its group represents a significant portion of its activity.*

The evaluation of the significance or otherwise of the relationship with the company or its group must be debated by the Board, and the quantitative and qualitative criteria that led to this evaluation (continuity, economic dependence, exclusivity, etc.) must be explicitly stated in the annual report."

Criterion 4: Family ties

"Not to be related by close family ties to a company officer. "

Criterion 5: Auditor

"Not to have been an auditor of the corporation within the previous five years. "

Criterion 6: Period of office exceeding 12 years

"Not to have been a director of the corporation for more than twelve years. Loss of the status of independent director occurs on the date of this 12th anniversary. "

Criterion 7: Status of non-executive officer

"A non-executive officer cannot be considered independent if he or she receives variable compensation in cash or in the form of securities or any compensation linked to the performance of the corporation or group. "

Criterion 8: Status of the major shareholder

"Directors representing major shareholders of the corporation or its parent company may be considered independent, provided these shareholders do not take part in the control of the corporation. Nevertheless, beyond a 10% threshold in capital or voting rights, the Board, upon a report from the nominations committee, should systematically review the qualification of a director as independent in the light of the make-up of the corporation's capital and the existence of a potential conflict of interest. "

It has been confirmed that the independence analyses carried out previously for Ms. Coisne-Roquette, Mr. Aschenbroich, Mr. Contamine, Ms. Croteau, Mr. Cutifani, Ms. van der Hoeven, Mr. Hubbard, Ms. Idrac and Mr. Lemierre as of December 31, 2021 remain relevant.

In particular, the following was noted as of the date of December 31, 2021.

- The level of business relations between the Company's companies and those of the Sonepar group, of which **Ms. Coisne-Roquette** is Chairwoman, does not represent a significant portion of the Sonepar group's overall activity. The amount of the Company's purchases from Sonepar in 2021 (i.e., $1.5 million) represents less than 0.01% of the Company's purchases made in 2021 (i.e., approximately $25 billion(1)). It was thus noted that there is no economic dependency or exclusive business relationship between the two groups and concluded that Ms. Coisne-Roquette could be deemed to be an independent director.
- The level of business relations between the companies of the Company and those of the Valeo group, of which **Mr. Aschenbroich** was Chairman and Chief Executive Officer until January 26, 2022 and is still Chairman of the Board of Directors, is not significant for TotalEnergies or for Valeo. The amount of purchases made by the Company from Valeo in 2021 (i.e., $0.991 million) represents less than 0.01% of the purchases made by the Company in 2021 (i.e., approximately $25 billion(2)). The amount of purchases made by Valeo from the Company's companies in 2021 (i.e., $45.9 million) represents less than 0.34% of the total amount of purchases made by Valeo in 2021. It was thus established that there is no economic dependency or exclusive business relations between the two groups and concluded that Mr. Aschenbroich could be considered as independent.
- The level of business relations between the Company's companies and those of the Société Générale group, of which **Mr. Contamine** is a director, a member of the Audit and Internal Control Committee and the Chairman of the Compensation Committee, is not significant for TotalEnergies or Société Générale. It represents an insignificant share of Société Générale's overall activity (less than 0.1% of the bank's net banking income(2)) and an insignificant share of the total amount of external financing of the Company's activities (less than 5%). The Board noted the absence of economic dependence and exclusivity in the activities between the two groups. It thus concluded that Mr. Contamine could be deemed to be an independent director.

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(1) Purchases of goods and services (excluding petroleum products and chartering for Trading-Shipping activities).

(2) 2021 net banking income.

- The level of business relations between the Company's companies and those of the Anglo American Plc. group, of which **Mr. Cutifani** is the Chief Executive, is not significant for TotalEnergies or for Anglo American Plc. No significant purchases were made by the Company from Anglo American Plc. in 2021. The amount of purchases by Anglo American Plc. from the Company's companies in 2021 (i.e., $314 million) represents 2.5% of the total amount of purchases by Anglo American Plc. in 2021. It was thus established that there is no economic dependency or exclusive business relations between the two groups and concluded that Mr. Cutifani could be deemed as independent.
- The level of business relations between the companies of the Company and those of the MetLife Inc. group, of which **Mr. Hubbard** is Chairman of the Board of Directors, is not significant for TotalEnergies or MetLife Inc. The amount of insurance premiums paid by the Company's companies to the MetLife Inc. group in 2021 was insignificant. The amount of insurance premiums paid by the Company's companies to the MetLife Inc. group in 2021 represents an insignificant share of the revenues generated by this group in 2021. It was therefore established that there is no significant business relationship, economic dependency or exclusive business relationships between the two groups, and that Mr. Glenn Hubbard could be deemed to be an independent director.
- The level of business relations between the Company's companies and those of the BNP Paribas group, of which **Mr. Lemierre** is Chairman of the Board of Directors, is insignificant for TotalEnergies and BNP Paribas. It represents an insignificant share of BNP Paribas' overall activity (less than 0.1% of the bank's net banking income(1)) and an insignificant share of the total amount of external financing for the Company's activities (less than 5%). It thus concluded that Mr. Lemierre could be deemed to be an independent director.

Accordingly, following the Governance and Ethics Committee's proposal, the Board of Directors deemed Ms. Coisne-Roquette, Mr. Aschenbroich, Mr. Contamine, Ms. Croteau, Mr. Cutifani, Ms. van der Hoeven, Mr. Hubbard, Ms. Idrac and Mr. Lemierre to be independent directors.

Ms. Barbizet, who was appointed director by the Annual Shareholders' Meeting held on May 16, 2008, cannot be considered an independent director pursuant to Article 9.5.6 of the AFEP-MEDEF Code.

The percentage of independent directors on the Board based on its composition as of December 31, 2021, was 82%(2). The rate of independence within the Board of Directors is higher than that recommended by the AFEP-MEDEF Code, which specifies that at least half of the members of the Board in widely-held companies with no controlling shareholders should be independent.

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(1) 2021 net banking income.

(2) Excluding the director representing employee shareholders and the directors representing employees, in accordance with the recommendations of the AFEP-MEDEF Code (point 9.3).

SUMMARY OF THE INDEPENDENCE OF THE MEMBERS OF THE BOARD OF DIRECTORS

Appendix 3 of the AFEP-MEDEF Code – Independence of directors

As of December 31, 2021

Criteria[a]	Patrick Pouyanné	Jacques Aschenbroich	Patricia Barbizet	Marie-Christine Coisne-Roquette	Jérôme Contamine	Lise Croteau	Mark Cutifani	Valérie Della Puppa Tibi[b]	Romain Garcia-Ivaldi[c]	Maria van der Hoeven	Glenn Hubbard	Anne-Marie Idrac	Jean Lemierre	Angel Pobo[c]
Criterion 1: Employee corporate officer within the past 5 years	✗	✓	✓	✓	✓	✓	✓	n/a	n/a	✓	✓	✓	✓	n/a
Criterion 2: Cross-directorships	✓	✓	✓	✓	✓	✓	✓	n/a	n/a	✓	✓	✓	✓	n/a
Criterion 3: Significant business relationships	✓	✓	✓	✓	✓	✓	✓	n/a	n/a	✓	✓	✓	✓	n/a
Criterion 4: Family ties	✓	✓	✓	✓	✓	✓	✓	n/a	n/a	✓	✓	✓	✓	n/a
Criterion 5: Auditor	✓	✓	✓	✓	✓	✓	✓	n/a	n/a	✓	✓	✓	✓	n/a
Criterion 6: Period of office exceeding 12 years	✓	✓	✗	✓	✓	✓	✓	n/a	n/a	✓	✓	✓	✓	n/a
Criterion 7: Status of non-executive officer	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	✓	n/a	n/a	n/a
Criterion 8: Status of the major shareholder	✓	✓	✓	✓	✓	✓	✓	n/a	n/a	✓	✓	✓	✓	✓
Compliance with the independence criteria of the AFEP-MEDEF Code	✗	✓	✗	✓	✓	✓	✓	n/a[d]	n/a[d]	✓	✓	✓	✓	n/a

(a) In this table, ✓ signifies that a criterion for independence is satisfied and ✗ signifies that a criterion for independence is not satisfied.

(b) Director representing employee shareholders.

(c) Director representing employees.

(d) Excluding the director representing employee shareholders and the directors representing employees, in accordance with the recommendations of the AFEP-MEDEF Code (point 9.3).

4.1.1.5 DIVERSITY POLICY OF THE BOARD OF DIRECTORS

The Board of Directors places a great deal of importance on its composition and the composition of its Committees. In particular, it draws on the work of the Governance and Ethics Committee, which reviews annually and proposes, as circumstances may require, desirable changes to the composition of the Board of Directors and Committees based on TotalEnergies' strategy.

The Governance and Ethics Committee conducts its work within the framework of a formal procedure so as to ensure that the directors' areas of expertise are complementary and their backgrounds are diverse, to maintain an overall proportion of independent members that is appropriate to the TotalEnergies' governance structure and shareholder base, to allow for a balanced representation of women and men on the Board, and to promote an appropriate representation of directors of different nationalities. These principles underpin the selection process for directors.

As part of an effort that began several years ago, the composition of the Board of Directors has changed significantly since 2010 to achieve better gender balance and an openness to more international profiles. Based on its composition as of March 16, 2022, the 14 members of the Board of Directors include 8 male directors and 6 female directors, with 5 nationalities represented.

In accordance with Articles L. 225-27-1, L. 225-23 and L. 22-10-5 of the French Commercial Code, the directors representing employees and the director representing employee shareholders are not taken into account for the application of the provisions relating to the gender balance of the Board. Therefore, the proportion of women on the Board was 45.5% as of December 31, 2021 (5 women and 6 men out of 11 directors). The threshold of 40% of directors of each gender required by Articles L. 225-18-1 and L. 22-10-3 of the French Commercial Code was reached on December 31, 2021.

COMPETENCE OF THE DIRECTORS

	Patrick Pouyanné	Jacques Aschenbroich	Patricia Barbizet	Marie-Christine Coisne-Roquette	Jérôme Contamine	Lise Croteau	Mark Cutifani	Valérie Della Puppa Tibi	Romain Garcia-Ivaldi	Glenn Hubbard	Maria van der Hoeven	Anne-Marie Idrac	Jean Lemierre	Angel Pobo	Total	Total (%)
Corporate management	✓	✓	✓	✓	✓	✓	✓					✓	✓		9	64%
International	✓		✓	✓	✓	✓	✓			✓	✓		✓		9	64%
Finance, accounting, economics	✓	✓	✓	✓	✓	✓			✓	✓			✓		9	64%
Risk management			✓		✓	✓					✓		✓		5	35%
Governance	✓		✓	✓	✓		✓	✓		✓	✓	✓	✓		10	71%
Climate - sustainable development	✓	✓		✓		✓	✓			✓	✓	✓	✓		9	64%
Industry	✓	✓		✓	✓	✓	✓	✓	✓						8	57%
Energy	✓			✓	✓	✓		✓	✓		✓			✓	8	57%
Public affairs, geopolitics	✓	✓		✓			✓			✓	✓	✓	✓		8	57%

FOCUS ON THE COMPETENCE OF DIRECTORS IN CLIMATE MATTERS

Patrick Pouyanné

Patrick Pouyanné has been involved in climate issues since the 1990s when he was in the French administration. Thus, he followed the preparation of the COP1 in Berlin in 1995 when he was technical advisor in charge of environmental issues in the French Prime Minister's office.

Following his appointment at the head of the Company at the end of 2014, Patrick Pouyanné is embarking on a major transformation of TotalEnergies. His roadmap is to make progress in the energy transition, while creating value for the Company's shareholders, with a twofold challenge for TotalEnergies: supply more energy with fewer emissions. He has set TotalEnergies a new ambition in terms of sustainable development and of energy transition to carbon neutrality. He proposes that the Board of Directors submit it to the 2021 Shareholders' Meeting for opinion. As Chairman of the Board of Directors and Chairman of the Strategy & CSR Committee, Patrick Pouyanné has taken the initiative to organize strategic seminars gathering the directors on climate-related issues, with contributions from leaders and experts, like in October 2020, when Christina Figueres spoke at a seminar on "Climate issues and the impact on energy demand: consequences for the Company's strategy". In October 2021, Fatih Birol, Executive Director of the International Energy Agency, spoke on energy and climate issues.

Patrick Pouyanné also brings his strategic vision on the major global issues of sustainable development to numerous international forums such as the World Economic Forum or the Global Compact of the United Nations.

Jacques Aschenbroich

The automotive industry, and mobility in general, are particularly concerned by the challenge of decarbonization, which requires massive investments in technologies and products. At the head of Valeo since 2009, Jacques Aschenbroich has implemented a strategic plan aimed at ensuring the group's growth through the development of technologies to reduce CO_2 emissions. As early as 2010, he put the reduction of CO_2 at the center of the strategy. In 2015, Valeo signed the Climate Manifesto, through which major companies affirm their driving role and leadership in favor of a more sustainable world. In 2021, Valeo presented its commitment to carbon neutrality by 2050 (with an intermediary target to reduce by 45% the carbon footprint by 2030) and joined the "Business Ambition for 1.5 °C" campaign, bringing together companies committed to carbon neutrality by 2050 using the SBTi (Science-Based Targets initiative) framework.

Jacques Aschenbroich brings to the Board of Directors of TotalEnergies his experience as the head of an industrial, international and technological group that is exposed to climate issues.

Patricia Barbizet

Since 2009, Patricia Barbizet actively has contributed to the deliberations of the TotalEnergies Board of Directors and the committees, of which she is a member, on the various major issues facing the Company, and in particular climate change. In her previous role as Lead Independent Director on the Board of Directors of TotalEnergies, which she held from 2015 to 2020, Patricia Barbizet participated in numerous roadshows and discussions with shareholders and investors, where climate change issues were central to the discussions.

Her skills and experience as an executive led her to reinforce her conviction in terms of CSR, and the creation of value by the company in the long term, by taking into consideration the social and environmental challenges of its activities, particularly in terms of the climate. She has chaired the Haut Comité de Gouvernance d'Entreprise (HCGE) of Paris place since November 2018.

As a Lead Independent Director of Pernod-Ricard since 2018, Patricia Barbizet contributes to the development of the strategy of this company by integrating climate issues and transitional measures that facilitate decarbonization.

Marie-Christine Coisne-Roquette

As Chairwoman of Sonepar and its animating holding, Marie-Christine Coisne-Roquette is driving the strategy of the Sonepar group, the world leader in the distribution of electrical equipment, solutions and related services to professionals.

She engaged Sonepar in a global Sustainable Development approach by adhering to the United Nations Global Compact and Science Based Targets and by joining the Medef's "Ambition 4 Climate" initiative. Sonepar implements a sustainable development approach in close partnership with its stakeholders and has launched the "Energy Transition Academy", an online training program for its 45,000 employees and customers to help them reduce their emissions and become actors of change. The energy transition is at the heart of the family-owned group's activity, both through the adoption of a trajectory to reduce its carbon footprint and through the promotion of a "green offer" that provides its customers with clean energy solutions and the development of circular, renewable and eco-efficient products and services.

As a Lead Independent Director on the Board of Directors of TotalEnergies, Marie-Christine Coisne-Roquette participates in numerous discussions and roadshows with shareholders and investors on climate change and energy transition issues.

Jérôme Contamine

Jérôme Contamine is a director, a member of the Audit and Internal Control Committee and Chairman of the Compensation Committee of Société Générale. His financial profile and his expertise in sustainable finance enabled him to be associated with the discussions that led Société Générale to join the UNEP-FI Net-Zero Banking Alliance as a founding member in 2021, and to commit to aligning portfolios with roadmaps aiming at global carbon neutrality by 2050. Société Générale is also committed to supporting the energy transition through a dedicated range of sustainable financing solutions and support for the development of renewable energies and future solutions.

As Executive Managing Director of Veolia from 2006 to 2009, Jérôme Contamine actively participated in the group's actions to contribute to better energy management for its customers and to reduce their GHG emissions.

Lise Croteau

After serving as Executive Vice President and Chief Financial Officer of Hydro-Québec, one of the world's largest producers of hydroelectricity, Ms. Lise Croteau now uses her skills and knowledge of renewables and of the management of risks related to climate change in the service of the companies in which she sits as an independent director. Since 2018, she has been a director of Boralex, the Canadian leader in renewable energy, and since June 2019, a director of Québecor inc.

Mark Cutifani

As the Chief Executive of the mining company Anglo American Plc., Mark Cutifani has driven a transformational strategy for the group in a sector particularly challenged by climate issues. As head of the company for the past 9 years, Mark Cutifani has been instrumental in advancing climate and environmental transition plans, including refocusing the company's business and separating it from its thermal coal assets.

Valérie Della Puppa Tibi

Valérie Della Puppa Tibi has been an employee of TotalEnergies since 1989. She is a director representing employee shareholders and a member of the TotalEnergies European Works Council (the SE Committee), a social negotiation body, where the social issues of the Company's transformation and the changes in the energy sector are discussed. As a member of the Compensation Committee, she contributed to the discussions that led to the integration of climate-related performance criteria into long-term compensation plans and compensation structures. Valérie Della Puppa Tibi has also participated in several training sessions offered by the Company on the challenges of energy transition.

Romain Garcia-Ivaldi

A graduate of ENSTA Paris and IFP School, and currently an economist for new exploration and production projects at TotalEnergies, Romain Garcia-Ivaldi contributes as a director representing employees to the Board of Directors' discussions on the challenges of the transformation of the industry and energy efficiency as well as to issues related to non-financial reporting within the Audit Committee. Romain Garcia-Ivaldi has taken part in numerous training sessions offered by the Company on the challenges of the energy transition.

He also holds a certificate for company directors from IFA-Sciences Po.

Maria van der Hoeven

Maria van der Hoeven led the International Energy Agency (IEA) from 2011 to 2015 during a period of great change in the global energy economy, with a particular focus on the consideration of climate change in energy policy. One of her main priorities has been the implementation of a new strategy to integrate the main emerging players in the energy sector of the 21st century. Another of her priorities was to extend energy services to the one billion people in the world who had no access to them. In recognition of the IEA's efforts to address the crisis of energy poverty, Maria van der Hoeven served on the advisory board of the UN Sustainable Energy for All initiative. She was named a Senior Fellow of the Clingendael International Energy Program in 2015. Her personal skills led to her appointment as Vice-Chair of the European Decarbonisation Pathways Initiative High-Level Experts Group of the European Commission, whose final report was published in November 2018. Maria van der Hoeven was also appointed as a member of the Global Commission on Economics and Climate and the Global Commission on the Geopolitics of Energy Transformation, an independent initiative launched at the IRENA Assembly in January 2018. Previously, Maria van der Hoeven served as the Minister of Economic Affairs of the Netherlands from 2007 to 2010, during which time she influenced energy policy on the national, regional and global levels. Before becoming Minister of Economic Affairs, Maria van der Hoeven was Minister of Education, Culture and Science from 2002 to 2007. She was a member of the Board of Directors of Rocky Mountain Institute, an organization recognized in the field of the energy transition.

Glenn Hubbard

Glenn Hubbard is Professor of Finance and Economics and Dean of the Columbia Business School at Columbia University, holding the Russell L. Carson Chair in Finance and Economics. He has published numerous scientific articles on economics and finance. His work covers a variety of areas, including energy economics and taxation, and in particular the issue of CO_2 pricing, as well as the role of companies in climate change mitigation and how they address their exposure to climate risk. Glenn Hubbard is co-chair of the American committee on capital markets regulation and was the co-chair of the Study Group on Corporate Boards.

Glenn Hubbard is also a member of the Board of Directors of Resources for the Future, a non-profit organization dedicated to independent economic research in the areas of the environment, natural resources and energy. Glenn Hubbard is also a director of BlackRock Fixed Income Funds and the Chairman of MetLife, a US-based energy transition insurer that has set environmental goals for 2030 to reduce the environmental impact of its global operations and supply chain. MetLife is a founding member of the Climate Leadership Council, supporting carbon pricing.

Anne-Marie Idrac

Former Secretary of State for Transport, Secretary of State for Trade to the Minister of the Economy, Industry and Employment, Member of Parliament, President of the RATP and then of the SNCF, Anne-Marie Idrac is now an independent director and consultant.

She has been working on companies' environmental and sustainability issues for many years. She took over the chairmanship of the CSR Club of the IFA (French Institute of Directors) in 2013, when it was created, with the objective of promoting the integration of social and environmental responsibility and sustainability of corporate projects into strategic thinking. This work led to the publication in 2017, under the aegis of the IFA, of a report on the theme “CSR & sustainability of corporate projects, strategic missions of Boards”.

Anne-Marie Idrac's competence in the field of transport and logistics led her to join the Air France-KLM Board of Directors in 2017 and to take over the chairmanship of its Sustainable Development and Compliance Committee. She then took part in discussions on decarbonizing the air transport sector, which was the first sector to organize itself at the global level by defining CO_2 emission-reduction targets. Air France-KLM supports the objectives of the International Air Transport Association (IATA). In 2018, she was appointed as the senior official for the French strategy for the development of self-driving vehicles.

She was also a director of Saint-Gobain, which has published a roadmap for its commitment to achieve zero net carbon emissions by 2050, including intermediate emission-reduction targets for 2030. She was until 2020 a director and Chairperson of the Bouygues Sustainable Development Committee, when the group engaged its decarbonization process by focusing on innovative low-carbon solutions for its customers. She has chaired France Logistique since 2020 and is, in this capacity, very involved in the energy transition of road freight transport, participating in public/private, national and European work in this field.

Jean Lemierre is the Chairman of BNP Paribas. As early as 2015, BNP Paribas committed to accelerate the energy transition by aligning its financing and investment activities with the conclusions of the Paris Agreement. In 2021, the group took another important step in the fight against global warming and the energy transition towards a more planet-friendly economy, by joining the Net-Zero Banking Alliance. This initiative brings together banks wishing to contribute to the financing of a "net zero" economy by 2050, in particular through strong commitments to align the greenhouse gas emissions generated by their lending and investment activities with a target of global carbon neutrality by 2050.

In addition, Jean Lemierre has been the Vice-Chairman of the Paris Europlace Association since 2014, whose priorities include the promotion of sustainable and responsible finance. In this context, Paris Europlace's objective is to perpetuate and raise awareness of the Paris financial center's action in environmental and sustainable finance and to develop initiatives on the European and international levels in these various fields. As a result, Paris Europlace launched a new initiative "Paris Green & Sustainable Finance" in May 2016, which became "Finance for Tomorrow" in June 2017. This initiative aims to promote sustainable finance in France and internationally, by helping to redirect financial flows (“Shift the Trillions”) towards a low-carbon and inclusive economy, in line with the Paris Agreement.

With his experience and competence in sustainable finance, Jean Lemierre contributes to the reflections of the Board of Directors and the Strategy & CSR Committee, of which he is a member, on these subjects.

Angel Pobo joined the Company in 1989. In October 2020, he was appointed by the SE Works Council to sit on the Company’s Board of Directors as the director representing employees, and became a member of the Strategy & CSR Committee in 2021. He uses his knowledge of the Company to bring a social dimension to the Board of Directors and the Strategy & CSR Committee, particularly at a time when the Company is taking a major turn in its strategy and initiating an in-depth transformation. Angel Pobo has taken part in numerous training sessions offered by the Company on the challenges of the energy transition.

4.1.1.6 TRAINING OF DIRECTORS AND KNOWLEDGE OF THE COMPANY

Directors may ask to receive training in the specificities of the Company, its businesses and its business sector, as well as any training that may help them perform their duties as directors. At her request, the Lead Independent Director received specific training from the IFA on April 7 and 9, 2020, in relation to her duties as Lead Independent Director as of May 29, 2020.

A continuing training program relating to the climate for directors has been approved in 2021 and will be rolled out in 2022. It will include the Climate Fresco (a scientific, collaborative and creative workshop designed to raise awareness of climate change and in particular its causes and consequences), as well as various modules on the following themes: Energy, Climate Change and Environmental Risks; Energy and Climate; Climate Change and Financial Risks and Opportunities; Causes and issues of global warming.

In addition, the directors representing employees receive in-house training time at the Corporation and/or economics training offered by an outside body chosen by the director, after the Secretary of the Board has accepted the body and the training program. This training time, which was initially set at 20 hours per year, was increased to 60 hours per year by decision of the Board of Directors at its meeting on July 26, 2017, a decision the Board confirmed at its meeting on July 29, 2020, pursuant to Article L. 225-30-2 of the French Commercial Code. In addition, in line with the provisions of Article L. 225-23 of the French Commercial Code introduced by Law N° 2019-486 of May 22, 2019, known as the PACTE law, the director representing employee shareholders may, at his or her request, be given training time set at 40 hours per year. Training may be undertaken within the Corporation or the Company, and/or provided by an external body chosen by the director, once the body and program have been accepted by the Secretary of the Board, in line with the conditions set out in the regulations.

Pursuant to Article R. 225-34-3 of the French Commercial Code, and upon a proposal made by the Governance and Ethics Committee, the Board of Directors decided that the training should enable the directors representing employees and the directors representing employee shareholders to acquire and refine the knowledge and techniques needed for the performance of their duties, and that the content of the training should principally address the role and operations of the Board of Directors, the rights and obligations of directors and their liability, and the Corporation's organization and business activities. The training may be provided at an outside training facility or within the Corporation itself. The Secretary of the Board, with the consent of the Chairman of the Board of Directors, is responsible for the procedures by which the training program determined by the Board of Directors is implemented. Mr Garcia-Ivaldi, for his part, has completed a training course for company directors at the Institut d'Études Politiques de Paris.

Since 2013 (except in 2020 due to the health situation related to the COVID-19 pandemic), the Board of Directors has met each year on a Company site. In 2021, the Board of Directors held one of its meetings at the Digital Factory in France. In past years, the Board of Directors has met at the Laggan project site in the North Sea in the United Kingdom, at the Yamal LNG site in northern Russia and on the Halfdan offshore platform off the coast of Denmark.

In 2021, like in 2020, the directors were likewise unable to take part in site tours, as they had in previous years, as a result of the public health emergency. In 2019, four directors had the opportunity to visit the CSTJF engineering and research center in Pau, France, and two directors visited the site in Saclay, France, where the Company's Research & Development division is located. In 2018, three directors visited the Umm Shaif offshore field in Abu Dhabi, and two other directors visited the deepwater operational center in Lagos, the FPSO of the AKPO offshore field and the LNG plant on Bonny Island, Nigeria.

These site visits by the directors are opportunities to meet with the Company's employees, partners and local leading figures in the energy sector. They are likely to resume once the public health situation permits.

The directors also have regular contact with Company management, including members of the Executive Committee at Board meetings and operational managers during visits to the Company's sites. These interactions help the directors better understand TotalEnergies' activities in a practical way.

4.1.2 Functioning of the Board of Directors

9
meetings of the Board of Directors in 2021

99.2%
Directors' average attendance rate at Board meetings in 2021

1
executive session chaired by the Lead Independent Director in 2021

4.1.2.1 WORKING PROCEDURES OF THE BOARD OF DIRECTORS

The working procedures of the Board of Directors are set out in its Rules of Procedure, which specify the mission of the Board of Directors and the rules related to the organization of its work. The Board's Rules of Procedure also specify the obligations of each director, as well as the role and powers of the Chairman and the Chief Executive Officer.

A member of the Central Social and Economic Committee attends the Board meetings in an advisory capacity, pursuant to Article L. 2312-75 of the French Labor Code.

French Law N° 2019-486 of May 22, 2019, on the growth and transformation of businesses (known as the PACTE Law) amended Article L. 225-27-1 of the French Commercial Code, lowering to eight the number of directors above which a second director representing employees must be appointed. Pursuant to those provisions, a second director representing employees was appointed by the SE Committee, on October 14, 2020.

The Rules of Procedure of the Board of Directors are reviewed on a regular basis in order to adapt them to changes in governance rules and practices. In 2014, changes were made to include, in particular, new provisions relating to information of the Board of Directors in the event of new directorships being assumed by the directors or changes in existing directorships, together with a reminder of the obligations of confidentiality inherent to the work of the Board. In December 2015, changes were made to provide for the appointment of a Lead Independent Director in the event of the combination of the functions of Chairman of the Board and Chief Executive Officer and to define his or her duties. In July 2018, changes were made in response to the new demands pertaining to social and environmental responsibility further to the revision of the AFEP-MEDEF Code in June 2018. In July 2020, the Rules of Procedure governing the Board of Directors were amended further to reflect the Corporation's conversion into a European company and the changes introduced by the PACTE Law. In July 2021, it was again amended to incorporate the change of name of the Corporation, decided at the Shareholders' Meeting on May 28, 2021.

The text of the latest unabridged version of the Rules of Procedure of the Board of Directors, as approved by the Board of Directors at its meeting on July 28, 2021, is provided below. It is also available on the Corporation's website under "Our Company/Our strength/Our governance."

RULES OF PROCEDURES OF THE BOARD OF DIRECTORS

The Board of Directors of TotalEnergies SE(1) has approved the following rules of procedure.

1. ROLE OF THE BOARD OF DIRECTORS

The Board of Directors is a collegial body that determines the course of the Corporation's business and oversees its implementation, in accordance with its corporate interest by taking into account the social and environmental challenges of its activity. With the exception of the powers and authority expressly reserved for shareholders and within the limits of the corporate purpose, the Board may address any issue related to the Corporation's operation and make any decision concerning the matters falling within its purview. Within this framework, the Board's duties and responsibilities include, but are not limited to, the following:

- appointing the executive directors(2) and supervising the handling of their responsibilities;
- striving to promote creation of long-term value by the Company;
- defining the Corporation's strategic orientations and, more generally, that of the Company;
- regularly reviewing, in relation with such strategic orientations, opportunities and risks such as financial, legal, operational, social and environmental risks as well as measures taken as a result;
- being informed of market developments, the competitive environment and the main challenges facing the Company, including with regard to social and environmental responsibility;
- approving investments or divestments being considered by the Company that exceed 3% of shareholders' equity as well as any significant transaction outside the announced strategy of the Company;
- reviewing information on significant events related to the Corporation's operations, in particular for investments and divestments involving amounts exceeding 1% of shareholders' equity;
- conducting any audits and investigations it deems appropriate. In particular, the Board, with the assistance of the Committees it has established, ensures that:
  - authority has been properly defined and that the various corporate bodies of the Corporation make proper use of their powers and responsibilities,
  - no individual is authorized to commit to pay or to make payments, on behalf of the Corporation, without proper supervision and control,
  - a system for preventing and detecting corruption and influence peddling is in place,
  - a non-discrimination and diversity policy within the Corporation and its Company exists and is implemented,
  - the internal control function operates properly and the statutory auditors are able to perform their mission satisfactorily, and
  - the Committees duly perform their responsibilities;
- approving the internal assessment procedure regarding ordinary agreements finalized under normal conditions as well as "regulated" agreements;
- ensuring the quality of the information provided to shareholders and financial markets through the financial accounts that it closes and the reports that it publishes, as well as when major transactions are completed;
- preparing on an annual basis, according to criteria set by the Code of corporate governance to which the Corporation refers, the list of directors it deems to be independent amongst the directors other than the director representing employee shareholders and the director or directors representing employees who are not counted for the purpose of determining the proportion of independent directors within the Board of Directors as well as within its Committees; and
- appointing a Lead Independent Director under the conditions set out in article 7, when the Chairman of the Board of Directors is also the Chief Executive Officer pursuant to a decision by the Board of Directors.

2. OBLIGATIONS OF THE DIRECTORS OF TotalEnergies SE

Before accepting a directorship, all candidates receive a copy of the Corporation's Articles of Association and these Rules of Procedure. They must ensure that they have broad knowledge of the general and particular obligations related to their duty, especially the laws and regulations governing directorships in European companies (*Societas Europaea*) registered in France, whose shares are listed in one or several regulated markets. They must also ensure that they are familiar with the guidelines set out in the Corporate Governance Code to which the Corporation refers.

Accepting a directorship creates an obligation to comply with applicable regulations relating in particular to the functioning of the Board of Directors, and with the ethical rules of professional conduct for directors as described in the Corporate Governance Code to which the Corporation refers.

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(1) TotalEnergies SE is referred to in these rules of procedure as the "Corporation" and collectively with all its direct and indirect subsidiaries as the "Company".

(2) The term "executive director" refers to the Chairman and Chief Executive Officer, if the Chairman of the Board of Directors is also responsible for the management of the Corporation; the Chairman of the Board of Directors and the Chief Executive Officer, if the two roles are carried out separately; and, where applicable, any Deputy Chief Executive Officers or Chief Operating Officers, depending on the organisational structure adopted by the Board of Directors.

It also creates an obligation to comply with these rules of procedure and to uphold the Company's values as described in its Code of Conduct.

When directors participate in and vote at meetings of the Board of Directors, they are required to represent all of the Corporation's shareholders and to act in the interest of the Corporation as a whole.

2.1 Independence of judgment

Directors undertake to maintain, in all circumstances, the independence of their analysis, judgment, decision-making and actions as well as not to be unduly influenced, directly or indirectly, by other directors, particular groups of shareholders, creditors, suppliers or, more generally, any third party.

2.2 Other directorships or functions

Directors must keep the Board of Directors informed of any position they hold on the management team, board of directors or supervisory board of any other company, whether French or foreign, listed or unlisted. This includes any positions as a non-voting member (*censeur*) of a board. To this end, directors expressly undertake to promptly notify the Chairman of the Board of Directors, and the Lead Independent Director if one has been appointed, of any changes to the positions held, for any reason, whether appointment, resignation, termination or non-renewal.

2.3 Participation in the Board's work

Directors undertake to devote the amount of time required to duly consider the information they are given and otherwise prepare for meetings of the Board of Directors and of the Committees of the Board of Directors on which they sit. They may request from the executive directors any additional information they deem necessary or useful to their duties. If they consider it necessary, they may request training on the Company's specificities, businesses and industry sector, its challenges in terms of social and environmental responsibility as well as any other training that may be of use to the effective exercise of their duties as directors.

Unless unable, in which case the Chairman of the Board shall be provided advance notice, directors are to attend all meetings of the Board of Directors, meetings of Committees of the Board of Directors on which they serve and Shareholders' Meetings.

The Chairman of the Board ensures that directors receive all relevant information concerning the Corporation, including that of a negative nature, particularly analyst reports, press releases and the most important media articles.

2.4 Confidentiality

Directors and any other person who attends all or part of any meeting of the Board of Directors or its Committees are under the strict obligation not to disclose any details of the proceedings.

All documents reviewed at meetings of the Board of Directors, as well as information conveyed prior to or during the meetings, are strictly confidential.

With respect to all non-public information acquired during the exercise of their functions, directors are bound, even after their functions have ceased, by professional secrecy not to divulge such information to outside parties of the Corporation and to employees of the Company. This obligation goes beyond the mere duty of discretion provided for by law.

Directors must not use confidential information obtained prior to or during meetings for their own personal benefit or for the benefit of anyone else, for whatever reason. They must take all necessary steps to ensure that the information remains confidential. Confidentiality and privacy are lifted when such information is made publicly available by the Corporation.

2.5 Duty of loyalty

Directors must not take advantage of their office or duties to gain, for themselves or a third party, any monetary or non-monetary benefit.

They must notify the Chairman of the Board of Directors and the Lead Independent Director, if one has been appointed, of any existing or potential conflict of interest with the Corporation or any subsidiary of the Company, and they must refrain from participating in the vote relating to the corresponding resolution as well as from participating in any debates preceding such vote.

Directors must inform the Board of Directors of their participation in any transaction that directly involves the Corporation, or any subsidiary of the Company, before such transaction is finalized.

Directors must not assume personal responsibilities in companies or businesses having activities in competition with those of the Corporation or any subsidiary of the Company without first having informed the Board of Directors.

Directors undertake not to seek or accept from the Corporation, or from companies related to the Corporation, directly or indirectly, any advantages liable to be considered as being of a nature that may compromise their independence.

2.6 Duty of expression

Directors undertake to clearly express their opposition if they deem a decision being considered by the Board of Directors is contrary to the Corporation's corporate interest and they must endeavor to convince the Board of Directors of the pertinence of their position.

2.7 Transactions in the Corporation's securities and stock exchange rules

While in office, directors are required to hold the minimum number of registered shares of the Corporation as set by the Articles of Association.

Generally speaking, directors must act with the highest degree of prudence and vigilance when completing any personal transaction involving the financial instruments of the Corporation, its subsidiaries or affiliates that are listed or that issue listed financial instruments.

To that end, directors must comply with the following requirements:

1. Any shares or ADRs of the Corporation or its listed subsidiaries are to be held in registered form, either with the Corporation or its agent, or as administered registered shares with a French broker (or North American broker for ADRs), whose contact details are communicated by the director to the Secretary of the Board of Directors.
2. Directors shall refrain from directly or indirectly engaging in (or recommending engagement in) transactions involving the financial instruments (shares, ADRs or any other securities related to such financial instruments) of the Corporation or its listed subsidiaries or shareholding, or any listed financial instruments for which the director has insider information.

   Inside information is precise information, which has not yet been made public, relating directly or indirectly, to one or more issuers of financial instruments or to one or more financial instruments, and which, if it were made public, would be likely to have a significant effect on the prices of those financial instruments or on the price of financial instruments related to them.

3. Any transaction in the Corporation's financial instruments (shares, ADRs or related financial instruments) is strictly prohibited during the thirty calendar days preceding the publication of its periodic results (quarterly, half-year or annual) as well as on the day of any such announcement.

4. Moreover, directors shall comply with the provisions under which performance shares may not be sold:
   - within thirty calendar days prior to the publication by the Corporation of a press release relating to the half-year and annual results, such publication constituting the announcement of an interim financial report or a year-end report within the meaning of the applicable regulations;
   - as well as in the event of knowledge of inside information within the meaning of Article 7 of Regulation (EU) No 596/2014 on market abuse, and which has not been made public.

5. Directors are prohibited from carrying out transactions on any financial instruments related to the Corporation's share (Paris option market (MONEP), warrants, exchangeable bonds, etc.) and from buying on margin or short selling such financial instruments.

6. Directors are also prohibited from hedging the shares of the Corporation and any financial instruments related to them, and in particular:

- Corporation shares that they hold; and, where applicable:
  - Corporation shares subscription or purchase options;
  - rights to Corporation shares that may be awarded free of charge; and
  - Corporation shares obtained from the exercise of options or definitively granted.

7. Directors must make all necessary arrangements to declare, pursuant to the form and timeframe provided by applicable law, to the French securities regulator (*Autorité des marchés financiers*) and to the Financial Conduct Authority, as well as to the Secretary of the Board of Directors, any transaction involving the Corporation's securities conducted by themselves or by any other person to whom they are closely related.

3. FUNCTIONING OF THE BOARD OF DIRECTORS

3.1 Board meetings

The Board of Directors meets whenever circumstances require and at least every three months.

Prior to each Board meeting, the directors receive the agenda and, whenever possible, all other materials necessary to consider for the session.

Directors may be represented by another director at a meeting of the Board, provided that no director holds more than one proxy at any single meeting.

Whenever authorized by law, directors are considered present for quorum and majority purposes who attend Board meetings through video conferencing or other audiovisual means that are compliant with the technical requirements set by applicable regulations.

3.2 Directors' compensation

Within the limit of a ceiling set by the Shareholders' Meeting, the Board of Directors determines the directors' compensation based on a fixed portion as well as a variable portion that takes into account each director's actual participation in the work of the Board of Directors and its Committees together with, if applicable, the exercise of the duties of the Lead Independent Director.

The Chief Executive Officer or, if the functions are combined, the Chairman and Chief Executive Officer, does not receive any compensation for his participation in the work of the Board and its Committees.

3.3 Secretary of the Board of Directors

The Board of Directors, based on the recommendation of its Chairman, appoints a Secretary of the Board who assists the Chairman in organizing the Board's activities, and particularly in preparing the annual work program and the schedule of Board meetings.

The Secretary of the Board drafts the minutes of Board meetings, which are then submitted to the Board for approval.

The minutes of the Board meetings are drafted in French and executed by the Chairman of the meeting and at least one director. If the Chairman of the meeting is unable to attend, it is executed by at least two directors. Non-binding translations of extracts from the minutes may be drawn up into another language than French. However, only the minutes in French shall prevail.

The Secretary of the Board is authorized to dispatch Board meeting minutes and to certify copies and extracts of the minutes.

The Secretary is responsible for all procedures pertaining to the functioning of the Board of Directors. These procedures are reviewed periodically by the Board.

All Board members may ask the Secretary for information or assistance.

3.4 Evaluation of the functioning of the Board

The Board evaluates its functioning at regular intervals not exceeding three years. The evaluation is carried out under the supervision of the Lead Independent Director, if one has been appointed, or under the supervision of the Governance and Ethics Committee, with the assistance of an outside consultant. The Board of Directors also conducts an annual review of its practices.

4. ROLE AND AUTHORITY OF THE CHAIRMAN

The Chairman represents the Board of Directors and, except under exceptional circumstances, has sole authority to act and speak on behalf of the Board of Directors.

The Chairman organizes and oversees the work of the Board of Directors and ensures that the corporate bodies operate effectively and in compliance with good governance principles. The Chairman coordinates the work of the Board of Directors and its Committees. The Chairman establishes the agenda for each Board meeting, including items suggested by the Chief Executive Officer.

The Chairman ensures that directors receive, in a timely manner and in a clear and appropriate format, the information they need to effectively carry out their duties.

In liaison with the general management, the Chairman is responsible for maintaining relations between the Board of Directors and the shareholders of the Corporation. The Chairman monitors the quality of information disclosed by the Corporation.

In close cooperation with the general management, the Chairman may represent the Corporation in high-level discussions with government authorities and major partners of the Company, both at a national and international level.

The Chairman is regularly informed by the Chief Executive Officer of significant events and situations relating to the Company, particularly with regard to strategy, organisation, monthly financial reporting, major investment and divestment projects and key financial transactions. The Chairman may ask the Chief Executive Officer or other senior executives of the Corporation, provided that the Chief Executive Officer is informed, to supply any information that may help the Board or its Committees to carry out their duties.

The Chairman may meet with the statutory auditors in order to prepare the work of the Board of Directors and the Audit Committee.

Every year, the Chairman reports to shareholders at the Shareholders' Meeting on the Board of Directors' work.

5. AUTHORITY OF THE CHIEF EXECUTIVE OFFICER

The Chief Executive Officer is responsible for the Corporation's overall management. He represents the Corporation in its relationships with third parties and chairs the Executive Committee. The Chief Executive Officer is vested with the broadest powers to act on behalf of the Corporation in all circumstances, subject to the powers that are, by law, restricted to the Board of Directors and to the Annual Shareholders' Meeting, as well as to the Corporation's corporate governance rules and in particular these rules of procedure of the Board of Directors. The Board of Directors decides on any limitations of the powers of the Chief Executive Officer.

The Chief Executive Officer is responsible for presenting the Company's results and prospects to shareholders and the financial community on a regular basis. At each meeting of the Board of Directors, the Chief Executive Officer presents an overview of significant events of the Company.

The Chief Executive Officer proposes to the Board of Directors who present it to the shareholders at the Shareholders' Meeting, the Management Report of the Corporation as well as the consolidated Management Report.

6. BOARD COMMITTEES

The Board of Directors approved the creation of:

- an Audit Committee;
- a Governance and Ethics Committee;
- a Compensation Committee; and
- a Strategy & CSR Committee.

The roles and composition of each Committee are set forth in their respective rules of procedure, which have been approved by the Board of Directors.

The Committees perform their duties under the authority and for the benefit of the Board of Directors.

Each Committee reports on its activities to the Board of Directors.

7. LEAD INDEPENDENT DIRECTOR

7.1 Appointment of the Lead Independent Director

When the functions of the Chairman of the Board and Chief Executive Officer are combined, the Board of Directors appoints a Lead Independent Director, on the recommendation of the Governance and Ethics Committee, among the directors considered to be independent by the Board of Directors.

The appointed Lead Independent Director holds this position while in office as director, unless otherwise decided by the Board of Directors, which may choose to terminate his duties at any time. If for any reason the director is no longer deemed to be independent, his or her position as Lead Independent Director will be terminated.

The Lead Independent Director, if one is appointed, chairs the Governance and Ethics Committee.

7.2 Duties of the Lead Independent Director

The Lead Independent Director's duties include:

1. Convening meetings of the Board of Directors – Meeting Agenda

   The Lead Independent Director may request that the Chairman and Chief Executive Officer call a meeting of the Board of Directors to discuss a given agenda.

   He may request that the Chairman and Chief Executive Officer include additional items on the agenda of any meeting of the Board of Directors.

2. Participation in the work of the Committees

   If not a member of the Compensation Committee, the Lead Independent Director is invited to attend meetings and participates in the work of the Compensation Committee relating to the annual review of the executive directors' performance and recommendations regarding their compensation.

3. Acting as Chairperson of Board of Directors' meetings

   When the Chairman and Chief Executive Officer is unable to attend all or part of a meeting of the Board of Directors, the Lead Independent Director chairs the meeting. In particular, he or she chairs those Board meetings the proceedings of which relate to the evaluation of the performance of the executive directors and the determination of their compensation, which take place in their absence.

4. Evaluation of the functioning of the Board of Directors

   The Lead Independent Director manages the evaluation process relating to the functioning of the Board of Directors and reports on this evaluation to the Board of Directors.

5. Prevention of conflicts of interest

   Within the Governance and Ethics Committee, the Lead Independent Director organizes the performance of due diligence in order to identify and analyze potential conflicts of interest within the Board of Directors. He informs the Chairman and Chief Executive Officer of any conflicts of interest identified as a result and reports to the Board of Directors on these activities.

   Pursuant to the obligation to declare conflicts of interest set out in article 2.5 of these Rules, any director affected by an existing or potential conflict of interest must inform the Chairman and Chief Executive Officer and the Lead Independent Director.

6. Monitoring of the satisfactory functioning of the Board and compliance with the Rules of Procedure

   The Lead Independent Director ensures compliance with the rules of the Corporate Governance Code to which TotalEnergies SE refers and with the Rules of Procedure of the Board of Directors. He or she may make any suggestions or recommendations that he deems appropriate to this end.

   He or she ensures that the directors are in a position to carry out their tasks under optimal conditions and that they have sufficient information to perform their duties.

   With the agreement of the Governance and Ethics Committee, the Lead Independent Director may hold meetings of the directors who do not hold executive or salaried positions on the Board of Directors. He reports to the Board of Directors on the conclusions of such meetings.

7. Relationships with Shareholders

   The Chairman and Chief Executive Officer and the Lead Independent Director are the shareholders' dedicated contacts on issues that fall within the remit of the Board.

   When a shareholder approaches the Chairman and Chief Executive Officer in relation to such issues, the latter may seek the opinion of the Lead Independent Director before responding appropriately to the shareholder's request.

   When the Lead Independent Director is approached by a shareholder in relation to such issues, he or she must inform the Chairman and Chief Executive Officer, providing his or her opinion, so that the Chairman and Chief Executive Officer may respond appropriately to the request. The Chairman and Chief Executive Officer must inform the Lead Independent Director of the response given.

   With the consent of the Chairman of the Board of Directors, the Lead Independent Director may represent the Board of Directors at meetings with the shareholders of the Corporation on matters of corporate governance.

7.3 Resources – conditions of office and activity report

The Chairman and Chief Executive Officer must regularly update the Lead Independent Director on the Corporation's activities.

The Lead Independent Director has access to all of the documents and information necessary for the performance of his or her duties.

The Lead Independent Director may consult the Secretary of the Board and use the latter's services in the performance of his or her duties.

Under the conditions set out in article 3.2 of these Rules and those established by the Board of Directors, the Lead Independent Director may receive additional compensation for the duties entrusted to him or her.

The Lead Independent Director must report annually to the Board of Directors on the performance of his or her duties. During Annual Shareholders' Meetings, the Chairman and Chief Executive Officer may invite the Lead Independent Director to report on his or her activities.

4.1.2.2 ACTIVITY OF THE BOARD OF DIRECTORS IN 2021

Directors are in principle summoned to Board meetings by letter sent the week preceding the meetings. Whenever possible, documents to be considered for decisions to be made at Board meetings are sent with the notice of meetings. The minutes of the previous meeting are expressly approved at the following Board meeting.

In 2021, the Board of Directors met 9 times. The overall attendance rate for the directors was 99.2%. The Audit Committee met 7 times, with an attendance rate of 100%; the Compensation Committee met 3 times, with 100% attendance; the Governance and Ethics Committee held 4 meetings, with 100% attendance; and the Strategy & CSR Committee met 4 times, with 100% attendance.

A table summarizing individual attendance at the Board of Directors and Committee meetings is provided below.

DIRECTORS' ATTENDANCE AT BOARD AND COMMITTEE MEETINGS IN 2021

	Board of Directors		Audit Committee		Compensation Committee		Governance and Ethics Committee		Strategy & CSR Committee	
Directors	Attendance rate	Number of meetings	Attendance rate	Number of meetings	Attendance rate	Number of meetings	Attendance rate	Number of meetings	Attendance rate	Number of meetings
Patrick Pouyanné, *Chairman and Chief Executive Officer*	100%	9/9	–	–	–	–	–	–	100%	4/4
Patrick Artus(a)	100%	4/4	100%	3/3	–	–	–	–	100%	1/1
Jacques Aschenbroich(b)	100%	5/5	–	–	–	–	–	–	–	3(e)
Patricia Barbizet	100%	9/9	100%	4/4	100%	2/2	100%	4/4	100%	4/4
Marie-Christine Coisne-Roquette *Lead Independent Director*	100%	9/9	–	–	100%	3/3	100%	4/4	100%	4/4
Jérôme Contamine	88.9%	8/9	100%	7/7	–	–	–	–	–	4(e)
Lise Croteau	100%	9/9	100%	7/7	–	–	–	–	–	4(e)
Mark Cutifani	100%	9/9	–	–	100%	3/3	–	–	–	2(e)
Valérie Della Puppa Tibi(c)	100%	9/9	–	–	100%	3/3	–	–	–	4(e)
Romain Garcia-Ivaldi(d)	100%	9/9	100%	4/4	–	–	–	–	–	4(e)
Maria van der Hoeven	100%	9/9	100%	7/7	–	–	–	–	–	4(e)
Glenn Hubbard(b)	100%	5/5	–	–	–	–	–	–	–	3(e)
Anne-Marie Idrac	100%	9/9	–	–	–	–	100%	4/4	100%	4/4
Jean Lemierre	100%	9/9	–	–	–	–	100%	4/4	100%	4/4
Angel Pobo(d)	100%	9/9	–	–	–	–	–	–	100%	3/3(f)
Attendance rate	**99.2%**		**100%**		**100%**		**100%**		**100%(g)**	

(a) Director until May 28, 2021.
(b) Director since May 28, 2021.
(c) Director representing employee shareholders.
(d) Director representing employees.
(e) Voluntary participation (director not a member of the Strategy & CSR Committee).
(f) One voluntary participation, then participation on three occasions as a member.
(g) Excluding voluntary participation.

The Board meetings included, but were not limited to, a review of the following subjects:

February 8

- presentation to the Board of the work of the Strategy & CSR Committee at its meeting on December 16, 2020, including the Company's Diversity Policy and the new visual identity of the Company
- information on the acquisition of Fonroche Biogaz
- information on the acquisition of a portfolio of 2.2 GW of solar projects and 600 MW of battery storage projects, located in Texas
- closing of the 2020 accounts (Consolidated Financial Statements, parent company accounts) after the Audit Committee's report and work performed by the statutory auditors
- draft allocation of the result of the Corporation, setting of the 2020 dividend, ex-dividend and payment dates for fiscal year 2020, final dividend
- change of name to anchor the Company's transformation strategy into a multi-energy company and draft resolutions to the Shareholders' Meeting amending the Corporation's Articles of Association
- report to the Shareholders' Meeting on the Corporation's ambition with respect to sustainable development and energy transition towards carbon neutrality and its related targets by 2030, in the context of the *say on climate* resolution presented to the Meeting (opinion on the Corporation's ambition with respect to sustainable development and energy transition towards carbon neutrality and its related targets by 2030)
- text of the draft resolutions and the report of the Board of Directors to the Shareholders' Meeting to be adopted at the meeting on March 17, 2021
- main investor relations messages
- report on the implementation of the procedure to assess current transactions finalized under normal conditions and information on regulated agreements finalized by the Corporation
- information on Corporation share buybacks
- information on bond issues
- renewal of the authorization to issue bonds
- renewal of the authorization to issue security, commitments and guarantees
- renewal of the authorization to issue guarantees for certain financial transactions
- authorization of guarantees
- notifications regarding thresholds in the Corporation's share capital or voting rights
- setting of the schedule related to the dividend (interim dividends and final dividend) for fiscal year 2022
- reduction of the share capital by cancellation of treasury shares
- presentation to the Board of the work of the Governance and Ethics Committee, which met on February 3, 2021 (renewal of directorships and proposed appointment of Mr. Aschenbroich and Mr. Hubbard as directors, composition of the Committees of the Board of Directors, succession plan for executive officers and the Chairman and Chief Executive Officer)
- report of the Lead Independent Director on her mandate
- report on the Board's 2021 assessment and discussion on its functioning
- assessment of the independence of the directors as of December 31, 2020
- allocation of the directors' compensation for the 2020 fiscal year
- Market Abuse Regulations – blackout periods
- information on transactions on the Corporation's securities by the executive directors
- update on directors' and executives' liability Insurance
- presentation to the Board of the work of the Compensation Committee, which met on February 3, 2021 (guidelines for the compensation of the Chairman and Chief Executive Officer for the years 2020 and 2021)

March 17

- approval of the Company's financial policy
- presentation to the Board of the work of the Governance and Ethics Committee at its meeting of March 15, 2021
- review of the proposals for appointment and reappointment of the directorships
- update on the proposed renewal of the directorships of the Chairman and the Chief Executive Officer
- presentation to the Board of the work of the Compensation Committee at its meeting of March 17, 2021
- compensation of the Chairman and Chief Executive Officer (in his absence) for fiscal year 2020
- compensation policy for directors: general principles of the compensation for executive directors, compensation policy principles for the next term of office of the Chairman and Chief Executive Officer, compensation policy applicable to the Chairman and Chief Executive Officer for 2021, commitments made by the Corporation to the benefit of the Chairman and Chief Executive Officer (in his absence), compensation policy for directors
- confirmation of the grant of performance shares under the 2018 Plan in the light of the fulfillment of the performance conditions
- grant of performance shares to the Chairman and Chief Executive Officer and other beneficiaries (2021 Plan), including a new criterion linked to the change in GHG emissions (Scope 3(1)) in Europe
- presentation to the Board of the work of the Strategy & CSR Committee at its meeting on March 17, 2021 (overview of climate litigation worldwide and in France - TotalEnergies' Ambition - the Say on Climate resolution)
- approval of the draft Say on Climate resolution requesting the opinion of shareholders, on the Corporation's ambition with respect to sustainable development and energy transition and its related targets by 2030, to be submitted to the Shareholders' Meeting on May 28, 2021
- preparation for the Annual Shareholders' Meeting: date and location of the Shareholders' Meeting (as a closed session, pursuant to the laws in force); setting of the agenda for the Shareholders' Meeting; approval of the various chapters of the Universal Registration Document forming the management report as defined by the French Commercial Code, the report on corporate governance and the special reports on subscription and purchase options on shares of the Corporation and the granting of performance shares; approval of the report of the Board of Directors and of the text of the draft resolutions submitted to the Shareholders' Meeting; press release
- presentation to the Board of the work of the Audit Committee at its meeting on March 15, 2021, including a presentation of the transition plan for the joint statutory auditors

April 28

- presentation to the Board of the work of the Strategy & CSR Committee at its meeting on March 17, 2021
- information of the Board on the Mozambique LNG project
- consolidated financial statements, results for the first quarter of 2021 after the Audit Committee's report and work performed by the statutory auditors
- presentation to the Board of the work of the Audit Committee at its meeting on April 26, 2021, including in particular the insurance policy

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(1) GHG protocol - Category 11.

- shareholder return policy and setting of a first interim dividend for fiscal year 2021
- main investor relations messages
- preparation and organization of the Shareholders' Meeting on May 28, 2021: request for the inclusion of draft resolutions on the agenda of the Shareholders' Meeting
- capital increase reserved for employees
- information on Corporation share buybacks
- information on bond issues
- notifications regarding thresholds in the Corporation’s share capital or voting rights

May 27

- preparation and organization of the Shareholders' Meeting on May 28, 2021: answers to written questions and information on the vote on draft resolutions
- update on TotalEnergies' activities in Myanmar
- update on TotalEnergies' partnership with the Ecole Polytechnique

May 28 (post-Shareholders’ Meeting)

- designation of the Chairman of the Board of Directors and maintenance of the unified management form
- determination of the compensation of the Chairman and Chief Executive Officer in accordance with the compensation policy of the Chairman and Chief Executive Officer for 2021, as determined by the Board on March 17, 2021 and approved by the Shareholders’ Meeting on May 28, 2021; commitments made by the Corporation to the benefit of its Chairman and Chief Executive Officer
- renewal of the financial authorizations granted by the Board of Directors to the Chairman and Chief Executive Officer following his renewal
- press release
- information related to the 2021 capital increase reserved for employees

July 28

- information of the Board on the Mero 4 project in Brazil
- approval of the divestment of TotalEnergies' interest in Petrocedeño in Venezuela
- presentation to the Board of the work of the Governance and Ethics Committee on July 28, 2021, in particular on the Ethics and Compliance policy and the review of ethics and compliance activities in the Company, as well as on the relations of Board members with shareholders
- update on the Shareholders’ Meeting: summary of the 2021 shareholders’ meetings and information on the outcome of the votes at the Shareholders’ Meeting on May 28, 2021
- confidentiality of the work of the Board of Directors
- amendment of the rules of procedure of the Board of Directors and the Committees to take account of the change of corporate name decided at the Shareholders’ Meeting on May 28, 2021
- setting of the dates of the Corporation's Shareholders' Meeting
- setting of the date of the Board and Committee meetings
- presentation of the strategic outlook for Exploration & Production, including safety, reduction of the environmental footprint, improvement of operational efficiency and project selectivity
- Consolidated Financial Statements, results for the second quarter of 2021 and the first half of 2021 after the Audit Committee’s report and work performed by the statutory auditors; results of the parent company for the first half of 2021
- information of the Board on the half-yearly financial report
- minutes of the Audit Committee meetings on June 14, 2021 and July 26, 2021
- shareholder return policy and setting of a second interim dividend for fiscal year 2021
- main investor relations messages
- approval of the Board's supplementary report on the capital increase reserved for employees
- information on Corporation share buybacks
- information on bond issues
- notifications regarding thresholds in the Corporation’s share capital or voting rights

September 15

- presentation to the Board of the work of the Strategy & CSR Committee at its meeting on September 15, 2021
- presentation of the draft communication to investors on the outlook of TotalEnergies
- strategic outlook for Gas, Renewables & Power activities
- presentation of the Company’s five-year plan
- information relating to the share capital increase reserved for employees "Total Capital 2021", decision to proceed with a new share capital increase reserved for employees "TotalEnergies Capital 2022”

October 27

- presentation to the Board of the report of the meeting of the Strategy & CSR Committee on September 15, 2021
- presentation of the company's strategic orientations (Articles L. 2312-17 and L. 2312-24 of the French Labor Code)
- Consolidated Financial Statements, results for the third quarter of 2021, after the Audit Committee’s report and work performed by the statutory auditors
- presentation to the Board of the work of the Audit Committee at its meetings on October 11 and 27, 2021
- shareholder return policy and setting of a third interim dividend on the dividend for fiscal year 2021
- main investor relations messages
- authorization to issue a guarantee for the offshore wind project in Denmark
- information on Corporation share buybacks
- notifications regarding thresholds in the Corporation’s share capital
- change to the calendar of committee meeting dates
- update on the directors' climate and ESG training program

December 15

- approval by the Board of the integrated gas project in Iraq, taking into consideration the social and environmental challenges of the project
- approval of the investment project in the Atapu and Sépia fields in Brazil, taking into consideration the social and environmental challenges of the project
- presentation to the Board of the work of the Strategy & CSR Committee at its meetings on October 26 and 27, 2021
- 2022 budget
- the Corporation’s policy on gender equality and pay equity
- information on Corporation share buybacks
- information on bond issues
- notifications of thresholds concerning the Corporation.

4.1.2.3 COMMITTEES OF THE BOARD OF DIRECTORS

THE AUDIT COMMITTEE

Composition

As of March 16, 2022, the Audit Committee is made up of five members, with a 75% rate of independence.

Ms. Maria van der Hoeven chairs the Committee. Ms. Patricia Barbizet, Ms. Lise Croteau, Mr. Jérôme Contamine and Mr. Romain Garcia-Ivaldi sit on the Committee. Ms. Lise Croteau and Mr. Jérôme Contamine were appointed financial experts in this Committee by the Board of Directors on March 17, 2021. The careers of the Committee members confirm their possession of acknowledged expertise in the financial, accounting or audit fields (refer to point 4.1.1.1 of this chapter).

On the proposal of the Governance and Ethics Committee, the Board of Directors decided at its meeting of March 16, 2022, to modify the composition of the Committees of the Board of Directors at the end of the Shareholders' Meeting on May 25, 2022. As of that date, the Audit Committee will be chaired by Maria van der Hoeven. Patricia Barbizet, Jérôme Contamine, Lise Croteau and Romain Garcia-Ivaldi will be members. Jérôme Contamine and Lise Croteau will be the financial experts of the Committee.

Duties

The rules of procedure of the Audit Committee define the Committee's duties as well as its working procedures.

The Audit Committee's rules of procedure were last amended on July 28, 2021 to take account of the change in the Corporation's name decided at the Shareholders' Meeting on May 28, 2021. They had previously been amended on February 8, 2017, in order to adapt the Committee's role and responsibilities to the European audit reform, on July 25, 2018, in order to take account of new social and environmental responsibility requirements, further to the revision of the AFEP-MEDEF Code in June 2018, and on July 29, 2020, to reflect the Corporation's conversion to a European company and various amendments to the Corporation's Articles of Association that were approved by the Shareholders' Meeting on May 29, 2020.

The text of the unabridged version of the rules of procedure approved by the Board of Directors on July 28, 2021, is available on the TotalEnergies website under "Our Company/Our strength/Our governance."

Notwithstanding the duties of the Board of Directors, the Audit Committee is tasked with the following missions in particular:

Regarding the statutory auditors:

- making a recommendation to the Board of Directors on the statutory auditors the Annual Shareholders' Meeting for designation or renewal, following their selection procedure organized by General Management and enforcing the applicable regulations;
- monitoring the statutory auditors in the performance of their missions and, in particular, examining the additional report drawn up by the statutory auditors for the Committee, while taking account of the observations and conclusions of the High Council of Statutory Auditors (Haut Conseil du Commissariat aux Comptes) further to the inspection of the auditors in question in application of the legal provisions, where appropriate;
- ensuring that the statutory auditors meet the conditions of independence as defined by regulations, and analyzing the risks to their independence and the measures taken to mitigate these risks; to this end, examining all the fees paid by the Company to the statutory auditors, including for services other than the certification of the financial statements, and making sure that the rules applying to the maximum length of the term of the statutory auditors and the obligation to alternate are obeyed;
- approving the delivery by the statutory auditors of services other than those relating to the certification of the financial statements, in accordance with the applicable regulations.

Regarding accounting and financial information:

- following the process to produce financial information and, where appropriate, formulating recommendations to guarantee its integrity, where appropriate;
- monitoring the implementation and the proper workings of a disclosures Committee in the Corporation and reviewing its conclusions;
- examining the assumptions used to prepare the financial statements, assessing the validity of the methods used to handle significant transactions and examining the Corporation financial statements and annual, half-yearly, and quarterly Consolidated Financial Statements prior to their examination by the Board of Directors, after regularly monitoring the financial situation, cash position and off-balance sheet commitments;
- guaranteeing the appropriateness and the permanence of the accounting policies and principles chosen to prepare the statutory and Consolidated Financial Statements of the Corporation;
- examining the scope of the consolidated companies and, where appropriate, the reasons why companies are not included;
- examining the process to validate the proved reserves of the companies included in the scope of consolidation;
- reviewing, if requested by the Board of Directors, major transactions contemplated by the Corporation.

Regarding internal control and risk management procedures:

- monitoring the efficiency of the internal control and risk management systems, and of internal audits, in particular with regard to the procedures relating to the production and processing of accounting, financial and non-financial information, without compromising its independence, and in this respect:
  - checking that these systems exist and are deployed, and that actions are taken to correct any identified weaknesses or anomalies;
  - reviewing, based in particular on the risk maps developed by the Corporation, the exposure to risks, such as financial risks (including material off-balance sheet commitments), legal risks, operational risks, social and environmental risks, as well as measures taken as a result;
  - annually examining the reports on the work of the TotalEnergies Risk Management Committee (formerly named Group Risk Committee) and the major issues for the Company;
  - examining the annual work program of the internal auditors and being regularly informed of their work;
  - reviewing significant litigation at least once a year;
  - overseeing the implementation of the Financial Code of Ethics;
  - proposing to the Board of Directors, for implementation, a procedure for complaints or concerns of employees, shareholders and others, related to accounting, internal control or auditing matters, and monitoring the implementation of this procedure;
  - where appropriate, examining important operations in which a conflict of interests could have arisen;
  - annually examining the results of the controls carried out within the framework of the procedure implemented in order to assess the agreements on current operations finalized under normal conditions and verifying the relevance of the criteria used to qualify those agreements.

The Audit Committee reports to the Board of Directors on the performance of its duties. It also reports on the results of the statutory auditors' mission concerning the certification of the financial statements, on how this mission contributed to the integrity of the accounting and financial information and its role in this process. It shall inform the Board of Directors without delay of any difficulties encountered.

Organization of activities

The Committee meets at least seven times each year: each quarter to review in particular the statutory financial statements of the Corporation and the annual and quarterly Consolidated Financial Statements, and at least on three other occasions to review matters not directly related to the review of the quarterly financial statements.

At each Committee meeting where the quarterly financial statements are reviewed, the Chief Financial Officer presents the Consolidated Financial Statements and the statutory financial statements of the Corporation, as well as the Company's financial position and, in particular, its liquidity, cash flow and debt situation. A memo describing risk exposure and off-balance sheet commitments is communicated to the Committee. This review of the financial statements includes a presentation by the statutory auditors underscoring the key points observed.

As part of monitoring the efficiency of the internal control and risk management systems, as well as internal audits with regard to the procedures relating to the production and processing of accounting, financial and non-financial information, the Committee is informed of the work program of the Audit & Internal Control division and its organization, on which it may issue an opinion. The Committee also receives a summary of the internal audit reports, which is presented at each Committee meeting where the quarterly financial statements are reviewed. The risk management processes implemented within the Company, as well as updates to them, are presented regularly to the Committee.

The Committee may meet with the Chairman and Chief Executive Officer or, if the functions are separate, the Chairman of the Board of Directors, the Chief Executive Officer as well as, if applicable, any Deputy Chief Executive Officer of the Corporation. It may perform inspections and consult with managers of operating or non-operating department, as may be useful in performing its duties. The Chairman of the Committee gives prior notice of such meeting to the Chairman and Chief Executive Officer or, if the functions of Chairman of the Board of Directors and Chief Executive Officer are separate, both the Chairman of the Board of Directors and the Chief Executive Officer. In particular, the Committee is authorized to consult with those involved in preparing or auditing the financial statements (Chief Financial Officer and principal Finance Department managers, Audit Department, Legal Department) by asking the Corporations Chief Financial Officer to call them to a meeting.

The Committee consults with the statutory auditors regularly, including at least once a year without any Corporation representative present. If it is informed of a substantial irregularity, it recommends to the Board of Directors all appropriate action.

If it considers that it is necessary for the accomplishment of its mission, the Committee asks the Board of Directors for resources to receive assistance or conduct external studies on subjects within its competence. If the Committee calls on external consulting services, it makes sure that they are objective.

Work of the Audit Committee

In 2021, the Audit Committee met 7 times, with an attendance rate of 100%. The Chairman and Chief Executive Officer did not attend any of the meetings of the Audit Committee.

The Audit Committee's work mainly focused on the following areas:

February 4

- review of the Consolidated Financial Statements and statutory financial statements of the parent company for the fourth quarter and of the 2020 fiscal year. Presentation by the statutory auditors of their work performed in accordance with French and American professional audit standards
- review of the Company's financial position
- update on outstanding balance of guarantees granted by TotalEnergies SE as of December 31, 2020
- update on the Sarbanes-Oxley process: self-assessment carried out by the Company and audit of the internal control related to financial reporting by the statutory auditors as part of the SOX 404 process
- presentation of the section of the Universal Registration Document on risk factors, countries under economic sanctions, legal proceedings and arbitration, internal control and risk management procedures relating to accounting and financial information
- update on the 2020 internal audit and 2021 audit plan
- review of the results of the controls carried out and the appropriateness of the criteria used for the annual assessment of current conventions

March 15

- presentation of the transition plan for the joint statutory auditors
- review of the Company's financial policy
- presentation of the statement of non-financial performance
- presentation of the update to the Vigilance plan and the report on its implementation
- review of the statutory auditors' reports, their declaration of independence and their obligations to the Audit Committee
- process for validating hydrocarbon reserves at the end of the 2020 fiscal year
- presentation of the report on the payments made to governments

April 26

- review of the Consolidated Financial Statements and statutory financial statements of the parent company for the first quarter of 2021, with a presentation by the statutory auditors of a summary of their limited review
- update on the Company's financial position as of March 31, 2021
- presentation of the 2021 health, safety and environment audit plan and review of the fiscal year 2020
- review of the Company's insurance policy
- review of the internal audit

June 14

- presentation of the risk map of Trading-Shipping
- update on accounting standards and the scope of consolidation
- update on the transition plan for the joint statutory auditors

July 26

- review of the Consolidated Financial Statements of the parent company of the second quarter and the first half of 2021, with a presentation by the statutory auditors of a summary of their limited review
- review of the Company's financial position as of June 30, 2021
- review of the internal audit

October 11

- presentation by the new firm of statutory auditors of their transition plan from the current joint statutory auditors to the new joint statutory auditors, and presentation of ESG issues, particularly in terms of reporting and expectations of the market authorities
- audit of the financial statements as of December 31, 2021: analysis by the statutory auditors of the main cross-cutting risks covered by the points of attention in their audit plan for the closing of the 2021 financial statements
- review of significant litigation and status update on significant litigation in progress worldwide involving the Company
- review of the Company's fiscal situation

- presentation of the work of the TotalEnergies Risk Management Committee

October 25

- interview of the members of the Audit Committee with the statutory auditors in the absence of Company employees
- review of the Consolidated Financial Statements and statutory financial statements of the third quarter and the first nine months of 2021, with a presentation by the statutory auditors of a summary of their limited review
- update on the internal audits conducted in the third quarter of 2021
- information of the Committee on compliance by relevant employees with the provisions of the Financial Code of Ethics.

At each meeting related to the quarterly financial statements, the Committee reviewed the Company's financial position in terms of liquidity, cash flow and debt, as well as the significant risks and off-balance sheet commitments of TotalEnergies. The Audit Committee was periodically informed of the risk management processes implemented within the Company as well as the work carried out by the Audit & Internal Control division, which was presented at each Committee meeting where the quarterly financial statements were reviewed.

The Audit Committee reviewed the financial statements no later than two days before they were reviewed by the Board of Directors, a sufficient amount of time as set out in the recommendations of the AFEP-MEDEF Code.

The statutory auditors attended all Audit Committee meetings held in 2021.

The Chief Financial Officer, the Vice President Accounting and the Senior Vice President Audit & Internal Control division, as well as the Corporate Treasurer, attended all Audit Committee meetings related to their area.

The Chairman of the Committee reported to the Board of Directors on the Committee's work.

THE GOVERNANCE AND ETHICS COMMITTEE

Composition

As of March 16, 2022, the Governance and Ethics Committee is made up of four members, with a 75% rate of independence. Ms. Marie-Christine Coisne-Roquette chairs the Committee. Ms. Patricia Barbizet and Ms. Anne-Marie Idrac and Mr. Jean Lemierre are members of the Committee.

On the proposal of the Governance and Ethics Committee, the Board of Directors decided at its meeting on March 16, 2022, to modify the composition of the Committees of the Board of Directors at the end of the Shareholders' Meeting on May 25, 2022. As of that date, the Governance and Ethics Committee will be chaired by Marie-Christine Coisne-Roquette. Jacques Aschenbroich, Patricia Barbizet, Anne-Marie Idrac and Jean Lemierre will be members.

Duties

The rules of procedure of the Governance and Ethics Committee define the Committee's duties as well as its working procedures.

The Governance and Ethics Committee's rules of procedure were last amended on July 28, 2021 to take account of the change in the Corporation's name decided at the Shareholders' Meeting on May 28, 2021. They had previously been amended on July 25, 2018 to extend the Committee's role and responsibilities to subjects related to compliance and the prevention and detection of corruption and influence peddling, and on July 29, 2020, to take account of the Corporation's conversion to a European company and various amendments to the Corporation's Articles of Association that were approved by the Shareholders' Meeting on May 29, 2020.

The text of the unabridged version of the rules of procedure approved by the Board of Directors on July 28, 2021, is available on the TotalEnergies website under "Our Company/Our strength/Our governance."

The Governance and Ethics Committee is focused on:

- recommending to the Board of Directors the persons that are qualified to be appointed as directors, so as to guarantee the scope of coverage of the directors' competencies and the diversity of their profiles;
- recommending to the Board of Directors the persons that are qualified to be appointed as executive directors;
- preparing the Corporation's corporate governance rules and supervising their implementation;
- ensuring compliance with ethics rules and examining any questions related to ethics and situations of conflicting interests;
- reviewing matters regarding compliance as well as the prevention and detection of corruption and influence peddling.

Its duties include:

- presenting recommendations to the Board of Directors for its membership and the membership of its Committees, and the qualification in terms of independence of each applicant for Directors' positions on the Board of Directors;
- proposing annually to the Board of Directors the list of directors who may be considered as "independent directors";
- examining, for the parts within its remit, reports to be sent by the Board of Directors or its Chairman to the shareholders;
- assisting the Board of Directors in the selection of the organization of the governance of the Corporation as well as the selection and evaluation of the executive directors and examining the preparation of their possible successors including establishing a succession plan, including cases of unforeseeable absence;
- recommending to the Board of Directors the persons that are qualified to be appointed as directors;
- recommending to the Board of Directors the persons that are qualified to be appointed as members of a Committee of the Board of Directors;
- proposing methods for the Board of Directors to evaluate its performance, and in particular preparing means of regular self-assessment of the workings of the Board of Directors, and the possible assessment thereof by an external consultant;
- proposing to the Board of Directors the terms and conditions for allocating directors' compensation and the conditions under which expenses incurred by the directors are reimbursed;
- developing and recommending to the Board of Directors the corporate governance principles applicable to the Corporation;
- preparing recommendations requested at any time by the Board of Directors or the general management of the Corporation regarding appointments or governance;
- examining the conformity of the Corporation's governance practices with the recommendations of the Code of Corporate Governance to which the Corporation refers;
- supervising and monitoring the implementation of the approach of the Corporation with regard to ethics, compliance, prevention and detection of corruption and influence peddling and, in this respect, ensuring that the necessary procedures are in place, including those for updating the Company's Code of Conduct and that this Code is disseminated and applied;
- examining any questions related to ethics and potential situations of conflicting interests;
- examining changes in the duties of the Board of Directors.

Work of the Governance and Ethics Committee

In 2021, the Governance and Ethics Committee held 4 meetings, with 100% attendance. Its work mainly focused on the following areas:

February 3

- review of the terms of office of the directors and the members of the Committees
- report of the Lead Independent Director on her mandate
- report on the Board's 2021 assessment and discussion on the functioning of the Board of Directors
- proposals to the Board of Directors on the assessment of the directors' independence, based on the independence criteria specified in the AFEP-MEDEF Code
- allocation of the compensation to directors and members of the Committees for fiscal year 2020
- Board members' compensation policy
- update on the Market Abuse regulation (Regulation (EU) N° 596/2014 of April 16, 2014) and the applicable blackout periods
- information on transactions involving the Corporation's securities by executive directors
- update on executive directors' liability Insurance
- update on the succession plans

March 15

- proposal to be presented to the Board concerning the renewal of the directorship of two directors (including the Chairman and Chief Executive Officer), the appointment of two new directors and the non-renewal of the directorship of one director
- proposal to be presented to the Board concerning the modification of the composition of the Committees after the Shareholders' Meeting on May 28, 2021
- proposal to renew the directorships of the Chairman and Chief Executive Officer and to maintain the unified management form
- examination of the sections of the report on corporate governance within its remit

July 28

- presentation of the Company's ethics and compliance policy
- update on the Shareholders' Meeting: summary of the 2021 Shareholders' Meetings and on the outcome of the votes at the Shareholders' Meeting on May 28, 2021
- updates on the governance of the Corporation
- proposal to amend the rules of procedure of the Board of Directors and the Committees to take account of the change of the corporate name decided at the Shareholders' Meeting on May 28, 2021

December 15

- assessment of the Board of Directors' practices
- competency and training of directors in climate and CSR
- reimbursement of travel expenses incurred by the directors
- participation of the director representing the employees appointed by the SE Committee in the meetings of this Committee
- recommendations of the report of the High Committee on Corporate Governance
- compliance policy.

THE COMPENSATION COMMITTEE

Composition

As of March 16, 2022, the Compensation Committee is made up of three members, with a 100% rate of independence[1]. The Committee is chaired by Mr. Mark Cutifani. Ms. Marie-Christine Coisne-Roquette and Ms. Valérie Della Puppa Tibi (director representing employee shareholders) are members of the Committee.

On the proposal of the Governance and Ethics Committee, the Board of Directors decided at its meeting of March 16, 2022, to modify the composition of the Committees of the Board of Directors at the end of the Shareholders' Meeting on May 25, 2022. As of that date, the Compensation Committee will be chaired by Mark Cutifani. Marie-Christine Coisne-Roquette, Jacques Aschenbroich and Angel Pobo will be members.

Duties

The rules of procedure of the Compensation Committee define the Committee's duties as well as its working procedures.

The Compensation Committee's rules of procedure were last amended on July 28, 2021 to take account of the change in the Corporation's name decided at the Shareholders' Meeting on May 28, 2021. They had previously been amended on July 25, 2018, in order to take account of new social and environmental responsibility requirements, further to the revision of the AFEP-MEDEF Code in June 2018, and on July 29, 2020, to reflect the Corporation's conversion to a European company and various amendments to the Corporation's Articles of Association that were approved by the Shareholders' Meeting on May 29, 2020.

The text of the unabridged version of the rules of procedure approved by the Board of Directors on July 28, 2021, is available on the TotalEnergies website under "Our Company/Our strength/Our governance."

The Committee is focused on:

- examining the executive compensation policies implemented by the Company and the compensation of members of the Executive Committee;
- evaluating the performance and recommending the compensation of each executive director;
- preparing reports which the Corporation must present in these areas.

The Committee's duties include:

- examining the main objectives proposed by the Corporation's general management regarding compensation of the Company's senior executives, including stock option and performance share grant plans as well as equity-based plans, and advising on this subject;
- presenting recommendations and proposals to the Board of Directors concerning:
  - compensation, pension and life insurance plans, in-kind benefits and other compensation (including severance benefits) for the executive directors of the Corporation; in particular, the Committee proposes compensation structures that take into account the Corporation's strategic orientations, objectives and earnings, market practices as well as one or more criteria related to social and environmental responsibility;
  - stock option and performance share grants, particularly grants of restricted shares to the executive directors;
  - examining the compensation of the members of the Executive Committee, including stock option and performance share grant plans as well as equity-based plans, pension and insurance plans and in-kind benefits;

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(1) Excluding the director representing employee shareholders in accordance with the recommendations of the AFEP-MEDEF Code (point 9.3).

- preparing and presenting reports in accordance with these rules of procedure;
- examining, for the parts within its remit, reports to be sent by the Board of Directors or its Chairman to the shareholders;
- preparing recommendations requested at any time by the Chairman of the Board of Directors or the general management of the Corporation regarding compensation;
- at the request of the Chairman of the Board, examining all draft reports of the Corporation regarding compensation of the executive officers or any other matters within its competence.

Work of the Compensation Committee

In 2021, the Compensation Committee held 3 meetings, with 100% attendance. The Chairman and Chief Executive Officer does not attend the Committee's deliberations regarding his own situation.

Its work mainly focused on the following areas:

February 3

- guidelines governing compensation for the Chairman and Chief Executive Officer for the 2020 and 2021 fiscal years

March 17

- compensation policy for executive and non-executive directors
- confirmation of the grant of performance shares in respect of the 2018 plan
- grant of performance shares (2021 plan) including a new criterion linked to the change in GHG emissions (Scope 3[1]) in Europe
- compensation of the members of the Executive Committee
- compensation of the Chairman and Chief Executive Officer for fiscal year 2020

December 15

- assessment of the compensation policy of the Chairman and Chief Executive Officer for fiscal year 2021
- guidelines on the compensation of the Chairman and Chief Executive Officer following the votes cast at the Shareholders' Meeting on May 28, 2021
- presentation of subjects to be examined by the Committee in 2022.

THE STRATEGY & CSR COMMITTEE

Composition

As of March 16, 2022, the Strategy & CSR Committee is made up of six members, including three independent directors and one director representing employees. Mr. Patrick Pouyanné chairs the Committee. Ms. Patricia Barbizet, Ms. Marie-Christine Coisne-Roquette, Ms. Anne-Marie Idrac, Mr. Jean Lemierre and Mr. Angel Pobo are members of the Committee.

On the proposal of the Governance and Ethics Committee, the Board of Directors decided at its meeting of March 16, 2022, to modify the composition of the Committees of the Board of Directors at the end of the Shareholders' Meeting on May 25, 2022. As of that date, the Strategy & CSR Committee will be chaired by Patrick Pouyanné. Patricia Barbizet, Marie-Christine Coisne-Roquette, Anne-Marie Idrac, Jean Lemierre and the director representing the employee shareholders will be members.

Duties

The rules of procedure of the Strategy & CSR Committee define the Committee's duties as well as its working procedures.

The Strategy & CSR Committee's rules of procedure were last amended on July 28, 2021 to take account of the change in the Corporation's name decided at the Shareholders' Meeting on May 28, 2021. They had previously been amended notably on July 25, 2018, in order to take account of new social and environmental responsibility requirements, further to the revision of the AFEP-MEDEF Code in June 2018, and on July 29, 2020, to reflect the Corporation's conversion to a European company and various amendments to the Corporation's Articles of Association that were approved by the Shareholders' Meeting on May 29, 2020.

The text of the unabridged version of the rules of procedure approved by the Board of Directors on July 28, 2021, is available on the TotalEnergies website under "Our Company/Our strength/Our governance."

To allow the Board of Directors of the Corporation to ensure the Company's development, the Strategy & CSR Committee's duties include:

- examining the Company's overall strategy proposed by the Corporation's Chief Executive Officer;
- examining the Company's corporate social and environmental responsibility (CSR) issues and, in particular, matters relating to the incorporation of the Climate challenge in the Company's strategy;
- examining transactions that are of particular strategic importance;
- reviewing the competitive environment, the main challenges the Company faces, including with regard to social and environmental responsibility, as well as the resulting medium and long-term outlook for the Company.

Work of the Strategy & CSR Committee

In 2021, the Strategy & CSR Committee met 4 times, with 100% attendance. Its work mainly focused on the following areas:

March 17

- update on climate litigation worldwide and in France
- presentation of the document "TotalEnergies' Ambition"
- proposal to include a draft *say on climate* resolution in the agenda of the Shareholders' Meeting on May 28, 2021

September 15

- strategic outlook for Downstream (Refining & Chemicals and Marketing & Services)
- presentation of the draft communication to investors on September 28, 2021
- draft agenda for the strategy workshop on October 26 and 27

October 26 and 27 (strategy workshop)

- presentation of the energy landscape report
- presentation of the Utilities benchmark
- presentation dedicated to hydrogen and synthetic fuels
- update on the TotalEnergies Climate Ambition
- presentation and discussions with Mr. Fatih Birol, Executive Director of the International Energy Agency
- visit of the Digital Factory
- presentation of the R&D and innovation policy.

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(1) GHG protocol - Category 11.

4.1.3 Report of the Lead Independent Director on her mandate

During the Board meeting of February 9, 2022, Ms. Coisne-Roquette presented a report on her mandate as Lead Independent Director in fiscal year 2021.

The duties of Lead Independent Director were exercised as follows during fiscal year 2021:

Contact with the Chairman and Chief Executive Officer

The Lead Independent Director is a privileged interlocutor of the Chairman and Chief Executive Officer with respect to significant matters concerning the Company's business and preparing meetings of the Board of Directors and of the Governance and Ethics Committee. In 2021, the Lead Independent Director thus met the Chairman and Chief Executive Officer on a monthly basis and before each meeting of the Board of Directors.

Assessment of the Board of Directors' practices

The Lead Independent Director conducted the assessment of the Board of Directors in November 2021 with the assistance of an external consultant, whose conclusions were examined by the Governance and Ethics Committee and by the Board of Directors at their meetings on February 2 and February 9, 2022 respectively.

Prevention of conflicts of interest

The Lead Independent Director has performed due diligence in order to identify and analyze potential conflicts of interest. The Lead Independent Director was thus consulted in January 2022 by a director, before he accepted a directorship in a Belgian-listed company that is active in biotech, about a potential conflict of interest that could arise in this context. The Lead Independent Director concluded there was no conflict of interest, and this director then accepted the directorship that was on offer in this company.

Monitoring of the Board's practices

The Lead Independent Director held a meeting of the independent directors on December 15, 2021. The directors, including two attending remotely owing to the health crisis, were able to share their peers' comments as well as express their views in a constructive atmosphere.

During the meeting, discussions concerned:

- the resilience of the Board and the Company during the oil crisis and the COVID-19 pandemic. The directors praised the action and reaffirmed their support for the Chairman and CEO, emphasizing in particular his strategic sense, his ability to execute and his intellectual honesty. They appreciated the attention and respect he showed to the diversity of their points of view;
- the Board's close involvement in the choice regarding the shareholder return policy;
- the presentation to the Shareholders' Meeting on May 28, 2021 of the Corporation's ambition with respect to sustainable development and energy transition towards carbon neutrality and its related targets by 2030, for its opinion. The resolution presented by the Board of Directors was approved by more than 90% of the votes cast, demonstrating the relevance and the support of the shareholders for the Company's strategic direction;
- Monitoring and understanding of the medium- and long-term assumptions forming the basis of the Company's long-term targets and plans, the importance of which increases with the challenges of the energy transition.
- The quality of discussions with the Chairman and Chief Executive Officer, capitalizing on talks by Board members during Board meetings to refine or enhance the Company's strategy and opening up the Board to external experts to provide a greater variety of viewpoints.
- meetings organized, in particular during the visit to the Digital Factory, that enhanced the Board members' discussions.

Board members expressed their appreciation of the quality of dialogue with the Chair of the Board of Directors and general management in 2021, as well as the presence of Mr. Fatih Birol, Executive Director of the International Energy Agency, at the Strategy & CSR Committee meeting of October 26, 2021, and the discussion following his presentation.

Relationships with directors

The Lead Independent Director had several contacts with the directors, in particular with the Chairpersons of the Committees and the new members of the Board.

Relationships with shareholders

The Chairman and Chief Executive Officer and the Lead Independent Director are the privileged points of contact for shareholders concerning matters under the Board's responsibility. In accordance with the provisions of the rules of procedure of the Board, when the Chairman and Chief Executive Officer is solicited in this area, he may consult the Lead Independent Director before responding.

When the Lead Independent Director is approached by a shareholder in relation to such issues, he or she must inform the Chairman and Chief Executive Officer, providing his or her opinion, so that the Chairman and Chief Executive Officer may respond appropriately to the request. The Chairman and Chief Executive Officer must inform the Lead Independent Director of the response given.

On March 4 and 5, 2021, the Lead Independent Director met with several shareholders representing more than 15% of the share capital of TotalEnergies SE. The governance of the Corporation, and more particularly the composition of the Board of Directors, its functioning and the role of the Lead Independent Director were discussed. These meetings also provided an opportunity to discuss Total's transformation into TotalEnergies, as well as the Company's ambition in terms of sustainable development and the energy transition.

On March 24, 2021, the Lead Independent Director replied to a letter from a shareholder addressed to the Chairman and Chief Executive Officer concerning the governance of the Corporation and the unified management form. The Lead Independent Director also received a letter from a shareholder concerning the consultative vote on the Corporation's ambitions with respect to sustainable development and energy transition towards carbon neutrality and its related targets by 2030. The Lead Independent Director responded by letter on June 21, 2021.

Following a request for a meeting with representatives of the Climate Action 100+ investor coalition on June 24, 2001, the Chairman and CEO confirmed that the preferred points of contact for shareholders are the Lead Independent Director and the Chairman and CEO. They consequently met with the representatives of this investor coalition on October 25, 2021. During this meeting, discussions focused on the Company's climate ambition in the context of the annual assessment carried out by Climate Action 100+ called “Climate Action 100+ Net-Zero Company Benchmark”, published in March.

Shareholders' Meeting on May 28, 2021

At the Shareholders' Meeting held as a closed session, the Lead Independent Director presented the specific tasks she performed as Lead Independent Director during fiscal year 2020, the main conclusions of the investor meetings she attended on March 4 and 5, 2021, the report on the Board's activity in 2020, as well as the new directors and the composition of the Board of Directors at the end of the Shareholders' Meeting. She also presented to the shareholders the compensation policy for the directors and the Chairman and Chief Executive Officer and the elements of the Chairman and Chief Executive Officer's compensation for fiscal year 2020.

Visits to Company sites by the directors

The health emergency did not allow the Board of Directors to make any site visits, as had been the case in previous years, with the exception of the visit to the Digital Factory, which was on the agenda of the Strategy & CSR Committee meeting on October 27, 2021 and which greatly interested the directors because of its innovative nature. Site visits, especially international visits, may be resumed in 2022 if the health context permits.

4.1.4 Assessment of the Board of Directors' practices

In accordance with point 3.4 of its internal regulations, the Board of Directors conducts a formal assessment of its own functioning at regular intervals of up to three years. The evaluation is carried out under the supervision of the Lead Independent Director, if one has been appointed, or under the supervision of the Governance and Ethics Committee, with the assistance of an outside consultant. The Board of Directors also conducts an annual review of its practices. Furthermore, in accordance with point 7.2.4 of the internal regulations of the Board of Directors, the Lead Independent Director manages the evaluation process relating to the functioning of the Board of Directors and reports on this evaluation to the Board of Directors.

Furthermore, in accordance with point 7.2.6 of the Rules of procedure of the Board of Directors, which states that the Lead Independent Director may hold meetings of directors who do not hold executive or salaried positions on the Board of Directors, such a meeting was held on December 15, 2021, at the initiative of the Lead Independent Director. All the directors who do not hold executive or salaried positions on the Board of Directors took part in this meeting alongside Ms. Marie-Christine Coisne-Roquette (two of the directors participated by videoconference).

It is reminded that, in January 2021, a debate was held about the annual functioning of the Board based on a questionnaire filled in by Board members.

At its meeting on February 9, 2022, the Board of Directors discussed its functioning.

The Lead Independent Director conducted the assessment of the Board of Directors with the assistance of an external consultant. The consultant's report highlighted the high quality and good practices of the Board of Directors in terms of:

- composition: diversity, experience, skills, independence of mind and involvement of the members;
- functioning: agreement between members, structure and professionalism of governance;
- contribution: the directors consider that they have access to information relevant to the work of the Board and its Committees and to several forums for expressing themselves without hindrance.

The directors highlighted the resilience of the Board and the Company during the oil crisis and the COVID-19 pandemic. They appreciated the full involvement of the Board of Directors by the Chairman and Chief Executive Officer in defining the strategic orientations of the Company in the context of its transformation as well as their close involvement in defining the shareholder return policy during the COVID crisis in 2020. They praised the action and reaffirmed their support for the Chairman and CEO, emphasizing in particular his strategic sense, his ability to execute and his intellectual honesty. They appreciate the attention and respect he showed to their diverse points of view.

The Board of Directors is fully aware of the importance of climate-related issues and the Company's transformation strategy, and expectations from NGOs, investors and proxy advisors in this field.

It was pointed out that the suggestions for improving the functioning of the Board made by the directors during the self-assessment in January 2021 have been implemented:

- the presence in the Board of Directors of executive officers having the experience of general management in a large international group has been strengthened with the appointment of Mr. Jacques Aschenbroich;
- the examination of alternative disruptive scenarios in terms of the economic environment or technologies was discussed in the cases presented to the Board of Directors and at the Strategy workshop in October 2021;
- the participation of external speakers in Strategy & CSR Committee meetings was particularly evident at the Strategy workshop meeting on October 26-27, 2021, with the presence of Fatih Birol (Executive Director of the IEA), and regular meetings between the directors and members of the Executive Committee took place at meetings of the Board of Directors and the Strategy workshop;
- the comparative analysis of the competitors has also been extended to include their operating methods and companies active in new energies.

The following ways of potentially improving the functioning of the Board of Directors were proposed:

- continue to change the composition of the Board to reflect the Company's transformation in electricity and new energies;
- encourage a more sequential dispatch of documents relating to the work of the Board and its Committees, in particular the dispatch of minutes within a short period of time after meetings;
- strengthen the training program for directors on climate, CSR and digital subjects;
- structure the induction program for new directors and set up a program for mentoring by older directors;
- organize the presence to Board meetings of members of the Executive Committee depending on the agenda.

4.1.5 General Management

4.1.5.1 UNIFIED MANAGEMENT FORM

COMBINATION OF THE MANAGEMENT POSITIONS

Mr. Patrick Pouyanné has been a director and the Chairman of the Board of Directors of TotalEnergies since December 19, 2015. He has served as its Chief Executive Officer since October 22, 2014.

On the occasion of the renewal of his directorship, the meeting of the Board of Directors, held at the end of the Shareholders' Meeting on May 28, 2021, decided to renew Mr. Patrick Pouyanné's term of office as Chairman of the Board of Directors and Chief Executive Officer for the duration of his new term of office as a director, *i.e.,* until the Shareholders' Meeting called to approve the financial statements for the year 2023 in 2024.

At the Board of Directors meeting of March 17, 2021, the Lead Independent Director indicated that the discussions held with the Governance and Ethics Committee in the best interests of the Corporation had led to a firm proposal to continue to combine the functions of Chairman and Chief Executive Officer. Indeed, this management form of the Corporation is considered to be the most appropriate for dealing with the challenges and specificities of the energy sector, which is facing major transformations. More than ever, this context requires agility of movement, which the unity of command reinforces, by giving the Chairman and Chief Executive Officer the power to act and increased representation of the Corporation in its strategic negotiations with States and partners of the Company.

Balance of power

The Lead Independent Director also recalled that the unity of the power to manage and represent the Corporation is also particularly well regulated by the Corporation's governance. The balance of power is established through the quality, complementarity and independence of the members of the Board of Directors and its four Committees, as well as through the Articles of Association and the Board's Rules of Procedure, which define the means and prerogatives of the Lead Independent Director, notably:

- in her relations with the Chairman and Chief Executive Officer: contribution to the agenda of Board meetings or the possibility of requesting a meeting of the Board of Directors and sharing opinions on major issues;
- in her contribution to the work of the Board of Directors: chairing meetings in the absence of the Chairman and Chief Executive Officer, or when the examination of a subject requires his abstention, evaluation and monitoring of the functioning of the Board, prevention of conflicts of interest, and dialogue with the directors and Committee Chairpersons;
- in her relations with shareholders: the possibility, with the approval of the Chairman and Chief Executive Officer, of meeting with them on corporate governance issues, a practice that has already been used on several occasions.

The balance of power within the governance bodies, in addition to the independence of its members, is further strengthened by the full involvement of the directors, whose participation in the work of the Board and its Committees is exemplary. The diversity of their skills and expertise also enables the Chairman and Chief Executive Officer to benefit from a wide range of contributions.

In addition, the Board's internal rules provide that any investment or divestment transactions contemplated by the Company involving amounts in excess of 3% of shareholders' equity must be approved by the Board, which is also kept informed of all significant events concerning the Corporation's operations, in particular investments and divestments in excess of 1% of shareholders' equity.

Lastly, the Corporation's Articles of Association provide the necessary guarantees of compliance with good governance practices in the context of a unified management structure. In particular, they provide that the Board may be convened by any means, including orally, or even at short notice depending on the urgency of the matter, by the Chairman or by one third of its members, including the Lead Independent Director, at any time and as often as the interests of the Corporation require.

LEAD INDEPENDENT DIRECTOR

Ms. Marie-Christine Coisne-Roquette has been acting as Lead Independent Director since the end of the Shareholders' Meeting on May 29, 2020. This position was previously held by Ms. Barbizet.

Pursuant to the provisions of the Rules of Procedure of the Board of Directors, the Lead Independent Director chairs the Governance and Ethics Committee.

The duties of the Lead Independent Director are described in detail in the Rules of Procedure of the Board of Directors, the full version of which is provided in point 4.1.2.1 of this chapter.

4.1.5.2 THE EXECUTIVE COMMITTEE AND THE COMPANY PERFORMANCE MANAGEMENT COMMITTEE

THE EXECUTIVE COMMITTEE

The Executive Committee, under the responsibility of the Chairman and Chief Executive Officer, is the decision-making body of the Company.

It implements the strategic vision defined by the Board of Directors and authorizes the corresponding capital expenditures, subject to the Board of Directors' approval for investments exceeding 3% of shareholders' equity and any significant transaction outside the scope of the company's stated strategy, and subject to the Board's review for investments involving amounts exceeding 1% of shareholders' equity.

In 2021, the Executive Committee met 24 times.

As of December 31, 2021, the members of Executive Committee were as follows:

- Patrick Pouyanné, Chairman and Chief Executive Officer and Chairman of the Executive Committee
- Helle Kristoffersen, President, Strategy & Sustainability
- Stéphane Michel, President, Gas, Renewables & Power
- Thierry Pflimlin, President, Marketing & Services
- Bernard Pinatel, President, Refining & Chemicals
- Jean-Pierre Sbraire, Chief Financial Officer
- Namita Shah, President, OneTech
- Nicolas Terraz, President, Exploration & Production.

The members of the Executive Committee as of December 31, 2021, informed TotalEnergies that they have not been convicted of fraud, have not been associated with bankruptcy, sequestration, receivership or court-ordered liquidation proceedings, and have not been subject to any incrimination, conviction or sanction pronounced by an administrative authority or professional body, prohibited from managing a company or disqualified from doing so over the last five years.

THE PERFORMANCE MANAGEMENT COMMITTEE OF THE COMPANY

The mission of the Performance Management Committee of the Company is to examine, analyze and monitor the HSE, financial and operational results of the Company. It is chaired by the Chairman and Chief Executive Officer and meets monthly.

In addition to the members of the Executive Committee, this Committee is made up of the heads of the TotalEnergies' main business units, along with some of the Senior Vice-Presidents of functions at the Company and business segments levels.

BALANCED REPRESENTATION OF WOMEN AND MEN AND DIVERSITY RESULTS IN THE 10% OF POSITIONS AT THE CORPORATION WITH THE HIGHEST RESPONSIBILITIES (ARTICLE L. 22-10-10, 2° OF THE FRENCH COMMERCIAL CODE)

TotalEnergies is committed to respecting the principle of gender equality, principle it promotes and it ensures that it is properly applied. The promotion of gender equality is fostered Company-wide through a global policy of gender diversity, quantitative targets set by executive management, human resources procedures that take gender concerns into consideration, agreements aimed at promoting a better work-life balance and actions to raise awareness and train the workforce.

TotalEnergies' commitment to gender equality in the workplace begins at the recruitment stage and continues throughout a person's career, particularly in the process of identifying high-potential employees and appointing managers.

In order to ensure a better gender balance in its senior management, the Company has set itself the following targets for improvement by 2025 for the highest executive instances in the Company:

- 30% of women on the Executive Committee: women represented 25% in 2021;
- 30% of women in the G70(1): women represented 32% in 2021.

The Company has set the same target for its other governing bodies and leadership positions, with women comprising:

- 30% of women on the Management Committees in the business segments and large functional divisions: 31.7% were women in 2021;
- 30% of female senior executives: 26.5% were women in 2021, compared to approximately 5% in 2004;
- 30% of female Management Committee members at headquarters and in subsidiaries: 25.5% were women in 2021;
- 30% of female senior managers: 19.9% were women in 2021, compared to about 8% in 2004.

Moreover, TotalEnergies develops talent pools and regularly organizes campaigns to identify high-potential employees in the Company, in order to offer them a specific development program. At year-end 2021, women accounted for 33.4% of high-potential employees (compared with 15% in 2004) and 32.8% of Company high-potentials, a program that targets potential top managers in the Company (compared with 24% in 2014).

The Company manages skills mobility with a particular focus on attracting more women to technical and business careers (at year-end 2021, 22.8% of women were among managers on permanent contracts in technical or sales positions(2)).

At TotalEnergies SE's level, the Company's commitment has materialized by the entry of two women in the Executive Committee (8 people) since 2016. With regard to gender balance in the 10% of the highest management positions of the Corporation(3), the proportion of women equals 19.3%. At Company level, which is the most relevant perimeter in view of the Company’s activities, that percentage stands at 23.9%(4).

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(1) Senior executives with the most important responsibilities.

(2) Technical and sales functions, excluding support functions (e.g., human resources, legal affairs, purchasing, etc.).

(3) TotalEnergies SE, the Company’s parent company, has more than 5,000 employees (full-time-equivalent employees present on December 31 of each fiscal year for the period in question).

(4) Proportion calculated on the basis of 97,448 employees.

Profile, experience and expertise of the members of the Executive Committee

Patrick Pouyanné

Chairman and Chief Executive Officer of TotalEnergies SE

Chairman of the Strategy & CSR Committee

Born on June 24, 1963 (French)

Business address: TotalEnergies SE, 2 place Jean Millier, La Défense 6, 92400 Courbevoie, France

Biography & Professional Experience

A graduate of École Polytechnique and a Chief Engineer of France's Corps des Mines, Mr. Pouyanné held, between 1989 and 1996, various administrative positions in the Ministry of Industry and other cabinet positions (technical advisor to the Prime Minister – Édouard Balladur – in the fields of the Environment and Industry from 1993 to 1995, Chief of staff for the Minister for Information and Aerospace Technologies – François Fillon – from 1995 to 1996). In January 1997, he joined TotalEnergies' Exploration & Production division, first as Chief Administrative Officer in Angola, before becoming Company representative in Qatar and President of the Exploration and Production subsidiary in that country in 1999. In August 2002, he was appointed President, Finance, Economy and IT for Exploration & Production. In January 2006, he became Senior Vice President, Strategy, Business Development and R&D in Exploration & Production and was appointed a member of the Company's Management Committee in May 2006. In March 2011, Mr. Pouyanné was appointed Deputy General Manager, Chemicals, and Deputy General Manager, Petrochemicals. In January 2012, he became President, Refining & Chemicals and a member of the Company's Executive Committee.

On October 22, 2014, he became Chief Executive Officer of TOTAL S.A. and Chairman of the Company's Executive Committee. On May 29, 2015, he was appointed by the Annual Shareholders' Meeting as director for a three-year term. The Board of Directors appointed him as Chairman of the Board of Directors as of December 19, 2015. Mr. Pouyanné thus became the Chairman and Chief Executive Officer. Following the renewal of Mr. Pouyanné's directorship at the Shareholders' Meeting on June 1, 2018 and then on May 28, 2021 for a three-year period, the Board of Directors renewed Mr. Pouyanné's term of office as Chairman and Chief Executive Officer for a period equal to that of his directorship.

Mr. Pouyanné is thus the Chairman and Chief Executive Officer of TotalEnergies SE.

Mr. Pouyanné has also been the Chairman of the Alliance pour l'Education – United Way association since June 2018, having accepted this office as Chairman and Chief Executive Officer of the Corporation. In addition, he has been a member of the Board of Directors of Capgemini (since May 2017), of the Board of Directors of École Polytechnique (since September 2018), of the Institut Polytechnique of Paris (since September 2019), of the Association Française des Entreprises Privées (French association of private companies) (since 2014), of the Institut du Monde Arabe (since 2017) and of the foundation La France s'engage (since 2017).

Helle Kristoffersen

President, Strategy & Sustainability
Member of TotalEnergies' Executive Committee

Born on April 13, 1964 (French and Danish)
Member of TotalEnergies' Executive Committee since August 19, 2019

Business address: TotalEnergies SE, 2 place Jean Millier, La Défense 6, 92400 Courbevoie, France

Biography & Professional Experience

Helle Kristoffersen began her career in 1989 at the investment bank Lazard Frères. In 1991, she moved to the transportation and logistics company Bolloré. In 1994, Ms. Kristoffersen joined Alcatel, where she continued her career until 2010. She served as Alcatel's and then Alcatel-Lucent's Senior Vice President, Strategy.

Ms. Kristoffersen joined TotalEnergies in January 2011 as Deputy Senior Vice President and then Senior Vice President, Strategy & Business Intelligence. On September 1, 2016, she became Senior Vice President, Strategy & Corporate Affairs, in Gas, Renewables & Power.

In 2019, she was appointed President, Strategy-Innovation and a TotalEnergies Executive Committee member.

On September 1, 2021, she was appointed President, Strategy & Sustainability and member of the Executive Committee.

A dual Danish and French national, Helle Kristoffersen is a graduate of the Ecole Normale Supérieure (Ulm) and the Paris Graduate School of Economics, Statistics and Finance (ENSAE), and holds a master's degree in econometrics from Université Paris I. She is an alumna of the Institute for Higher National Defense Studies (IHEDN) and a Knight of the Legion of Honor.

Stéphane Michel

President, Gas, Renewables & Power
Member of TotalEnergies' Executive Committee

Born on February 17, 1973 (French)
Member of TotalEnergies' Executive Committee since March 1, 2021

Business address: TotalEnergies SE, 2 place Jean Millier, La Défense 6, 92400 Courbevoie, France

Biography & Professional Experience

A graduate of École Polytechnique (1994) and École des Mines in Paris (1997), Stéphane Michel is Chief Engineer of the France's Corps des Mines.

After serving as Energy Advisor to the French Finance Minister (2002-2004), Stéphane Michel joined the Company in 2005, working as Business Development Manager for the Downstream Asia division, based in Singapore.

In 2008, Stéphane Michel, is appointed TotalEnergies E&P Qatar JV Business Development Manager and in 2010 Managing Director of TotalEnergies E&P Libya.

In 2011, he became TotalEnergies E&P Qatar Managing Director and on April 1, 2014, the E&P Senior Vice President Middle East/North Africa and a Member of the Management Committee of the Exploration and Production segment.

On March 1, 2021, Stéphane Michel is appointed President of Gas, Renewables and Power segment and a member of the Executive Committee.

Thierry Pflimlin

President, Marketing & Services
Member of TotalEnergies' Executive Committee

Born on October 22, 1959 (French)
Member of TotalEnergies' Executive Committee since November 15, 2021

Business address: TotalEnergies SE, 2 place Jean Millier, La Défense 6, 92400 Courbevoie, France

Biography & Professional Experience

Graduated from the Strasbourg Political Studies Institute and from the HEC Business School, Thierry Pflimlin started his career as commercial attaché at the French Embassy in Hanoi. In 1984, he joined the TOTAL Group where he held a number of international positions in Asia and Africa. After five years as CEO of TOTAL Asia Pacific in Singapore, he moved back to the head office in 2012 to become CEO of TOTAL France. In 2013, he became Senior Vice President Corporate Affairs in the Marketing & Services Division. In September 2016, he became President of Total Global Services. Since November 15, 2021, Thierry Pflimlin has been President, Marketing & Services and a TotalEnergies Executive Committee member.

Bernard Pinatel

President, Raffinage-Chimie
Member of TotalEnergies' Executive Committee

Born on June 5, 1962 (French)
Member of TotalEnergies' Executive Committee since September 1, 2016

Business address: TotalEnergies SE, 2 place Jean Millier, La Défense 6, 92400 Courbevoie, France

Biography & Professional Experience

Bernard Pinatel is a graduate of the École Polytechnique and the Institut d'Études Politiques (IEP) de Paris and has an MBA from the Institut Européen d'Administration des Affaires (INSEAD). He is also a statistician-economist (École Nationale de la Statistique et de l'Administration Économique – ENSAE).

He started his career at Booz Allen & Hamilton, before joining the company TotalEnergies in 1991, where he occupied various operational positions in the production plants and head offices of different subsidiaries, including Hutchinson and Coates Lorilleux. He became the CEO France, and then the CEO Europe of Bostik between 2000 and 2006, and the Chairman and Chief Executive Officer of Cray Valley, from 2006 to 2009. In 2010, he became the Chairman and Chief Executive Officer of Bostik. At TotalEnergies, he became a member of the Company's Management Committee in 2011 and was member of the Management Committee of Refining & Chemicals from 2011 to 2014.

When Arkema took over Bostik in February 2015, he was nominated as a member of the Executive Committee of Arkema, responsible for the High-Performance Materials activity.

He joined TotalEnergies on September 1, 2016, and was appointed President of the Refining & Chemicals segment and a member of the Executive Committee.

Jean-Pierre Sbraire

Chief Financial Officer
Member of TotalEnergies' Executive Committee

Born on October 28, 1965 (French)
Member of TotalEnergies' Executive Committee since August 1, 2019

Business address: TotalEnergies SE, 2 place Jean Millier, La Défense 6, 92400 Courbevoie, France

Biography & Professional Experience

Jean-Pierre Sbraire began his career at TotalEnergies in 1990 in the Trading & Shipping Division. In 1995, he joined Exploration & Production, holding various positions in Paris and Nigeria in finance, economics and business development.

In 2005, he was appointed General Secretary and Finance Manager for TotalEnergies in Venezuela. In 2009, within the Company's Financial Division, he became Senior Vice President, E&P Subsidiaries Financial Operations.

In 2012, he was appointed Vice President, Equity Crude Acquisitions in Trading & Shipping. From September 2016 to September 2017, he served as Company's Treasurer. He then accepted the position of Deputy Chief Financial Officer. In 2019, he was appointed Chief Financial Officer and Executive Committee member.

Jean-Pierre Sbraire is a graduate of ENSTA ParisTech engineering school and has a master's degree from IFP School.

Namita Shah

President, OneTech
Member of TotalEnergies' Executive Committee

Born on August 21, 1968 (French)
Member of TotalEnergies' Executive Committee since September 1, 2016

Business address: TotalEnergies SE, 2 place Jean Millier, La Défense 6, 92400 Courbevoie, France

Biography & Professional Experience

Namita Shah began her career as an Associate Attorney at Shearman & Sterling, a New York-based law firm, where she spent eight years providing advice and supervising transactions including those involving financings of pipeline and power plant companies.

She joined TotalEnergies in 2002 as a Legal Counsel in the E&P mergers and acquisitions team. In 2008, she joined the New Business team, where she was responsible for business development in Australia and Malaysia. She held this position until 2011 when she moved to Yangon as General Manager, TotalEnergies E&P Myanmar.

On July 1, 2014, she was appointed Senior Vice President, Corporate Affairs, Exploration & Production.

On July 1, 2016, Namita Shah was appointed President, People & Social Responsibility and a member of the Executive Committee.

On September 1, 2021, she was appointed President, OneTech and member of the Executive Committee.

Indian and French, Namita Shah is a graduate of Delhi University and the New York University of Law.

Nicolas Terraz

President, Exploration & Production

Member of TotalEnergies' Executive Committee

Born on September 9, 1969 (French)
Member of TotalEnergies' Executive Committee since September 1, 2021

Business address: TotalEnergies SE, 2 place Jean Millier, La Défense 6, 92400 Courbevoie, France

Biography & Professional Experience

Nicolas Terraz started his career in the French Ministries of Industry (1994-1997) and Public Works and Transportation (1997-2001) and joined TotalEnergies in 2001.

After holding positions in France and in Qatar, Nicolas Terraz served as Managing Director of Total E&P Myanmar (2008-2011), Managing Director of Total E&P France (2011-2014), Vice President New Ventures for Exploration and Production (2014-2015) and Managing Director of Total Upstream Companies in Nigeria (2015-2019).

In 2019, Nicolas Terraz was appointed Senior Vice President Africa and a member of the management committee of the Exploration & Production segment of TotalEnergies.

Born in 1969, Nicolas Terraz is a graduate of the Ecole Polytechnique and the Ecole Nationale des Ponts et Chaussées and earned a Master of Science in Technology and Policy from the Massachusetts Institute of Technology.

4.1.6 Shares held by the administration and management bodies

As of December 31, 2021, based on statements by the persons concerned, registered shares ledger and the register of the FCPE fund units custodian, all of the members of the Board of Directors and the executive officers(1) of TotalEnergies held less than 0.5% of the share capital:

- members of the Board of Directors(2): 303,099 TotalEnergies shares and 17,145.75 units of the FCPE (collective investment fund) invested in TotalEnergies shares;
- Chairman and Chief Executive Officer: 267,487 TotalEnergies shares and 11,289.88 units of the FCPE invested in TotalEnergies shares;
- executive officers: 578,342 TotalEnergies shares and 177,844.77 units of the FCPE invested in TotalEnergies shares.

By decision of the Board of Directors:

- Executive directors of the Corporation are required to hold a number of TotalEnergies shares equal in value to two years of the fixed portion of their annual compensation; and
- members of the Executive Committee are required to hold a number of TotalEnergies shares equal in value to two years of the fixed portion of their annual compensation. These shares must be acquired within three years of their appointment to the Executive Committee.

The number of TotalEnergies shares to be considered comprises TotalEnergies shares and units of FCPEs invested in TotalEnergies shares.

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(1) The Company's executive officers are the members of the Executive Committee (including the Chairman and Chief Executive Officer). During the fiscal year 2020, the Company, taking into account the definition used by the US regulations applicable to Executive Officers and in the interest of harmonization, has chosen to reduce the list of its Executive Officers to the members of the Executive Committee in order to align this list with the list of "Persons Discharging Managerial Responsibilities" (PDMR) within the meaning of Article 19.5 of Regulation (EU) N° 596/2014 on Market Abuse. For the purposes of this regulation, PDMRs are defined as the persons referred to in Article L. 621-18-2 (a) of the French Monetary and Financial Code (the "directors") and the persons referred to in Article L. 621-18-2 (b) of the same code that the Company has defined as the members of the Executive Committee. Therefore, as of December 31, 2021 and as of December 31, 2020, the main Company's executive officers are the members of the Executive Committee, *i.e.*, eight persons.

(2) Including the Chairman and Chief Executive Officer, the director representing employee shareholders and the directors representing employees.

SUMMARY OF TRANSACTIONS IN THE CORPORATION'S SECURITIES (ARTICLE L. 621-18-2 OF THE FRENCH MONETARY AND FINANCIAL CODE)

The following table presents transactions, of which the Corporation has been informed, in the Corporation's shares or related financial instruments carried out in 2021 by the individuals referred to in paragraphs a), b)(1) and c) of Article L. 621-18-2 of the French Monetary and Financial Code:

2021		Acquisition	Subscription	Transfer	Exchange	Exercise of options
Patrick Pouyanné(a)	TotalEnergies shares	50,400	–	–	–	–
	Units in FCPE and other related financial instruments(b)	710.43	207.35	–	–	–
Patrick Artus(a)	TotalEnergies shares	–	–	–	–	–
	Units in FCPE and other related financial instruments(b)	–	–	–	–	–
Jacques Aschenbroich(a) Director since May 28, 2021	TotalEnergies shares	–	–	–	–	–
	Units in FCPE and other related financial instruments(b)	–	–	–	–	–
Patricia Barbizet(a)	TotalEnergies shares	–	–	–	–	–
	Units in FCPE and other related financial instruments(b)	–	–	–	–	–
Marie-Christine Coisne-Roquette(a)	TotalEnergies shares	440(c)	–	–	–	–
	Units in FCPE and other related financial instruments(b)	–	–	–	–	–
Jérôme Contamine(a)	TotalEnergies shares	–	–	–	–	–
	Units in FCPE and other related financial instruments(b)	36.67	–	–	–	–
Lise Croteau(a)	TotalEnergies shares	–	–	–	–	–
	Units in FCPE and other related financial instruments(b)	–	–	–	–	–
Mark Cutifani(a)	TotalEnergies shares	–	–	–	–	–
	Units in FCPE and other related financial instruments(b)	–	–	–	–	–
Valérie Della Puppa Tibi(a)	TotalEnergies shares	–	–	–	–	–
	Units in FCPE and other related financial instruments(b)	23.08	248.28	(64.02)	–	–
Romain Garcia-Ivaldi(a)	TotalEnergies shares	178	–	–	–	–
	Units in FCPE and other related financial instruments(b)	201.83	1,580.78	(1,130.99)	–	–
Maria van der Hoeven(a)	TotalEnergies shares	500	–	–	–	–
	Units in FCPE and other related financial instruments(b)	–	–	–	–	–
Glenn Hubbard(a) Director since May 28, 2021	TotalEnergies shares	1,000	–	–	–	–
	Units in FCPE and other related financial instruments(b)	–	–	–	–	–
Anne-Marie Idrac(a)	TotalEnergies shares	33	–	–	–	–
	Units in FCPE and other related financial instruments(b)	–	–	–	–	–
Jean Lemierre(a)	TotalEnergies shares	–	–	–	–	–
	Units in FCPE and other related financial instruments(b)	–	–	–	–	–
Angel Pobo(a)	TotalEnergies shares	185	–	–	–	–
	Units in FCPE and other related financial instruments(b)	66.52	138.94	(18.11)	–	–

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(1) The individuals referred to in paragraph b) of Article L. 621-18-2 of the French Monetary and Financial Code include the members of the Executive Committee.

2021		Acquisition	Subscription	Transfer	Exchange	Exercise of options
Arnaud Breuillac(a) Member of the Executive Committee until August 31, 2021	TotalEnergies shares	21,000	–	–	–	–
	Units in FCPE and other related financial instruments(b)	1,574.89	7,536.49	(3,283.69)	–	–
Helle Kristoffersen(a)	TotalEnergies shares	8,400	–	–	–	–
	Units in FCPE and other related financial instruments(b)	1,326.51	3,050.22	(1,480.41)	–	–
Stéphane Michel(a) Member of the Executive Committee since March 1, 2021	TotalEnergies shares	6,650(d)	–	–	–	–
	Units in FCPE and other related financial instruments(b)	940.85	10,883.74	(5,414.84)	–	–
Thierry Pflimlin(a) Member of the Executive Committee since November 15, 2021	TotalEnergies shares	–	–	–	–	–
	Units in FCPE and other related financial instruments(b)	–	–	–	–	–
Bernard Pinatel(a)	TotalEnergies shares	17,500	–	(2,514)(e)	–	–
	Units in FCPE and other related financial instruments(b)	1,709.15	12,530.69	(6,005.00)	–	–
Philippe Sauquet(a) Member of the Executive Committee until February 28, 2021	TotalEnergies shares	–	–	–	–	–
	Units in FCPE and other related financial instruments(b)	610.53	137.20	–	–	–
Jean-Pierre Sbraire(a)	TotalEnergies shares	6,300	–	–	–	–
	Units in FCPE and other related financial instruments(b)	2,048.97	15,864.49	(7,873.85)	–	–
Namita Shah(a)	TotalEnergies shares	16,800	–	–	–	–
	Units in FCPE and other related financial instruments(b)	2,037.61	2,070.16	(988.61)	–	–
Nicolas Terraz(a) Member of the Executive Committee since September 1, 2021	TotalEnergies shares	–	–	–	–	–
	Units in FCPE and other related financial instruments(b)	331.47	–	–	–	–
Alexis Vovk(a) Member of the Executive Committee until November 14, 2021	TotalEnergies shares	5,600	–	–	–	–
	Units in FCPE and other related financial instruments(b)	824.15	9,019.14	(4,431.23)	–	–

(a) Including related parties within the meaning of the provisions of Article R. 621-43-1 of the French Monetary and Financial Code.

(b) FCPE primarily invested in TotalEnergies shares.

(c) Acquisition made by Simon Roquette, person closely associated with person closely associated with Marie-Christine Coisne-Roquette, Lead Independent Director.

(d) TotalEnergies was informed of the pledge of 6,250 shares put in place on May 28, 2021 by Stéphane Michel and of the acquisition by Anne-Thérèse Michel, employee of the Company and person closely associated with Stéphane Michel, of 360 TotalEnergies shares and 1,311.87 FCPE units since March 1, 2021.

(e) Including 490 shares sold by Thibauld Pinatel, person closely associated with Bernard Pinatel.

4.2 Statement regarding corporate governance

For many years, TotalEnergies has taken an active approach to corporate governance and at its meeting on November 4, 2008, the Board of Directors decided to refer to the AFEP-MEDEF Code of Corporate Governance for publicly traded companies (available on the AFEP and MEDEF websites).

Pursuant to Article L. 22-10-10 of the French Commercial Code, the following table sets forth the recommendation made in the AFEP-MEDEF Code that he Corporation has opted not to follow as at March 16, 2022, as well as the reasons for such decision.

RECOMMENDATION NOT FOLLOWED	EXPLANATION – PRACTICE FOLLOWED BY TotalEnergies
Supplementary pension plan (point 25.6.2 of the Code) Supplementary pension schemes with defined benefits must be subject to the condition that the beneficiary must be a director or employee of the company when claiming his or her pension rights pursuant to the applicable rules.	It appeared justified not to deprive the relevant beneficiaries of the benefit of the pension commitments made by the Corporation in the particular cases of the disability or departure of a beneficiary over 55 years of age at the initiative of the Company. In addition, it should be noted that the supplementary pension plan set up by the Corporation was declared to URSSAF in 2004, in accordance with Articles L. 137-11 and R. 137-16 of the French Social Security Code. In accordance with the ordinance 2019-697 published on July 4, 2019, this pension plan is closed to all new participants as from July 4, 2019.

4.3 Compensation for the administration and management bodies

4.3.1 Board members’ compensation

4.3.1.1 BOARD MEMBERS’ COMPENSATION POLICY

AGGREGATE AMOUNT OF DIRECTORS’ COMPENSATION DUE TO THEIR DIRECTORSHIPS

In accordance with the provisions of Article L. 22-10-14 of the French Commercial Code, the conditions applicable to Board members’ compensation are defined by the Board of Directors on the proposal of the Governance and Ethics Committee, under the conditions provided for by Article L. 22-10-8 of the French Commercial Code and within the limit of an annual fixed amount determined by the Annual Shareholders’ Meeting.

The Annual Shareholders’ Meeting held on May 29, 2020, set the maximum amount of the annual fixed amount to be allocated to board members for their activity as of 2020 at €1.75 million. Previously €1.4 million, this amount had remained unchanged since the Annual Shareholders’ Meeting of May 17, 2013, before being increased in 2020 to take account of the increase in the number of directors as well as in the number of meetings, in particular of the Strategy & CSR Committee, whose remit has been extended to social and environmental challenges, including those related to climate.

The annual maximum amount for the compensation of the activity of the directors is allocated among the directors in the strict respect of the principles set by the Rules of procedures of the Board and the compensation policy for directors as presented below.

RULES FOR ALLOCATING DIRECTORS’ COMPENSATION DUE TO THEIR DIRECTORSHIPS

The allocation rules of the directors’ compensation and their payment conditions defined by the Board at its meeting of July 26, 2017, and remain unchanged since. The compensation due to directors by virtue of their directorships are allocated according to a formula comprised of fixed compensation and variable compensation based on fixed amounts per meeting, which makes it possible to take into account each director’s actual attendance at the meetings of the Board of Directors and its Committees, subject to the following conditions:

- a fixed annual portion of €20,000 per director(1);
- a fixed annual portion(1) of €30,000 for the Chairman of the Audit Committee(2);
- a fixed annual portion(1) of €25,000 for the Audit Committee members(2);
- a fixed annual portion(1) of €25,000 for the Chairman of the Governance and Ethics Committee and for the Chairman of the Compensation Committee(2);
- an additional fixed annual portion(1) of €30,000 (on top of the amounts above) for the Lead Independent Director;
- an amount of €7,500 per director for each Board meeting actually attended;
- an amount of €3,500 per director for each Governance and Ethics Committee, Compensation Committee or Strategy and CSR Committee meeting actually attended;
- an amount of €7,000 per director for each Audit Committee meeting actually attended;
- a premium of €4,000 in respect of each actual travel from a country outside France to attend a Board or Committee meeting.

The Chairman and Chief Executive Officer does not receive directors’ compensation for his work on the Board and Committees of the Corporation.

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(1) Calculated on a pro rata basis, in the event of change in the course of the year.

(2) Substituting the €20,000 fixed annual portion per director. In case of accumulation of the functions of director and/or Audit Committee member and/or Chairman of a Committee (Audit, Governance and Ethics, Compensation), the difference between the fixed annual portion per director and the fixed annual portion of the other functions is added.

The total amount paid to each director is determined after taking into consideration the director's actual presence at each Board of Directors' or Committee's meeting and, if appropriate, since the decision by the Board of Directors on February 9, 2012, after prorating the amount set for each director such that the overall amount paid remains within the maximum limit set by the Shareholders' Meeting. Directors' compensation for each fiscal year is paid following a decision by the Board of Directors, on the proposal of the Governance and Ethics Committee, at the beginning of the following fiscal year.

The director representing employee shareholders and the directors representing employees receive directors' compensation according to the same terms and conditions as any other director.

Moreover, there is no service contract between a director and the Corporation or any of its controlled companies that provides for the grant of benefits under such a contract.

4.3.1.2 COMPENSATION PAID TO DIRECTORS DURING FISCAL YEAR 2021 OR ALLOCATED DURING THE SAME FISCAL YEAR

At its meeting of February 9, 2022, the Board of Directors, on the proposal of the Governance and Ethics Committee, set the aggregate amount of compensation (formerly fees) allocated to board members due to their directorships in TotalEnergies SE, for fiscal year 2021.

This amount was determined by applying the principles presented in the directors' compensation policy (point 4.3.1.1 of this chapter), and set for each director, after taking into account his/her actual attendance to each meeting of the Board or of the Committees (refer to point 4.1.2.2 of this chapter – table of the directors' attendance at Board and Committees meetings).

In view of the number of Board and Committee meetings held in 2021, the amount of compensation paid to directors on the basis of the above allocation rules was **€1,745,863**, an amount below the cap voted by the Shareholders' Meeting on May 29, 2020.

The director representing employee shareholders and the directors representing employees benefited from their compensation by virtue of their directorships in the same conditions and under the same basis as the other directors. Ms. Della Puppa Tibi and Mr. Pobo chose to pay, for the entire term of their directorship, all their directors' compensation to their respective trade union membership organizations. Mr. Garcia-Ivaldi chose to pay all its director's compensation to charities of his choice.

During the past two years, the directors currently in office have not received any compensation or in-kind benefits from the Corporation or from its controlled companies other than those mentioned in the table below.

No exceptional compensation was allocated.

Ms. Valérie Della Puppa Tibi, director representing employee shareholders since May 29, 2019, Mr. Romain Garcia-Ivaldi, director representing employees since June 9, 2020, as well as Mr. Angel Pobo, director representing employees since October 14, 2020, benefit from the internal defined contribution pension plan applicable to all TotalEnergies SE employees (Régime collectif et obligatoire de retraite supplémentaire à cotisations définies), governed by Article L. 242-1 of the French Social Security Code. The Corporation's commitment is limited to its share of the contribution paid to the insurance company that manages the plan. For fiscal year 2021, this pension plan represented an expense accounted for TotalEnergies SE in favor of Ms. Della Puppa Tibi of €746, in favor of Mr. Garcia-Ivaldi of €1,042 and in favor of Mr. Pobo of €733.

The table below presents the total compensation paid to directors during fiscal year 2021 or allocated for the same fiscal year.

TABLE OF COMPENSATION ALLOCATED IN RESPECT OF DIRECTORSHIP AND OTHER COMPENSATION BY NON-EXECUTIVE DIRECTORS

Table 3 – Position-recommendation – DOC-2021-02 (Appendix 2)

Gross (€)		Amount allocated in respect of fiscal year 2020	Amount paid during fiscal year 2020	Amount allocated in respect of fiscal year 2021	Amount paid during fiscal year 2021
Patrick Pouyanné	Compensation by virtue of directorship	None(a)	None(a)	None(a)	None(a)
	Other compensation				
Patrick Artus(b)	Compensation by virtue of directorship	132,025	136,032	66,664	132,025
	Other compensation	–	–	–	–
Jacques Aschenbroich(c)	Compensation by virtue of directorship	n/a	n/a	59,890	n/a
	Other compensation	n/a	n/a	–	–
Patricia Barbizet	Compensation by virtue of directorship	119,193	146,461	153,473	119,193
	Other compensation	–	–	–	–
Marie-Christine Coisne-Roquette	Compensation by virtue of directorship	136,389	158,705	161,000	136,389
	Other compensation	–	–	–	–
Jérôme Contamine	Compensation by virtue of directorship	62,441	n/a	148,000	62,441
	Other compensation	–	n/a	–	n/a
Lise Croteau	Compensation by virtue of directorship	143,811	104,025	175,500	143,811
	Other compensation	–	–	–	–
Mark Cutifani	Compensation by virtue of directorship	90,137	96,356	110,000	90,137
	Other compensation	–	–	–	–
Valérie Della Puppa Tibi	Compensation by virtue of directorship(f)	86,174	49,125	112,000	86,174
	Other compensation	72,744	72,744	71,944	71,944
Romain Garcia-Ivaldi	Compensation by virtue of directorship(g)	44,402	n/a	156,473	44,402
	Other compensation	58,740	58,740	57,664	57,664
Maria van der Hoeven	Compensation by virtue of directorship	159,811	191,405	198,473	159,811
	Other compensation	–	–	–	–
Glenn Hubbard(c)	Compensation by virtue of directorship	n/a	n/a	71,890	n/a
	Other compensation	n/a	n/a	–	–
Anne-Marie Idrac	Compensation by virtue of directorship	93,174	104,204	115,500	93,174
	Other compensation	–	–	–	–
Gérard Lamarche(d)	Compensation by virtue of directorship	n/a	82,183	n/a	n/a
	Other compensation	n/a	n/a	n/a	n/a
Jean Lemierre	Compensation by virtue of directorship	93,174	104,204	115,500	93,174
	Other compensation	–	–	–	–
Renata Perycz(d)	Compensation by virtue of directorship	n/a	69,468	n/a	n/a
	Other compensation	n/a	n/a	n/a	n/a
Angel Pobo	Compensation by virtue of directorship(f)	22,322	n/a	101,500	22,322
	Other compensation	70,160	70,160	69,410	69,410
Christine Renaud(e)	Compensation by virtue of directorship(f)	48,697	91,996	n/a	48,697
	Other compensation	68,916	68,916	n/a	n/a
Carlos Tavares(e)	Compensation by virtue of directorship	26,697	65,836	n/a	26,697
	Other compensation	–	–	–	–
TOTAL		**1,529,007**	**1,670,560**	**1,944,881**	**1,457,465**

(a) Refer to the summary tables presented in point 4.3.2 of this chapter.

(b) Director until May 28, 2021.

(c) Director since May 28, 2021.

(d) Director until May 29, 2019.

(e) Director until May 29, 2020.

(f) Ms. Della Puppa Tibi, Ms Renaud, and Mr. Pobo chose to pay, for the entire term of their directorships as directors representing employees, all their directors' compensation to their respective trade union membership organizations.

(g) Mr. Garcia-Ivaldi chose to pay all his director's compensation to charities of his choice.

4.3.2 Chairman and Chief Executive Officer's compensation

Letter of the Chairman of the Compensation Committee

Dear Shareholders,

On behalf of the Board of Directors, I am pleased to present the Company's compensation report for the fiscal year ended on December 31, 2021.

In fiscal year 2021, and in line with the proposal of the Governance and Ethics Committee, the Board of Directors decided at its meeting on March 17, 2021, to modify the composition of the Compensation Committee at the end of the Shareholders' Meeting on May 28, 2021. As of this date, I have the honor of chairing the Compensation Committee alongside Marie-Christine Coisne-Roquette and Valérie Della Puppa Tibi, who represents employees.

2021 saw the Company strongly accelerate its transformation into a multi-energy Company. The adoption of the new name TotalEnergies, accompanied by a new logo, symbolizes the reality of this profound transformation and confirms the Company's very strong ambition in this area. In 2021, TotalEnergies' multi-energy model proved our ability to take full advantage of the favorable environment with adjusted net income of $18.1B for the year.

The new Climate ambition that is leading the Company towards carbon neutrality and the targets for 2030, which received broad support from shareholders at the Shareholders' Meeting on May 28, 2021, allow management to implement the ambitious strategy it had proposed, with the full support of the Board of Directors. The achievement of the target of 10 GW of electricity production by the end of 2021, as well as the 35 GW already secured for 2025, demonstrate that the Company's management has taken the necessary measures to be able to achieve its target of 100 GW in 2030. The creation in 2021 of the new OneTech branch, which will bring together in a single multi-technical unit some 2,500 of the Company's engineers in order to pool the technical and R&D skills of the various branches, is a major organizational turning point, confirming the scale of the transformation underway and to come. In addition, the Board of Directors and the Compensation Committee fully support the decisions to increasingly integrate the climate component into both the short and long term components of the Company's various compensation systems. Lastly, it is very positive about the TWOP (Transforming With Our People) program, which aims to implement in concrete terms a just transition by involving TotalEnergies' employees in the Company's transformation.

As a reminder, the role of the Compensation Committee is to examine and make recommendations to the Board of Directors concerning the compensation policies for senior executives implemented in the Company and the compensation of member of the Executive Committee, to evaluate performance and to propose the compensation of the executive director, while maintaining a close link between compensation and performance. Our Compensation Committee is committed to seeking and taking feedback from the shareholders into account in the definition and management of the compensation systems for the Company's senior executives.

This year, the Compensation Committee met 3 times and worked on formulating recommendations to the Board of Directors on the following main subjects:

- Compensation to be paid to the Chairman and Chief Executive Officer for the fiscal year 2021;
- Analysis of the results of the votes at the Shareholders' Meeting on May 28, 2021 concerning resolutions 10, 11, 12, 13 and 16;
- The compensation policy for the Chairman and Chief Executive Officer for the fiscal year 2022;
- The conditions of implementation of a performance share plan for 2022;
- The draft resolutions submitted to the Shareholders' Meeting on May 28, 2022;
- The report on corporate governance; compensation for the administration and management bodies; equity ratio.

Following the outcome of the vote on resolution 13 at the Shareholders' Meeting on May 28, 2021, the Compensation Committee met to analyze in detail the proposed changes to the compensation policy for the new term of office of the executive director, giving the utmost importance to the comments of the shareholders and the proxy advisors.

The Board of Directors thus decided to implement the decisions voted at the Shareholders' Meeting, and wished to reiterate that the proposed changes to the compensation policy were intended to ensure that it reflects and rewards the achievement of the targets set, encourages over-performance and is competitive with a panel of companies of a comparable size.

The key decision-making parameters considered were fairness and rewarding performance, while seeking to reconcile the compensation policy of management with the interests of shareholders.

The Board of Directors considered that Mr. Patrick Pouyanné is recognized within the industry and has demonstrated his capacity to implement the substantial and successful change of the Company.

TotalEnergies is now considered by the market to be one of the forerunners in the search for carbon neutrality, by implementing a profound transformation of its business models very quickly. The Chairman and Chief Executive Officer proposed a bold strategy to the Board of Directors with very ambitious targets to make the changes. The implementation of this new strategy, supported by the Board of Directors, has been made possible by the solid foundations of a flexible organizational structure implemented over the last five years.

To make sure that our compensation policy is competitive, Mr. Patrick Pouyanné's compensation was reviewed, like every year, and compared with that of his competitors and with the national market. The results of this detailed analysis, which is included further in this document, enabled the Board to reinforce its belief that the structure and components of the proposed policy for 2022 were at the appropriate level.

To this end, the Board of Directors took into consideration:

- The size, scope and complexity of the Company's global operations in its current and projected configurations;
- The extent of changes needed in the Company's strategy, as well as any changes that will be needed to improve its competitive position;

- Market developments in general and trends in executive compensation;
- The increasing importance of ESG challenges for the entire financial community and how the Corporation needs to take account of such issues into the compensation structure of its executives;
- Shareholders' expectations and the need to obtain their support for the proposed changes.

With regard to the proposed compensation policy for the fiscal year 2022, the Compensation Committee has therefore recommended to the Board of Directors it maintains the compensation policy for the Chairman and Chief Executive Officer, as approved by the Shareholders' Meeting on May 28, 2021.

On this basis, the main proposed changes were:

- A change in base salary from €1,400,000 to €1,550,000 effective as from January 1, 2022 and for the whole duration of the term of office. It should be recalled that this increase decision was taken by the Board of Directors taking into account that the base salary had not been reviewed since 2016. This rise therefore corresponds to an annual increase since 2016 of approximately 1.7%, to be compared with the average pay rise budget for employees in the *socle social commun* scope (approximately 15,000 employees in France) of 2.38% per year over the same period. In addition, the Mercer benchmark showed that the positioning of the base salary at €1,400,000 and of the total cash compensation were slightly below the median, in comparison with a panel of 24 international energy companies;
- A change in the variable compensation structure allowing for over-performance according to quantitative financial criteria. The purpose of this change is to encourage the Chairman and Chief Executive Officer to exceed the financial targets. However, taking into account feedback from shareholders, the Compensation Committee recommended to the Board of Directors to update some of the limits of the financial targets, to ensure that they are ambitious and even stretch for over-performance. As a reminder, the share of the financial criteria remains nonetheless capped at 110% of the base salary;
- An increase in the number of performance shares attributable to the Chairman and CEO in fiscal years 2021, 2022 and 2023 to 90,000, 100,000 and 110,000 shares respectively, to be better aligned with market levels and to better reconcile the interests of the Chairman and CEO and of the Company's shareholders;
- In the same spirit, the Board of Directors, on the recommendation of the Compensation Committee, has decided, starting with the 2021 long-term compensation plan, to require the Chairman and Chief Executive Officer to hold 50% of the shares, that will be definitively granted to him at the end of the vesting period, in registered form until the end of his term of office. This obligation is more restrictive than the one that existed in the Company previously, and those observed within the CAC40.

In addition to these elements, and following requests from shareholders for greater transparency, the Board of Directors has decided to strengthen its compensation policy by providing a framework for the granting of golden hellos, and by clarifying the rules for the treatment of performance shares upon the departure of the beneficiary.

On behalf of the Compensation Committee, I would like to thank you for your feedback and support, which we will continue to seek in our regular reviews and improvements of our compensation policies, to make sure that they are aligned with the interests of our shareholders and fully meet all legal requirements.

Mark Cutifani

Chairman of the Compensation Committee

The Board of Directors pays the greatest importance to ensuring that the general principles governing the compensation of executive directors, detailed in point 4.3.2.2 of this chapter, lead to a measured and fair compensation, depending on the results obtained, the responsibility assumed and the market.

The general principles of the compensation policy of the executive directors are based on:

- the compensation of the performance
- the alignment with the interest of shareholders
- the competitiveness compared to a reference group of peers and industrial companies of comparable size.

Key points of the 2021 performance and changes in the compensation of the Chairman and Chief Executive Officer

	TSR* (Total Shareholders Return)	Return on equity	Gearing ratio, (excluding lease commitments)	Pre-dividend organic cash breakeven	Return on average capital employed (ROACE), comparative	Reduction of GHG emissions of operated facilities (Scope 1+2)(1)
2021	+25.3%	16.9% (+13.2 pts)	15.3%	$22.9/b	TotalEnergies: 13.9% Peers**: 10.7%	37 Mt CO_2e
2020	-18.6%	3.7%	21.7%	$25.6/b	TotalEnergies: 3% Peers**: 7.2%	41 Mt CO_2e

* The TSR is calculated from the ADR (New York) with the dividend reinvested at year-end.
**Panel average (Exxon, Shell, BP and Chevron).

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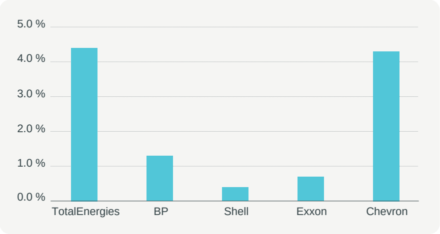
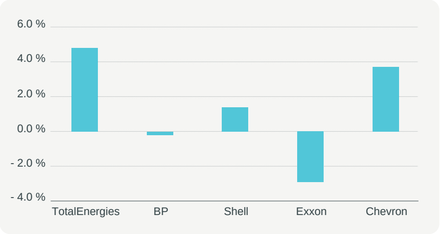
(1) Excluding COVID-19 effect. The COVID-19 effect is assessed on the basis of a 10% decrease of petroleum products demand in 2021 compared to their structural demand.

Beyond the strong growth in the 2021 results, TotalEnergies' TSR (Total Shareholders Return) shows a sustained performance.

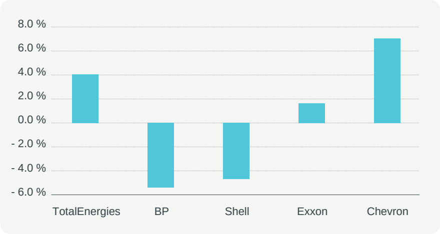
10-year TSR



5-year TSR

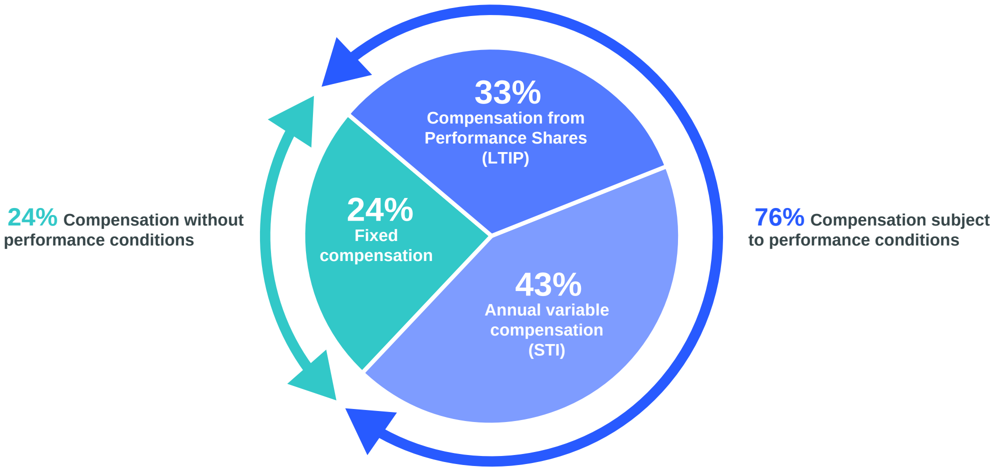


3-year TSR



STRUCTURE OF THE CHAIRMAN AND CHIEF EXECUTIVE OFFICER'S TOTAL COMPENSATION (EXCLUDING BENEFITS)

More than 76% of the compensation is subject to performance conditions



STI 2021 in % of the base salary

- HSE: 29%
- Financial parameters: 110%
- Personal contribution: 40%

2021 LTIP plan

- TSR vs. peers: 25%
- Annual variation in net cash flow per share vs. peers: 25%
- Pre-dividend organic cash breakeven: 20%
- GHG Scope 1+2: 15%
- GHG Scope 3[1] Europe: 15%

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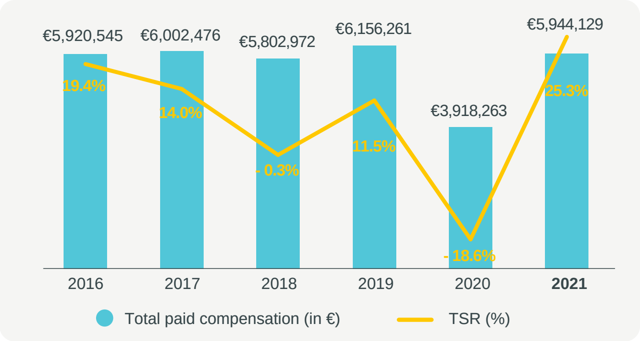
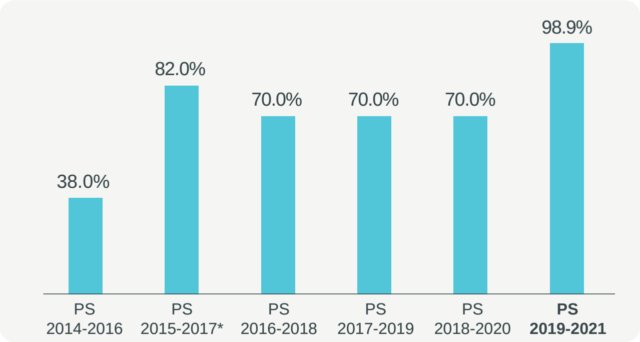
(1) GHG Protocol - Category 11.

A compensation aligned with the shareholders' interest

Compensation of the Chairman and Chief Executive Officer & TSR (Total Shareholder Return)



History of the rate of achievement of performance criteria for performance share plans



*Note: As the performance criteria differ between the grants made to the executive director and those made to other beneficiaries, the respective achievement rates are 81% and 82%.

	2017 Plan	2018 Plan	2019 Plan
TSR	2017: 3rd (80%) 2018: 4th (0%) 2019: 3rd (80%) **Achievement rate: 53.3%**	2018: 4th (0%) 2019: 3rd (80%) 2020: 1st (180%) **Achievement rate: 86.7%**	2019: 3rd (80%) 2020: 1st (180%) 2021: 2nd (130%) **Achievement rate: 100%**
Annual variation of the net cash flow per share	2017: 1st (180%) 2018: 4th (0%) 2019: 3rd (80%) **Achievement rate: 86.7%**	2018: 4th (0%) 2019: 3rd (80%) 2020: 3rd (80%) **Achievement rate: 53.3%**	2019: 3rd (80%) 2020: 3rd (80%) 2021: 2nd (130%) **Achievement rate: 96.7%**
Pre-dividend organic cash breakeven	n/a	n/a	2019: 25.1 $/b (100%) 2020: 25.6 $/b (100%) 2021: 22.9 $/b (100%) **Achievement rate: 100%**
Achievement rate of the performance shares plan	**70.0%**	**70.0%**	**98.9%**
Performance shares acquired at the end of the acquisition period by the Chairman and CEO	**60,000 x 70% = 42,000**	**72,000 x 70% = 50,400**	**72,000 x 98.9% = 71,208**

A compensation aligned with market practices and consistent with the two reference panels

Comparison groups

The Compensation Committee examines annually the relevance of the two panels of companies selected. These two panels allow us to compare our compensation practices with our peers in the energy sector, but also with companies in our employment pool that are leaders in their markets, in order to offer a competitive compensation program aimed at attracting and retaining the talents of today and tomorrow that are necessary for the development of our Company.

These two reference panels, which have not changed since 2020, and which include French, European or American companies, selected from among groups similar in terms of:

- size (sales, capitalization)
- complexity and activities (energy sector);
- internalization of activities
- and competitors in terms of recruiting talent on an international scale.

French comparison panel made up of CAC40 companies

Airbus	Dassault Systemes	Legrand	Safran	Veolia Environnement
Alstom	Engie	L'Oreal	Sanofi	Vinci
ArcelorMittal	EssilorLuxottica	LVMH	Schneider Electric	
Bouygues	Hermès International	Michelin	Stellantis	
Danone	Kering	Pernod Ricard	STMicroelectronics	
Compagnie de Saint-Gobain	L'Air Liquide	Renault	Thales	

International comparison panel

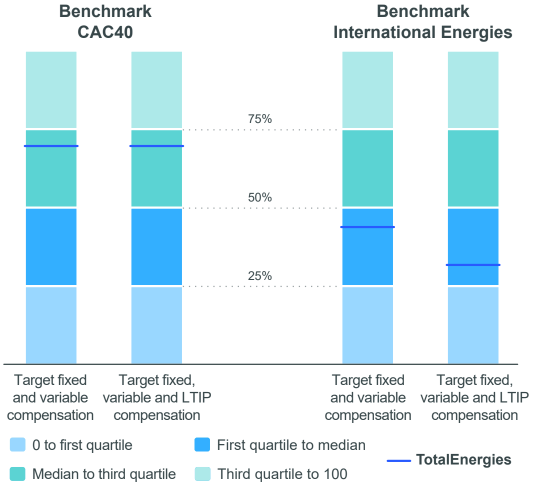
BASF	Engie	Marathon Petroleum	Schlumberger
BG GROUP	ENI	Mercedes-Benz Group	Siemens
BP	ExxonMobil	Philips 66	Stellantis
Chevron	General Electric	Repsol	TechnipFMC
E.ON	Iberdrola	Shell	Valero Energy
ENEL	L'Air Liquide	RWE	Volkswagen

Positioning of the benchmarks

The Consultant (Mercer firm) assesses the compensation of the executive director by reference to the two above-mentioned reference panels(1).

Compared to the CAC40 panel, Mr. Pouyanné's compensation ranks in the upper part of the third quartile, whether in total "cash" compensation or in total compensation including performance shares.

However, compared to the international "Energies" panel, his total cash compensation ranked lower to the median and his total compensation including performance shares ranks in the lower part of the second quartile.



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(1) Methodological note: In order to compare our practice for short-term compensation practice with market practice, Mercer has retained a target bonus for the Chairman and Chief Executive Officer equal to 2/3 of the maximum bonus (ratio observed between target and maximum bonus for the market). The performance shares (LTIP) were valued on the basis of the IFRS expense recognized for the shares granted in 2021.

Other components of the compensation policy

The compensation policy of the Chairman and Chief Executive Officer is decided by the Board of Directors, consistent with the AFEP-MEDEF's recommendations and on the proposal of the Compensation Committee and takes account of the comments of investors and proxy advisors.

The compensation policy of the Chairman and Chief Executive Officer does and does not provide for:

What TotalEnergies does	What TotalEnergies does not do
✓ A strong emphasis on variable compensation (approximately 70%-75% of total compensation)	✗ No accumulation of an employment contract and a directorship
✓ A predominant part of the compensation package linked to the Company's performance	✗ No guaranteed variable compensation components
✓ Annual measurement of the level and structure of compensation compared to the CAC40 and international peers	✗ No upholding for the executive director of vesting rights to performance shares in case of dismissal or termination of gross negligence or willful misconduct
✓ A binding retention policy requiring the retention of 50% of long-term compensation grants, starting with the 2021 plans	
✓ Performance criteria in line with the Company's long-term strategy, taking into account its CSR impact in particular	
✓ Golden hellos capped to the value of opportunities lost in the previous employer	

4.3.2.1 COMPENSATION OF MR. PATRICK POUYANNÉ FOR FISCAL YEAR 2021

At its meeting on March 16, 2022, the Board of Directors set, on the proposal of the Compensation Committee, the Chairman and Chief Executive Officer's compensation in respect of fiscal year 2021, by applying the principles and criteria set in the compensation policy of the Chairman and Chief Executive Officer for fiscal year 2021 submitted by the Board of Directors to the Ordinary Shareholders' Meeting on May 28, 2021, and approved by the latter at 60.27% (resolution 13).

In accordance with Article L. 22-10-9 of the French Commercial Code, the information presented below reports on the total compensation and benefits of all kinds, paid to Mr. Patrick Pouyanné by virtue of his mandate as Chairman and Chief Executive Officer of TotalEnergies SE for fiscal year 2021 or allocated by virtue of this mandate in respect of the same fiscal year(1), as well as all the other information provided for in this Article L. 22-10-9.

It is reminded that the payment to the Chairman and Chief Executive Officer of the annual variable component for fiscal year 2021 is conditional upon the approval of the Ordinary Shareholders' Meeting on May 25, 2022, of the fixed, variable and extraordinary components of the total compensation and the benefits of all kinds paid during fiscal year 2021 to the Chairman and Chief Executive Officer or allocated to the latter during the same fiscal year, in accordance with Article L. 22-10-34 of the French Commercial Code.

The Ordinary Shareholders' Meeting to be held on May 25, 2022, will be convened to approve the total compensation and the benefits of all kinds paid during fiscal year 2021 or attributed to the Chairman and Chief Executive Officer for the same fiscal year, in accordance with Article L. 22-10-34 of the French Commercial Code.

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(1) Including attributions in the form of stock, securities or rights giving access to the company's share capital or rights to the attribution of securities of the company or of the companies mentioned in Articles L. 228-13 and L. 228-93 of the French Commercial Code.

TABLE SUMMARIZING THE COMPENSATION, OPTIONS AND SHARES ALLOCATED TO THE CHAIRMAN AND CHIEF EXECUTIVE OFFICER

Table 1 – AMF Position-recommendation – DOC-2021-02 (Appendix 2)

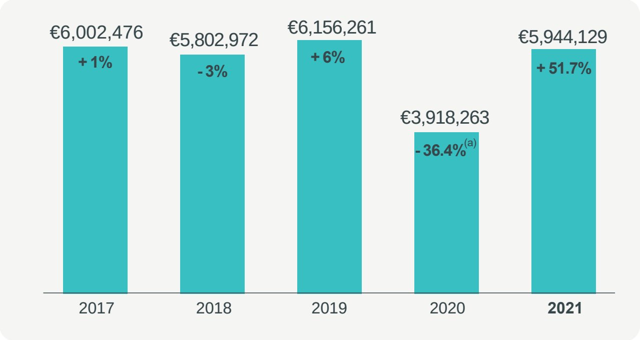
(€, except the number of shares)	Fiscal year 2020	Fiscal year 2021
Patrick Pouyanné *Chairman and Chief Executive Officer*		
Compensation allocated in respect of the fiscal year (detailed in table 2)	3,204,023	3,971,329
Valuation of multi-year variable compensation allocated during the fiscal year	–	–
Valuation of stock options granted during the fiscal year (detailed in table 4)	–	–
Valuation of performance shares granted during the financial year (detailed in table 6)	714,240(a)	1,972,800(b)
Number of performance shares granted during the financial year	*72,000*	*90,000*
Valuation of the other long-term compensation plans	–	–
TOTAL	**3,918,263**	**5,944,129**
Variation Fiscal year 2020/Fiscal year 2021		51.7%

Note: The valuations of the options and performance shares correspond to a valuation performed in accordance with IFRS 2 (see Note 9 to the Consolidated Financial Statements) and not to any compensation actually received during the fiscal year. Entitlement to performance shares is subject to the fulfillment of performance conditions assessed over a three-year period.

(a) In accordance with the accounting of the performance shares for the year 2020 in application of IFRS 2, which takes into account the assumption of an 80% grant rate at the end of the vesting period, this amount corresponds to 72,000 shares granted in 2020, valued on the basis of a unit fair value of €12.40. This fair value was calculated in accordance with IFRS 2 on the grant date of the plan, i.e., March 18, 2020, on the basis of a closing price of the TotalEnergies share on that date of €21.795. For information, the unit fair value would amount to €24.85 based on a calculation using identical parameters and the average closing price of the TotalEnergies share in 2020, i.e., €34.957. On the basis of a unit fair value of €24.85, the valuation of the 72,000 performance shares granted in 2020 would have been €1,431,360.

(b) In accordance with the accounting of the performance shares for fiscal year 2021 in accordance with IFRS 2 which takes into account the assumption of an 80% grant rate at the end of the vesting period, this amount corresponds to the 90,000 shares awarded in 2021, valued on the basis of a unit fair value of €27.40. This fair value was calculated in accordance with IFRS 2 on the grant date of the plan, i.e. May 28, 2021, on the basis of a closing price of the TotalEnergies share on that date of €38.145.

EVOLUTION OF THE COMPENSATION OF MR. PATRICK POUYANNÉ, CHAIRMAN AND CHIEF EXECUTIVE OFFICER (FISCAL YEARS 2017-2021)



(a) The reduction in compensation paid to Mr. Pouyanné between 2019 and 2020 is partly due to the Chairman and Chief Executive Officer's decision to temporarily cut his fixed compensation by 25% as from May 1, 2020 until December 31, 2020, due to the economic context, as well as the significant reduction in the IFRS 2 valuation of performance shares granted in 2020 (unit fair value of €12.40 in 2020 compared to a unit fair value of €40.11 in 2019). On the basis of a unit fair value of €24.85, the valuation of the 72,000 performance shares granted in 2020 would have been €1,431,360 and the reduction in compensation would have been 25%.

SUMMARY OF THE COMPENSATION OF THE CHAIRMAN AND CHIEF EXECUTIVE OFFICER

Table 2 – AMF Position-recommendation – DOC-2021-02 (Appendix 2)

	Fiscal year 2020		Fiscal year 2021	
(€)	Amount allocated for the fiscal year	Amount paid during the fiscal year[(a)]	Amount allocated for the fiscal year	Amount paid during the fiscal year[(a)]
Patrick Pouyanné *Chairman and Chief Executive Officer*				
Fixed compensation	1,166,667[(c)]	1,166,667[(c)]	1,400,000	1,400,000
Annual variable compensation	1,972,740	2,378,300	2,506,000	1,972,740
Multi-year variable compensation	–	–	–	–
Extraordinary compensation	–	–	–	–
Compensation due to his directorship as a director	–	–	–	–
In-kind benefits[(b)]	64,616	64,616	65,329	65,329
TOTAL	**3,204,023**	**3,609,583**	**3,971,329**	**3,438,069**

(a) Variable portion paid for the prior fiscal year.

(b) Company car and life insurance and health expense reimbursement plans paid for by the Corporation.

(c) Mr. Pouyanné's annual fixed compensation in his capacity as Chairman and Chief Executive Officer has been set by the Board of Directors at €1,400,000. However, due to the health crisis, the Chairman and Chief Executive Officer's compensation was reduced by 25% as from May 1, 2020 until December 31, 2020, leading to Mr. Pouyanné's fixed compensation to be set at €1,166,667 for fiscal year 2020.

SUMMARY OF THE MULTI-ANNUAL VARIABLE COMPENSATION PAID TO THE EXECUTIVE OFFICER

Table 10 – AFEP-MEDEF Code

Patrick Pouyanné *Chairman and Chief Executive Officer*	None

Table 11 – AMF Position-recommendation – DOC-2021-02 (Appendix 2)

Executive directors	Employment contract	Supplementary pension plan	Payments or benefits due or likely to be due upon termination or change in duties	Benefits related to a non-compete agreement
Patrick Pouyanné *Chairman and Chief Executive Officer* Start of term of office: December 19, 2015 End of term of office: 2024 Shareholders' Meeting to approve the financial statements for fiscal year 2023	NO	YES Internal supplementary defined benefit pension plan[(a)] and defined contribution pension plan	YES[(a)] Severance benefit and retirement benefit	NO

(a) Payment subject to performance conditions. Details of these commitments are provided below. The retirement benefit cannot be combined with the severance benefit.

SUMMARY TABLE OF THE COMPONENTS OF THE COMPENSATION FOR MR. PATRICK POUYANNÉ, CHAIRMAN AND CHIEF EXECUTIVE OFFICER OF TotalEnergies SE, PAID DURING FISCAL YEAR 2021 OR ALLOCATED IN RESPECT OF THE SAME FISCAL YEAR

Components of compensation submitted for vote	Amount paid during fiscal year 2021	Amount allocated in respect of fiscal year 2021 or accounting valuation	Presentation
Fixed compensation	€1,400,000	€1,400,000 (amount paid in 2021)	Mr. Pouyanné's annual fixed compensation in his capacity as Chairman and Chief Executive Officer has been set by the Board of Directors at €1,400,000 (base salary) for fiscal year 2021. This fixed compensation represents 36% of the total cash compensation allocated in respect of fiscal year 2021 (*i.e.,* excluding performance shares and benefit in kind).
Annual variable compensation	€1,972,740 (amount allocated in respect of fiscal year 2020 and paid in 2021)	€2,506,000 (amount allocated in respect of fiscal year 2021 and to be paid in 2022)	The variable portion of Mr. Pouyanné's compensation allocated in respect of fiscal year 2021 by virtue of his duties as Chairman and Chief Executive Officer has been set at €2,506,000. This corresponds to 179% (of a maximum of 180%) of his base salary, taking into account the results of the economic parameters and the evaluation of the personal contribution of the Chairman and Chief Executive Officer. This annual variable compensation corresponds to 64% of the total cash compensation allocated in respect of fiscal year 2021 (i.e., excluding performance shares and benefit in kind).
Multi-year variable compensation	n/a	n/a	The Board of Directors has not granted any multi-year or deferred variable compensation.
Compensation by virtue of directorship	n/a	n/a	Mr. Pouyanné does not receive compensation due to his directorship in TotalEnergies SE. Mr. Pouyanné does not receive compensation from companies TotalEnergies SE controls.
Stock options (SO), performance shares (PS) or all other forms of long-term compensation		SO: none PS: €1,972,800(1) (accounting valuation)	On May 28, 2021, Mr. Pouyanné was granted 90,000 existing shares of the Corporation pursuant to the authorization of the Corporation's Extraordinary Shareholders' Meeting of June 1, 2018 (nineteenth resolution) subject to the conditions set out below. These shares were granted under a broader share plan approved by the Board of Directors on March 17, 2021, in favor of more than 11,000 beneficiaries.
Payment for assuming a position	n/a	n/a	Mr. Pouyanné was not granted any payment for assuming his position.
In-kind benefits	–	€65,329 (accounting valuation)	The Chairman and Chief Executive Officer is entitled to a company vehicle. He is covered by the following life insurance plans provided by various life insurance companies: – An "incapacity, disability, death" insurance policy applicable to all employees, partly paid for by the Corporation; – a second "disability and life insurance" plan, fully paid by the Corporation, applicable to executive officers and senior executives whose annual gross compensation is more than 16 times the PASS. The Chairman and Chief Executive Officer also benefits from the health expense reimbursement plan applicable to all employees.
Severance benefit	None	None	The Chairman and Chief Executive Officer is entitled to a benefit equal to two years of his gross compensation in the event of a forced departure related to a change of control or strategy. The calculation is based on the gross compensation (fixed and variable) of the 12 months preceding the date of termination or non-renewal of his term of office. The severance benefit will only be paid in the event of a forced departure related to a change of control or strategy and subject to performance conditions.

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(1) In accordance with the accounting of the performance shares for fiscal year 2021 in accordance with IFRS 2 which takes into account an award rate hypothesis of 80% at the end of the vesting period, this amount corresponds to the 90,000 shares granted in 2021, valued on the basis of a unit fair value of €27.40. This fair value was calculated in accordance with IFRS 2 on the grant date of the plan, i.e. May 28, 2021, on the basis of a closing price of the TotalEnergies share on that date of €38.145.

Components of compensation submitted for vote	Amount paid during fiscal year 2021	Amount allocated in respect of fiscal year 2021 or accounting valuation	Presentation
Retirement benefit	None	None	The Chairman and Chief Executive Officer is entitled to a retirement benefit equal to those available to eligible members of the Company under the French National Collective Bargaining Agreement for the Petroleum Industry. This benefit is equal to 25% of the fixed and variable annual compensation received during the 12 months preceding retirement. Entitlement to retirement benefits is subject to conditions related to the performance of the beneficiary. The retirement benefit cannot be combined with the severance benefit described above.
Non-compete compensation		n/a	Mr. Pouyanné has not received any non-compete compensation.
Supplementary pension plan		None	The Chairman and Chief Executive Officer benefits from the legal AGIRC/ARRCO scheme, as well as from the internal supplementary defined contribution scheme applicable to all employees of TotalEnergies SE, referred to in Article L. 242-1 of the French Social Security Code, and from the supplementary defined benefit pension scheme, referred to in Article L. 137-11 of the French Social Security Code.
Approval by the Shareholders' Meeting			The commitments made to the Chairman and Chief Executive Officer regarding the pension and insurance plans, the retirement benefit and the severance benefit (in the event of forced departure related to a change of control or strategy) were authorized by the Board of Directors on March 14, 2018, and approved by the Shareholders' Meeting on June 1, 2018.

A) Details of the assessment of the performance criteria for the determination of the annual variable compensation for fiscal year 2021

For the setting of the variable portion of Mr. Pouyanné's compensation allocated in respect of fiscal year 2021 due to his duties as Chairman and Chief Executive Officer, the Board of Directors reviewed, at its meeting on March 16, 2022, the level of achievement of the economic parameters based on the quantifiable targets set by the Board of Directors at its meeting on March 17, 2021. The Board of Directors also assessed the Chairman and Chief Executive Officer's personal contribution on the basis of the target criteria set during its meeting on March 17, 2021, to qualitatively assess his management.

The payment to the Chairman and Chief Executive Officer of the annual variable component for fiscal year 2021 is conditional upon the approval of the Ordinary Shareholders' Meeting on May 25, 2022, of the fixed, variable and extraordinary components of the total compensation and the benefits of all kinds paid during fiscal year 2021 to the Chairman and Chief Executive Officer or allocated to the latter during the same fiscal year, in accordance with Article L. 22-10-34 of the French Commercial Code.

It is reminded that the variable portion of Mr. Pouyanné's compensation allocated in respect of fiscal year 2020 by virtue of his duties as Chairman and Chief Executive Officer and paid in 2021 (after the approval by the Ordinary Shareholders' Meeting on May 28, 2021, of the fixed, variable and extraordinary components of the total compensation and the benefit-in-kind paid in respect of fiscal year 2020) was set at €1,972,740, corresponding to 140.91% (of a maximum of 180%) of his fixed annual compensation based on results of the economic parameters and the evaluation of his personal contribution.

Annual variable compensation allocated in respect of fiscal year 2021 (expressed as a percentage of the base salary)

	% targets + over-performance	% allocated
Economic parameters (quantifiable targets)	**140%**	**139%**
HSE	**30%**	**29%**
a) Safety	20%	19%
– *TRIR*	*8%*	*8%*
– *FIR, comparative*	*4%*	*4%*
– *Evolution of the number of Tier 1 and Tier 2 incidents*	*8%*	*7%*
b) Evolution of greenhouse gas (GHG) emissions	10%	10%
Financial parameters	**capped at 110%**	**110%**
– Return on equity (RoE)	30%+10%	40%
– Gearing ratio (excluding lease commitments)	30%+10%	39%
– Pre-dividend organic cash breakeven	30%+10%	40%
– Return on average capital employed (ROACE), comparative	20%+10%	28%
Personal contribution (qualitative criteria)	**40%**	**40%**
– Steering of the Corporation's strategy of moving towards carbon neutrality, in line with the 2020/2030 targets announced to investors in September 2020, in particular increasing energy production focusing on gas and renewable energy/electricity, as well as moving towards a sales mix of 35% oil, 50% gas and 15% electricity	15%	15%
– Profitable growth in renewables and electricity	10%	10%
– Corporate Social Responsibility (CSR) performance, notably the integration of climate issues in the Company's Strategy, the Company's reputation in the domain of Corporate Social Responsibility, as well as the policy concerning all aspects of diversity	15%	15%
TOTAL	**180%**	**179%**

The results of financial parameters leads to an over-performance resulting in an achievement rate of 147%, which has been reduced to 110% by the capping rule in the compensation policy approved by the Shareholders' Meeting on May 28, 2021.

Economic parameters

The Board of Directors assessed achievement of the targets set for the economic parameters as follows:

Safety and Greenhouse gas emission

a) The **criterion based on safety evolution** was assessed for a maximum of 20% of the base salary through (i) the achievement of the annual TRIR (Total Recordable Incident Rate) target, (ii) the number of accidental deaths per million hours worked, FIR (Fatality Incident Rate) compared to those of the four large competitor oil companies (ExxonMobil, Shell, BP and Chevron), as well as (iii) through change in the Tier 1 + Tier 2 indicator(1). These three sub-criteria were assessed based on the elements set out in the 2021 compensation policy for the Chairman and Chief Executive Officer, as approved by the Shareholders' Meeting on May 28, 2021, and providing that:

- the maximum weighting of the TRIR criterion is 8% of the base salary. The maximum weighting is reached if the TRIR is less than 0.75; the weighting of the criterion is zero if the TRIR is greater than or equal to 1.2. The interpolations are linear between these points of reference;
- the maximum weighting of the FIR criterion is 4% of the base salary. The maximum weighting is reached if the FIR is the best of the majors' panel; it is zero if the FIR is the worst of the panel. The interpolations are linear between these points of reference and depend on the ranking;
- the maximum weighting of the evolution of the number of incidents Tier 1 + Tier 2 criterion is 8% of the base salary. The maximum weighting is reached if the number of incidents Tier 1 + Tier 2 is equal to or less than 70, it is zero if the number of incidents Tier 1 + Tier 2 is greater than or equal to 125. The interpolations are linear between these two points of reference.

Concerning the 2021 fiscal year, the following elements were noted:

- the **TRIR** was 0.73, which is below the target of 0.75. The result of this criterion was thus set at its maximum of 8%;
- At 0.26, the **FIR** is the lowest of the panel of majors. The result of this criterion was thus set at its maximum of 4%;
- the number of **Tier 1 + Tier 2** incidents was 77, which is above the level of 70 to achieve the target. The result of this criterion was set at 7%.

The result of the criterion related to the Safety performance was thus set at 19%.

b) The **criterion linked to the greenhouse gas (GHG) emissions** on operated facilities was assessed for a maximum weighting of 10% of the base salary, through the achievement of a GHG (Scope 1+2) reduction emission target from 46 Mt CO_2e in 2015 to 40 Mt CO_2e in 2025, corresponding to a reduction of 600 kt CO_2e/y, i.e., a target of 42.4 Mt CO_2e for 2021.

This criterion was assessed based on the elements set out in the 2021 compensation policy for the Chairman and Chief Executive Officer, as approved by the Shareholders' Meeting on May 28, 2021, and providing that:

- the maximum weighting of the GHG criterion, i.e., 10% of the base salary, is reached if the GHG Scope 1+2 emissions on the operated facilities reach the target of 42.4 Mt CO_2e in 2021;

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(1) Tier 1 and Tier 2: indicator of the number of loss of primary containment events, with more or less significant consequences, as defined by the API 754 (for downstream) and IOGP 456 (for upstream) standards. Excluding acts of sabotage and theft.

- the weighting of the criterion is zero if the emissions are 1 Mt CO_2e above the set target;
- the interpolations are linear between these points of reference.

The Board noted that the GHG Scope 1+2 emissions on operated facilities amounted to 37 Mt CO_2e excluding COVID-19 effect in 2021. The result of this criterion was thus set at its maximum of 10%.

Financial parameters

- **The return on equity (ROE) criterion**, as published by the Company on the basis of its balance sheet and consolidated statement of income was assessed for a maximum of 30% of the base salary, based on the elements set out in the 2021 compensation policy of the Chairman and Chief Executive Officer, and providing that:
  - the maximum weighting of the criterion is reached if the ROE is greater than or equal to 10%;
  - the weighting of the criterion is zero if the ROE is less than or equal to 6%;
  - the interpolations are linear between these two points of reference.

  Additional compensation of up to 10% of the base salary is allocated if ROE is between 10% and 13% (with linear interpolation between these points of reference).

  The Board noted that the ROE for fiscal year 2021 was 16.9%, i.e., above the target for the over-performance. The result of this criterion was thus set at its maximum, i.e., 40%.
- **The gearing ratio criterion** (excluding lease commitments) was assessed for a maximum of 30% of the base salary, based on the elements set out in the compensation policy of the Chairman and Chief Executive Officer for 2021 providing that:
  - the maximum weighting of the criterion is reached for a gearing ratio equal to or less than 20%;
  - the weighting of the criterion is zero for a gearing ratio equal to or greater than 40%;
  - the interpolations are linear between these two points of reference.

  Additional compensation of up to 10% of the base salary is allocated if the gearing ratio is between 20% and 15% (with linear interpolation between these points of reference).

  Under IFRS 16, which is applicable as from January 1, 2019, TotalEnergies has been required to consolidate all leases on the assets side of the balance sheet with the corresponding financial liabilities on the liabilities side of the balance sheet (before January 1, 2019, only finance leases were consolidated). The Board had decided to assess the gearing ratio criterion without taking into account the financial debt corresponding to the leases.

  The Board thus noted that the gearing ratio (excluding lease commitments) at year-end 2021 was 15.3%, i.e., close to the target of the over-performance. The result of this criterion was thus set at 39%.
- **The pre-dividend organic *cash* breakeven criterion** was assessed at a maximum of 30% of the base salary according to components set in the compensation policy of the Chairman and Chief Executive Officer for 2021 providing that:
  - the maximum weighting of the criterion is reached if the breakeven is below or equal to $ 30/b;
  - the weighting of the criterion is zero if the breakeven is above or equal to $ 40/b;
  - the interpolations are linear between these two points of reference.

  Additional compensation of up to 10% of the base salary is allocated if the pre-dividend organic cash breakeven is between $30/b and $25/b (with linear interpolation between these points of reference).

  The pre-dividend organic cash breakeven is defined as the Brent price for which the operating cash flow before working capital changes(1) (MBA) covers the organic investments(2). The ability of the Company to resist to the variations of the Brent barrel price is measured by this parameter.

  Regarding fiscal year 2021, the Board noted that the pre-dividend organic cash breakeven set at $23/b, i.e., above the target set for the over-performance. The result of this criterion was thus set at its maximum, i.e., 40%.
- **The return on average capital employed (ROACE) criterion, by comparison,** was assessed as a maximum weighting of 20% of the base salary. TotalEnergies' ROACE, as published from the consolidated balance sheet and the income statement, was compared to the ROACE average of each of the four peers (ExxonMobil, Shell, BP and Chevron). The ROACE is equal to the net adjusted operating income(3) divided by the average of the capital employed (at replacement costs, net of deferred income tax and non-current liabilities) of the start and end of the fiscal year.

  This criterion was assessed based on the elements set out in the 2021 compensation policy for the Chairman and Chief Executive Officer providing that:
  - the maximum weighting of the criterion is reached, i.e., 20% of the base salary, if TotalEnergies' ROACE is above 2% or more compared to the average of the 4 peers' ROACE;
  - the weighting of the criterion is zero if TotalEnergies' ROACE is under 2% or more compared to the average of the four peers' ROACE;
  - the interpolations are linear between these two points of reference.

  Additional compensation of up to 10% of the base salary is allocated if TotalEnergies' ROACE is 4% above the average of the 4 peers' ROACE (with linear interpolation between these points of reference).

  For fiscal year 2021, the Board noted that TotalEnergies' ROACE is 3.2% above the average of the ROACEs of the four peers. The result of this criterion was thus set at 28%.

Considering an extraordinary performance, and as the maximum amount for the abovementioned financial criteria cannot exceed 110% of the base salary, the result of the financial criteria was capped at 110% of the base salary.

Personal contribution

The personal contribution of the Chairman and Chief Executive Officer was assessed at its maximum of 40% of the base salary based on the three criteria set in the compensation policy of the Chairman and Chief Executive Officer for 2021:

- Steering of the Corporation's strategy of moving towards carbon neutrality, in line with the 2020/2030 targets, in particular increasing energy production focusing on gas and renewable energy/electricity, as well as moving towards a sales mix of 35% oil, 50% gas and 15% electricity, for up to 15%;
- Profitable growth in renewables and electricity, for up to 10%;
- Corporate Social Responsibility (CSR) performance, including the integration of climate issues in the TotalEnergies strategy, the Company's reputation in the domain of Corporate Social Responsibility, as well as the policy concerning all aspects of diversity, for up to 15%.

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(1) The operating cash flow before working capital changes is defined as cash flow from operating activities before changes in capital at replacement cost, excluding the impact of contracts recognized at fair value in the iGRP segment and including capital gains on the disposal of renewables projects (as of the first quarter of 2020).

(2) Organic investments: net investments excluding acquisitions, asset sales and other operations with non-controlling interests.

(3) Adjustment items include special items, the inventory effect and the impact for change in fair value.

The Board of Directors set the results of each of these criteria at their maximum, because of the following components which were observed during the past fiscal year:

- Concerning the **steering of the Corporation's strategy of moving towards carbon neutrality, in line with the 2020/2030 targets,** in particular increasing energy production focusing on gas and renewable energy/electricity, as well as moving towards a sales mix of 35% oil, 50% gas and 15% electricity;

During fiscal year 2021, the Board observed that the Chairman and Chief Executive Officer fully achieved the following:

  - Total has become TotalEnergies, with a new visual identity: a statement of the Company's transformation strategy to become a multi-energy company
  - The Corporation's ambition with respect to sustainable development and energy transition and its related targets by 2030, approved by the Shareholders' Meeting on May 28, 2021
  - In the context of the Company's transformation, the implementation of the OneTech project, bringing together in a single multi-technical entity some 3,000 of the Company's employees, in order to pool the technical and R&D departments of the various branches
  - Achievement of the 10 GW target by the end of 2021 and confirmation of the 35 GW target by the end of 2025
  - Signing of agreements with Shenergy Group for the supply of up to 1.4 Mt/year of LNG in China
  - A marine LNG bunkering license obtained in Singapore
  - Restart of the Papua LNG project, with a view to making a final investment decision expected in 2023
  - The signing with ArcellorMittal Nippon Steel of a 5-year contract to supply up to 0.5 Mt/year of LNG in India
  - Upstream divestments: agreement to sell the 18% stake in the Sarsang block in Iraqi Kurdistan, and sale of the stake in Petrocedeno to PDVSA in Venezuela.
- Concerning **profitable growth in renewables and electricity**
  - *Solar*
    - In the first quarter of 2021, acquisition in India of a 20% stake in Adani Green Energy Ltd (AGEL), the world's leading solar developer. In the second quarter of 2021, AGEL acquired a portfolio of 5 GW of renewable electricity generation capacity in operation and under construction in India, which is expected to contribute 1 GW to TotalEnergies' target of 35 GW in 2025. In the third quarter of 2021, AGEL acquired SB Energy India's portfolio of 5 GW of renewable electricity generation capacity in operation and under construction in India.
    - Acquisition of 4 GW of solar and storage project portfolios in the United States.
  - *Offshore wind*
    - Associations with SBG for the development of floating wind turbines in the USA, and in France with GIG and Qair
    - Acquisition of a seabed concession with Macquarie to jointly develop a 1.5 GW offshore wind project as part of Round 4 organized by the United Kingdom
    - Acquisition of a 23% stake in a 640 MW offshore wind project under construction in Taiwan
    - Successful bid with GIG and RIDG for a 2 GW offshore wind project in response to the Scotwind call for tender in Scotland
  - *Corporate PPAs*
    - Signature of a contract to sell green electricity to Orange, which will enable the development of 80 MW of solar farms in France
    - Renewable electricity sales contract for 50 GWh/year over 15 years with Air Liquide in Belgium
    - Partnership with Amazon to supply its data centers with renewable electricity (474 MW) in Europe and the United States
    - Signing of a 10-year contract with Merck & Co. for the sale of 90 GWh/year of renewable electricity in Spain
  - *Electric mobility*
    - Mercedes-Benz joins TotalEnergies and Stellantis as an equal partner in the Automotive Cell Company (ACC), with a target of at least 120 GWh of electric vehicle battery manufacturing capacity by 2030
    - Acquisition of a network of 1,500 charging stations for electric vehicles in Singapore
    - Award of the concession for the public charging network for electric vehicles in Antwerp
    - Partnership with CTGC in China to develop more than 11,000 fast-charging stations for electric vehicles
  - *Hydrogen*
    - Launch, with other industrial players, of the world's largest fund dedicated to the development of carbon-free hydrogen infrastructures, with an investment target of €1.5 billion
    - Agreement with Air Liquide to develop low-carbon hydrogen production in the Normandy industrial basin, based on technologies such as CCS and electrolysis
    - Acquisition of a 20% stake in Hysetco, a French company that owns the world's first fleet of hydrogen taxi cabs, operating under the Hype brand, as well as hydrogen charging stations
- Regarding **Corporate Social Responsibility (CSR) performance**, measured according to three axes: the integration of the Climate in the TotalEnergies strategy, the Company's reputation in the domain of CSR as well as the policy concerning all aspects of diversity. During fiscal year 2021, the Board observed that the Chairman and Chief Executive Officer fully achieved in particular the following:
  - *Regarding the inclusion of the Climate in the Company's strategy*
    - The Corporation's ambition with respect to sustainable development and energy transition and the related targets by 2030, approved by the Shareholders' Meeting on May 28, 2021
  - *Regarding the Company's CSR reputation*
    - Third place worldwide and first place for the *Oil & Gas* sector in the BloombergNEF ranking on the taking into account by the compagnies of the United Nations Sustainable Development Goals
    - Listed on the FTSE4Good index on the London Stock Exchange since 2001
    - **A** rating by the MSCI non-financial rating agency (on a scale from AAA to C).
    - **B-** rating in 2021 by the ISS ESG non-financial rating agency, with "Prime" status since 2006 (securities recommended for socially responsible investors)
    - A score of **29.2** (Medium Risk) on a scale from 0 to 100 (0 being the best score) on the ESG Risk Rating of the ESG Sustainalytics rating agency. TotalEnergies is the first among its peers
    - **A-** rating on the CDP Climate Change and Water Security questionnaires (highest score amongst Oil & Gas companies)
    - Decision of TotalEnergies and Chevron to suspend dividend distribution from the gas transmission company in Myanmar, then announced exit from Myanmar in January 2022
    - Inauguration of the "L'Industreet", a campus to train young people in industrial trades, a flagship corporate social responsibility initiative for TotalEnergies in France

- *Regarding the diversity policy:*
  - Increase in the proportion of women in the G70 (32% at year-end 2021 compared to 24% at year-end 2020)
  - Increase in the proportion of senior executive women (26.5% at year-end 2021 compared to 25.7% at year-end 2020)
  - overachievement of the 30% target of women in Management Committees in the business segments and large functional division (32% at year-end 2021).

All the set targets being considered as largely met, the personal contribution of the Chairman and Chief Executive Officer was determined at its maximum, i.e., **40%** of the fixed compensation.

B) Details of the performance criteria applicable to performance shares

The definitive number of performance shares granted to the Chairman and Chief Executive Officer is subject to the beneficiary's continued presence in the Company during the vesting period and to performance conditions as described below. The definitive number of granted performance shares will be based on the TSR (Total Shareholder Return), the annual variation of the net cash flow by share in dollars compared to his peers, and the pre-dividend organic cash breakeven, the change in the greenhouse gas (GHG) emissions on operated facilities (Scope 1+2) and the change in GHG emissions (Scope 3) in Europe in fiscal years 2021, 2022 and 2023.

Performance shares are subject to the following performance criteria (over the period 2021, 2022 and 2023):

- For 25% of the shares, the Corporation will be ranked against its peers (ExxonMobil, Shell, BP and Chevron) each year during the three vesting years (2021, 2022 and 2023) based on the **TSR criterion** of the last quarter of the year in question, the dividend being considered reinvested based on the closing price on the ex-dividend date.
- For 25% of the shares, the Corporation will be ranked against its peers (ExxonMobil, Shell, BP and Chevron) each year during the three vesting years (2021, 2022 and 2023) using the annual variation in net cash flow criterion expressed in dollars.

  Based on the ranking, a grant rate will be determined for each year for these first two criteria: 1st: 180% of the grant; 2nd: 130% of the grant; 3rd: 80% of the grant; 4th and 5th: 0%.
- For 20% of the shares, the **pre-dividend organic cash breakeven criterion** will be assessed during the three vesting years (2021, 2022 and 2023) as follows. The pre-dividend organic cash breakeven is defined as the Brent price for which the operating cash flow before working capital changes(1) (MBA) covers the organic investments(2). The ability of the Company to resist to the variations of the Brent barrel price is measured by this parameter:
  - the maximum grant rate will be reached if the breakeven is less than or equal to $30/b,
  - the grant rate will be zero if the breakeven is greater than or equal to $40/b,
  - the interpolations are linear between these two points of reference.
- For 15% of the shares, the **change in the greenhouse gas (GHG) emissions on operated facilities** will be assessed each year with regard to the achievement of the target to reduce the GHG emissions set for fiscal years 2021, 2022 and 2023 and corresponding to 42.4 Mt CO_2e for 2021, 41.8 Mt CO_2e for 2022 and 41.2 Mt CO_2e for 2023:
  - the maximum grant rate will be reached if the GHG emissions (Scope 1+2) reach the target set,
  - the grant rate will be zero if the GHG emissions of the year considered are 1 Mt CO_2e above the target set,
  - the interpolations are linear between these two points of reference.
- For 15% of the shares, the **criterion of the change in the indirect greenhouse gas (GHG) emissions** related to the use by customers of the energy products **(Scope 3) in Europe** will be assessed each year for the achievement of the target to reduce these GHG emissions set as follows: 2021: -12%; 2022: -14% and 2023: -16%, compared to GHG emissions in 2015:
  - the maximum grant rate, i.e. 100% for this criterion, will be reached if the reductions in GHG emissions (Scope 3) of the Company's customers in Europe reach the target set;
  - the grant rate will be zero if the reductions in GHG emissions (Scope 3) of the Company's customers in Europe of the year in question are 4 points below the target set, i.e., 2021: -8%; 2022: -10%; 2023: -12%;
  - the interpolations are linear between these two points of reference.

For each of the five criteria, the average of the three grant rates obtained (for each of the three fiscal years for which the performance conditions are assessed) will be rounded to the nearest 0.1 whole percent (0.05% being rounded to 0.1%) and capped at 100%. The definitive grant rate will be rounded to the nearest 0.1 whole percent (0.05% being rounded to 0.1%). In the case of fractional shares, the number of shares definitively granted after determination of performance conditions will be rounded up to the next whole number of shares.

In accordance with Article L. 22-10-59 of the French Commercial Code, Mr. Pouyanné will, until the end of his term, be required to retain in registered form, 50% of the shares definitively granted at the end of the three-year period as part of the 2021 plan. For plans granted before 2021, Mr. Pouyanné will be required to retain in registered form until the end of his term, 50% of the gains net of tax and national insurance contributions related to the shares granted in 2021. When Mr. Pouyanné holds(3) a volume of shares representing five times the fixed portion of his gross annual compensation, this percentage will be equal to 10%. If this condition is no longer met, the above-mentioned 50% holding requirement will again apply. For the plans granted after fiscal year 2021, Mr. Pouyanné will, until the end of his term, be required to retain in registered form, 50% of the shares which will be definitively granted at the end of the three-year acquisition period.

In addition, the Board of Directors has noted that, pursuant to the Board's Rules of Procedure applicable to all directors, the Chairman and Chief Executive Officer is not allowed to hedge the shares of the Corporation or any related financial instruments and has taken note of Mr. Pouyanné's commitment to abstain from such hedging operations with regard to the performance shares granted.

The grant of performance shares to Mr. Pouyanné is subject to the same requirements applicable to the other beneficiaries of the free performance share plan as approved by the Board at its meeting on March 17, 2021. In particular, these provisions stipulate that the shares definitively granted at the end of the three-year vesting period will, after confirmation of fulfillment of the presence and performance conditions, be automatically recorded as pure registered shares on the start date of the two-year lock-up period and will remain non-transferable and unavailable until the end of the lock-up period.

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(1) The operating cash flow before working capital changes is defined as cash flow from operating activities before changes in capital at replacement cost, excluding the impact of contracts recognized at fair value in the iGRP segment and including capital gains on the disposal of renewables projects (as of the first quarter of 2020).

(2) Organic investments: net investments excluding acquisitions, asset sales and other operations with non-controlling interests.

(3) In the form of shares or units of mutual funds invested in shares of the Corporation.

C) Details of the commitments made by the Corporation to the Chairman and Chief Executive Officer

Severance benefit

It will not be due in case of gross negligence or willful misconduct or if the Chairman and Chief Executive Officer leaves the Corporation of his own volition, accepts new responsibilities within the Company or may claim full retirement benefits within a short time period.

Receipt of this severance benefit is contingent upon a performance-related condition applicable to the beneficiary, which is deemed to be fulfilled if at least two of the following criteria are met:

- the average return on equity (ROE) for the three years preceding the year in which the Chairman and Chief Executive Officer leaves is at least 10%;
- the average gearing ratio for the three years preceding the year in which the Chairman and Chief Executive Officer leaves is less than or equal to 30%; and
- the average pre-dividend organic cash breakeven of the three years preceding the year in which the Chairman and Chief Executive Officer retires is below or equal to $30/b.

Retirement benefit

Receipt of this retirement benefit is contingent upon a performance-related condition applicable to the beneficiary, which is deemed to be fulfilled if at least two of the criteria defined below are met:

- the average return on equity (ROE) for the three years preceding the year in which the Chairman and Chief Executive Officer leaves is at least 10%;
- the average gearing ratio for the three years preceding the year in which the Chairman and Chief Executive Officer leaves is less than or equal to 30%; and
- the average pre-dividend organic cash breakeven of the three years preceding the year in which the Chairman and Chief Executive Officer retires is below or equal to $30/b.

Supplementary pension plans

Pursuant to applicable legislation, the Chairman and Chief Executive Officer is eligible for the basic French Social Security pension and for pension benefits under the ARRCO and AGIRC supplementary pension plans.

He also participates in the internal defined contribution pension plan applicable to all TotalEnergies SE employees (*Régime collectif et obligatoire de retraite supplémentaire à cotisations définies*), covered by Article L. 242-1 of the French Social Security Code. The Corporation's commitment is limited to its share of the contribution paid to the insurance company that manages the plan. For fiscal year 2021, this pension plan represented a booked expense to TotalEnergies SE in favor of the Chairman and Chief Executive Officer of €2,468.

The Chairman and Chief Executive Officer also participates in a supplementary defined-benefit pension plan, covered by Article L. 137-11 of the French Social Security Code, set up and financed by the Corporation and approved by the Board of Directors on March 13, 2001, for which management is outsourced to two insurance companies effective January 1, 2012. In accordance with the ordinance 2019-697 published on July 4, 2019, this plan is closed to any new participant as from July 4, 2019, and, for participants as of July 4, 2019, and retiring as from January 1, 2020, the amount of supplementary pension provided for in this plan is calculated on the basis of number of years of service as at December 31, 2019, and up to a maximum of 20 years.

This defined benefit pension plan applies to all TotalEnergies SE employees whose compensation exceeds eight times the annual ceiling for calculating French Social Security contributions (PASS), set at €41,136 2021 (i.e., €329,088), and above which there is no conventional pension plan.

To be eligible for this supplementary pension plan, participants must have served for at least five years, be at least 60 years old and exercised his or her rights to retirement from the French Social Security. The benefits under this plan are subject to a presence condition under which the beneficiary must still be employed at the time of retirement. However, the presence condition does not apply if a beneficiary aged 55 or older leaves the Corporation at the Corporation's initiative or in case of disability.

The length of service acquired by Mr. Pouyanné as a result of his previous salaried duties held at the Company since January 1, 1997, has been maintained for the benefit of this plan.

The compensation taken into account to calculate the supplementary pension is the average gross annual compensation (fixed and variable portion) over the last three years. This pension plan provides a pension for its beneficiaries equal to 1.8% of the portion of the compensation failing between 8 and 40 times the PASS and 1% for the portion of the compensation falling between 40 and 60 times the PASS, multiplied by the number of years as at December 31, 2019, of service up to a maximum of 20 years.

The sum of the annual supplementary pension plan benefits and other pension plan benefits (other than those set up individually and on a voluntary basis) may not exceed 45% of the average gross compensation (fixed and variable portion) over the last three years. In the event that this percentage is exceeded, the supplementary pension is reduced accordingly. The amount of the supplementary pension determined in this way is indexed to the ARRCO pension point.

The supplementary pension includes a clause whereby 60% of the amount will be paid to beneficiaries in the event of death after retirement.

The Board noted that Mr. Pouyanné can no longer acquire additional pension rights under this plan given the rules for determining pension rights set out in the plan and the 20 years of service of Mr. Pouyanné as of December 31, 2016.

The conditional rights granted to Mr. Patrick Pouyanné for the period from January 1, 1997, to December 31, 2016 (inclusive), are now equal to a reference rate of 36% for the portion of the base compensation falling between 8 and 40 times the PASS and 20% for the portion of the base compensation falling between 40 and 60 times the PASS.

Based on Mr. Pouyanné's years of service capped at 20 years on December 31, 2016, the commitments made by TotalEnergies SE to the Chairman and Chief Executive Officer in terms of supplementary defined benefits and similar pension plans represented, at December 31, 2020, a gross annual retirement pension estimated at €638,431. It corresponds to 16.34% of Mr. Pouyanné's gross annual compensation consisting of the annual fixed portion for 2021 (*i.e.,* €1,400,000) and the variable portion paid in 2022(1) for fiscal year 2021 (*i.e.,* €2,506,000).

Nearly the full amount of TotalEnergies SE's commitments under these supplementary and similar retirement plans (including the retirement benefit) is outsourced for all beneficiaries to insurance companies and the non-outsourced balance is evaluated annually and adjusted through a provision in the accounts. The amount of these commitments as of December 31, 2021, is €23.0 million for the Chairman and Chief Executive Officer (€23.1 million for the Chairman and Chief Executive Officer and the executive and non-executive directors covered by these plans). These amounts represent the gross value TotalEnergies SE's commitments to these beneficiaries based on the estimated gross annual pensions as of December 31, 2021, as well as the statistical life expectancy of the beneficiaries.

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(1) Subject to approval by the Ordinary Shareholders' Meeting on May 25, 2022.

The total amount of all the pension plans in which Mr. Pouyanné participates represents, at December 31, 2021, a gross annual pension estimated at €756,353, corresponding to 19.36% of Mr. Pouyanné's gross annual compensation defined above (annual fixed portion for 2021 and variable portion paid in 2022 for fiscal year 2021).

In line with the principles for determining the compensation of the executive directors as set out in the AFEP-MEDEF Code which the Corporation uses as a reference, the Board of Directors took into account the benefit accruing from participation in the pension plans when determining the Chairman and Chief Executive Officer's compensation.

COMPENSATION RATIOS – ANNUAL TREND OF THE COMPENSATION, OF PERFORMANCE OF THE CORPORATION AND OF THE RATIOS

In accordance with Article L. 22-10-9, 6° and 7° of the French Commercial Code, below are indicated the ratios between the level of compensation of the Chairman and Chief Executive Officer and the average and median compensation of TotalEnergies SE employees, as well as the annual trend of the compensation, of performance of the TotalEnergies SE(1), of the average compensation of the Corporation's employees and of the ratios during the last five fiscal years.

The compensation ratios were calculated based on the following elements:

- The retained compensation **for the executive directors** corresponds to the compensation paid during fiscal year N (excluding in-kind benefits). It is composed of the fixed component, of the variable component paid during fiscal year N in respect of fiscal year N-1(2), of performance shares granted during fiscal year N.
- **For employees**, the retained compensation corresponds to the compensation paid during fiscal year N (excluding in-kind benefits). It is composed of the full-time equivalent fixed portion, of the variable portion paid during fiscal year N in respect of fiscal year N-1, of the incentive and profit-sharing compensation paid during fiscal year N in respect of N-1 and of performance shares granted during fiscal year N.

Also presented are the ratios between the level of compensation of the Chairman and Chief Executive Officer of TotalEnergies SE and the average and median compensation of employees within the Socle Social Commun (SSC) as well as the annual trend of the compensation, of performance of the Corporation, of the average compensation of the Corporation's employees and of the ratios during the last five fiscal years.

The Socle Social Commun, which gathers the three economic and social units (Upstream – Global Services – Holding, Refining-Petrochemicals, Marketing-Services), is the perimeter covering negotiations regarding annual wage measures driven by the management of TotalEnergies SE. The Socle Social Commun includes the workforce of subsidiaries in France (almost 15,000 employees in 2021).

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(1) TotalEnergies SE, the parent company of the Company, has more than 5,000 employees (full-time-equivalent employees present on December 31 of each fiscal year for the period in question).

(2) Performance shares valued on the basis of their fair value per unit, in accordance with their accounting for the year in question in application of IFRS 2, taking into account an assumption of a grant rate of 70% for 2017 and 80% for 2018, 2019, 2020 and 2021 at the end of the vesting period.

Table of ratios pursuant to I. 6° et 7° of Article L. 22-10-9 of the French Commercial Code presented in accordance with Afep guidelines updated in February 2021

	2017	2018	2019	2020	2021
Change (%) in compensation paid to Mr. Patrick Pouyanné, Chairman and Chief Executive Officer of TotalEnergies SE (since December 19, 2015)	11%	12%	-8%	-22%(1)	26%
Information relating to the scope of TotalEnergies SE: 5,083 employees (16% of employees in France and 28.6% of the payroll) on December 31, 2021					
Change (%) in average compensation of employees	-1%	3%	3%	-8%(2)	3%
Ratio compared to average compensation of employees	47	51	46	39	48
Change in ratio (%) relative to previous year	12%	9%	-11%	-14%	22%
Ratio compared to median compensation of employees	61	66	59	48	59
Change in ratio (%) relative to previous year	10%	9%	-11%	-20%	25%
Additional information on the enlarged scope of the "Socle social commun" (SSC): 14,278 employees (45% of employees in France and 66.7% of the payroll) on December 31, 2021					
Change (%) in average compensation of employees	0%	3%	4%	-6%(2)	1%
Ratio compared to average compensation of employees	60	66	58	49	61
Change in ratio (%) relative to previous year	11%	9%	-12%	-16%	25%
Ratio compared to median compensation of employees	80	87	77	61	79
Change in ratio (%) relative to previous year	12%	9%	-12%	-21%	29%
Performance of TotalEnergies SE (on a consolidated basis)					
Change in net adjusted income(3)	28%	28%	-13%	-66%	x4.4
Change in operating cash flow before working capital changes(4)	24%	15%	7%	-40%	86%

4.3.2.2 COMPENSATION POLICY OF THE CHAIRMAN AND CHIEF EXECUTIVE OFFICER

The compensation policy of the Chairman and Chief Executive Officer for fiscal year 2022 was set by the Board of Directors, at its meeting on March 16, 2022, in accordance with the provisions of Article L. 22-10-8 of the French Commercial Code, on the proposal of the Compensation Committee. It will be submitted to the Shareholders' Meeting on May 25, 2022.

The compensation policy for the Chairman and Chief Executive Officer for fiscal year 2022 is based on the general principles for determining the compensation of executive directors set out below.

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(1) The reduction in compensation paid to Mr. Pouyanné between 2019 and 2020 is partly due to the Chairman and Chief Executive Officer's decision to temporarily cut his fixed compensation by 25% as from May 1, 2020, until December 31, 2020, due to the economic context, as well as the significant reduction in the IFRS 2 valuation of performance shares granted in 2020 (fair value of €12.40 per share in 2020 compared to €40.11 in 2019). If the fixed compensation of Mr. Pouyanné had not been reduced by 25% as from May 1, 2020 until December 31, 2020, and if the performance shares granted had been valued on the basis of a unit fair value of €24.85 (fair value based on a calculation using identical parameters and the averag (of the closing prices for the TotalEnergies share during the year 2020 of €34.957), the compensation ratio of the Chairman and Chief Executive Officer compared to the average compensation of the TotalEnergies SE's employees between 2019 and 2020 would have been 46 (instead of 39), and the compensation ratio of the Chairman and Chief Executive Officer compared to the median compensation of the TotalEnergies SE's employees between 2019 and 2020 would have been 57 (instead of 48). Within the limits of the SSC, the compensation ratio of the Chairman and Chief Executive Officer compared to the average compensation of the TotalEnergies SE's employees between 2019 and 2020 would have been 58 (instead of 49), and the compensation ratio of the Chairman and Chief Executive Officer compared to the median compensation of the TotalEnergies SE's employees between 2019 and 2020 would have been 74 (instead of 61).

(2) The reduction in compensation paid to the employees between 2019 and 2020 is partly due to the decrease of the incentive and profit-sharing compensation due to the economic context notably, as well as the significant reduction in the IFRS 2 valuation of performance shares granted in 2020 (fair value of €12.40 per share in 2020 compared to €40.11 in 2019).

(3) Adjusted net income TotalEnergies share, published in the consolidated financial statements for the fiscal year concerned.

(4) Operating cash flow before working capital changes, as published in the consolidated financial statements for the year concerned. Is defined as the cash flow from operating activities before changes in working capital at replacement cost excluding the mark-to-market effect of iGRP's contracts and including capital gain from renewable projects sale (effective first quarter 2020).

GENERAL PRINCIPLES FOR DETERMINING THE COMPENSATION OF THE EXECUTIVE DIRECTORS

The general principles for determining the compensation and other benefits granted to the executive directors of TotalEnergies SE are as follows. They were approved by the Board of Directors and clarified at the Board meeting on March 16, 2022, on two specific points (one concerns the treatment of performance shares granted to the Chairman and Chief Executive Officer in the event of his leaving the Company, and the other concerns the possibility for the Board to approve a compensatory payment in the event of the recruitment of an executive director from outside the Company, where this recruitment results in the loss of deferred benefits *(buy-out award*). These two clarifications were made in order to take into account certain remarks made by the proxy advisors and certain shareholders:

- Compensation as well as benefits for the executive directors are set by the Board of Directors on the proposal of the Compensation Committee. Such compensation must be reasonable and fair in a context of solidarity and motivation within the company. Compensation for the executive directors is based on the market, the work performed, the results obtained and the responsibilities assumed.
- Compensation for the executive directors includes a fixed portion and a variable portion. The fixed portion is reviewed at least every two years.
- The amount of the variable portion is reviewed each year and may not exceed a stated percentage of the fixed portion. Variable compensation is determined based on pre-defined quantifiable and qualitative criteria that are periodically reviewed by the Board of Directors. Quantifiable criteria are limited in number, objective, measurable and adapted to the Company's strategy.
- The variable portion rewards short-term performance and the progress made toward paving the way for medium-term development. It is determined in a manner consistent with the annual performance review of the executive directors and the Company's medium-term strategy.
- The Board of Directors monitors the change in the fixed and variable portions of the executive directors' compensation over several years in light of the Company's performance.
- There is no specific pension plan for the executive directors. They are eligible for retirement benefits and pension plans available to certain employee categories in the Company under conditions determined by the Board.
- In line with the principles for determining the compensation of the executive directors as set out in the AFEP-MEDEF Code which the Corporation uses as a reference, the Board of Directors takes into account the benefit accruing from participation in the pension plans when determining the compensation policy of the executive directors.
- Stock options and performance shares are designed to align the interests of the executive directors with those of the shareholders over the long term.

  The grant of options and performance shares to the executive directors is reviewed in light of all the components of compensation of the person in question. No discount is applied when stock options are granted.

  The exercise of options and the definitive grant of performance shares to which the executive directors are entitled are subject to conditions of presence in the Company and performance that must be met over several years.

  The Board of Directors determines the rules related to holding a portion of the shares resulting from the exercise of options as well as the performance shares definitively granted, which apply to the executive directors until the end of their term of office.

  The executive directors cannot be granted stock options or performance shares when they leave office.

  In the event of the retirement or a change of position within the Company, the Chairman and Chief Executive Officer upholds all vesting rights in the course of acquisition.

  In the event of forced departure, other than for serious or gross misconduct, the Board of Directors may decide that the Chairman and Chief Executive Officer upholds his vesting rights in the course of acquisition on a *pro rata basis* according to the length of time of his presence within the Company.

  In the event of resignation or termination of his function for gross negligence or misconduct, all vesting rights in the course of acquisition will be lost in whole.

  The upholding of vesting rights in the course of acquisition under the conditions of departure described above is accompanied by the upholding of the performance criteria set for the definitive grant of the shares.

  In case of exceptional circumstances, the Board may decide to maintain stock options and performance share grant rights after the executive director left, the decision of the Board of Directors has to be duly motivated and taken in the corporate interest.
- After three years in office, the executive directors are required to hold at least the number of Corporation shares set by the Board.
- The components of compensation of the executive directors are made public after the Board of Directors' meeting at which they are approved.
- The executive directors do not take part in any discussions or deliberations of the corporate bodies regarding items on the agenda of Board of Directors' meetings related to the assessment of their performance or the determination of the components of their compensation.
- When a new executive director is nominated, the Board of Directors decides on his or her compensation as well as benefits, further to a proposal by the Compensation Committee, and in accordance with the above general principles for determining the compensation of the executive directors.

  The Board of Directors, on the proposal of the Compensation Committee, may approve a compensation payment in the event of the recruitment of an executive director from outside the Company, where this recruitment results in the loss of deferred benefits *(buy-out award*). The Board will ensure that the amount thus granted does not exceed the loss of these benefits and may make its payment subject to performance conditions. Exceptional compensation or specific benefits when taking office are forbidden, unless the Board of Directors decides otherwise for particular reasons, in the corporate interest and within the limits of the exceptional circumstances.

COMPENSATION POLICY APPLICABLE TO THE CHAIRMAN AND CHIEF EXECUTIVE OFFICER FOR FISCAL YEAR 2022

At its meeting on March 16, 2022, the Board of Directors, on the proposal of the Compensation Committee, approved the compensation policy applicable to the Chairman and Chief Executive Officer for the 2022 financial year, after ensuring that it was consistent with the external benchmarks that the Compensation Committee had commissioned and after taking into account the opinions expressed by the proxy advisors.

A) The Chairman and Chief Executive Officer's base salary (fixed compensation) for fiscal year 2022

In line with the compensation policy voted by the Shareholders' Meeting on May 28, 2021, Mr. Patrick Pouyanné's annual base salary (fixed compensation) in respect of his duties as Chairman and Chief Executive Officer for fiscal year 2022 is set at €1,550,000. This compensation had been remained unchanged since 2016 and this increase corresponds to an annual average increase in approximately 1.7% compared to an average increase for employees above 2% over the same period.

B) Annual variable compensation due for fiscal year 2022 (expressed as a percentage of the base salary)

The maximum amount of the variable portion that could be paid to the Chairman and Chief Executive Officer for the fiscal year 2022 is maintained at **180%** of base salary (percentage unchanged compared to the variable portion allocated in respect of fiscal year 2020).

The formula for calculating the variable portion of the Chairman and Chief Executive Officer for fiscal year 2022, which may not exceed 180% of his base salary, includes, as in 2021, quantifiable targets reflecting the Company's performance, up to a maximum of 140% of the fixed portion, and the personal contribution of the Chairman and Chief Executive Officer allowing for qualitative assessment of his management, up to a maximum of 40% of the fixed portion. The total variable portion may thus reach a maximum of 180% of the fixed portion of the Chairman and Chief Executive Officer's compensation.

The economic parameters (quantifiable targets) are based on three themes: Safety for 20%, GHG emissions (Scope 1+2) for 10%, financial for 110%.

For the variable portion in respect of fiscal year 2022, the Board of Directors decided to:

- maintain the over-performance relative to each of the financial criteria, which makes it possible to take into account, up to a total limit of 110%, the over-performance observed beyond the maximum limit of each of the sub-criteria by defining target objectives;
- modify some of the levels of the criteria for determining the variable portion, the Board having wished to ensure that they were set at a sufficiently ambitious level:
  - raise the upper limit of the ROE criterion from 10% to 12%, in line with the target announced to investors in September 2021, with an over-performance target set at 18% (instead of 13%);
  - to reduce the lower limit of the pre-dividend organic cash breakeven from $40/b to $35/b and to tighten up the over-performance target of the pre-dividend organic cash breakeven by setting it to $20/b, with over-performance to be applied between $30/b and $20/b (instead of $30/b and $25/b);
  - to modify the weighting of the HSE sub-criteria, consistent with the targets set for employees:
    - the TRIR criterion changes from 8% to 6% with reinforced requirements, with the minimum and maximum limits lowered to 1.12 and 0.7 respectively;
    - the FIR changes from 4% to 6%;
  - to set the greenhouse gas emission reduction target in accordance with the roadmap by setting the minimum and maximum limits at 42.8 Mt CO_2e and 41.8 Mt CO_2e for Scope 1+2 of operated facilities, in line with the reduction trajectory to 40 Mt CO_2e in 2025. These targets include the change in the Company perimeter related to the new electricity strategy acquiring flexible production capacity (gas-fired power plants).

The personal contribution targets (qualitative criteria) are focused on the challenges of advancing the transformation of the energy transition.

Annual variable compensation due for fiscal year 2022 (expressed as a percentage of the base salary)

		% targets + over-performance
Summary of the quantifiable targets		
Safety and greenhouse gas (GHG) emissions		**30%**
a) Safety		20%
– TRIR	*6%*	
– FIR, comparative	6%	
– Evolution of the number of Tier 1 + Tier 2 incidents	8%	
b) Evolution of GHG emissions (Scope 1+2)		10%
Financial parameters		
– Return on equity (RoE)		30%+10%[1]
– Gearing ratio (excluding lease commitments)		30%+10%[1]
– Pre-dividend organic cash breakeven		30%+10%[1]
– Return on average capital employed (ROACE), comparative		20%+10%[1]
Maximum percentage that may be allocated in respect of financial parameters		**110%**
Maximum percentage that may be allocated in respect of economic quantifiable parameters		**140%**
Personal contribution (qualitative criteria)		
– Steering of the Corporation’s strategy of moving towards carbon neutrality, in line with the 2020/2030 targets announced to investors in September 2020, in particular increasing energy production focusing on gas and renewable energy/electricity, as well as moving towards a sales mix of 35% oil, 50% gas and 15% electricity		15%
– Profitable growth in renewables and electricity		10%
– Corporate Social Responsibility (CSR) performance, notably the integration of climate issues in the Company’s Strategy, the Company’s reputation in the domain of Corporate Social Responsibility, as well as the policy concerning all aspects of diversity		15%
Maximum percentage that may be allocated in respect of the personal contribution		**40%**
TOTAL		**180%**

(1) 10% for stretch overperformance.

Safety and Greenhouse gas emissions criteria

The Safety and Greenhouse gas emissions criteria are assessed on the basis of the quantifiable targets set out below for a maximum of 30% of the Chairman and Chief Executive Officer's fixed salary.

The change in safety will be assessed, for a maximum of 20%, through the achievement of an annual TRIR (Total Recordable Incident Rate) target and the number of accidental deaths per million hours worked, FIR (Fatality Incident Rate) compared to those of four large competitor oil companies (ExxonMobil, Shell, BP and Chevron), as well as through changes in the Tier 1 + Tier 2 indicator[1]:

- The maximum weighting of the **TRIR criterion** is 6% of the base salary (compared to 8% in 2021). The maximum weighting will be reached if the TRIR is below 0.7 (0.75 in 2021). The weighting of the criterion will be zero if the TRIR is above or equal to 1.12 (1.2 in 2021). The interpolations are linear between these points of reference;
- The maximum weighting of the **FIR** criterion will be 6% of the base salary (compared to 4% in 2021). The maximum weighting will be reached if the FIR is the best of the panel of the majors. It will be zero if the FIR is the worst of the panel. The interpolations are linear between these two points and depend on the ranking;
- the maximum weighting of the changes in the number of **Tier 1 + Tier 2 incidents** is 8% of the base salary. The maximum weighting will be reached if the number of Tier 1 + Tier 2 incidents is equal to or below 70 (as in 2021). The weighting of the parameter will be zero if the number of Tier 1 + Tier 2 incidents is equal to or higher than 125 (as in 2021). The interpolations are linear between these two points of reference.

The criterion relating to the **change in GHG emissions** is assessed on the basis of the quantifiable targets presented below, for a maximum of 10% of the Chairman and Chief Executive Officer's fixed portion.

The change in greenhouse gas (GHG) emissions on operated facilities will be assessed through the achievement of a GHG (Scope 1+2) reduction emission target from 46 Mt CO_2e in 2015 to 40 Mt CO_2e in 2025, corresponding to a reduction of 600 kt CO_2e/y, *i.e.,* a target of 41.8 Mt CO_2e for 2022. The maximum weighting of the GHG criterion is 10% of the base salary:

- the maximum weighting of the criterion, i.e. 10% of the base salary, will be obtained if the GHG emissions (Scope 1+2) from operated facilities reaches the target set at 41.8 Mt CO_2e in 2022 (compared to 42.4 Mt CO_2e in 2021);
- the weighting of the criterion will be zero if the emissions are 1 Mt CO_2e above the target set;
- the interpolations are linear between these points of reference.

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(1) Tier 1 and Tier 2: indicator of the number of loss of primary containment events, with more or less significant consequences, as defined by the API 754 (for downstream) and IOGP 456 (for upstream) standards. Excluding acts of sabotage and theft.

Details on the financial parameters

The four financial criteria are assessed on the basis of the quantifiable objectives set out below for a maximum of 110% of the Chairman and Chief Executive Officer's fixed portion:

- The **return on equity (ROE)**, as published by the Company on the basis of its balance sheet and consolidated statement of income, will be assessed as follows. The maximum weighting of the ROE criterion will be 30% of the base salary:
  - the maximum weighting of the criterion will be reached, *i.e.,* 30% of the base salary, if the ROE is higher than or equal to 12% (compared with 10% in 2021);
  - the weighting of the criterion will be zero if the ROE is lower than or equal to 6% (as in 2021);
  - the interpolations are linear between these two points of reference.

  Additional compensation of up to 10% of the base salary will be allocated if ROE is equal to or above 18% with linear interpolation between the points of reference of 12% and 18% (compared to 10% to 13% in 2021).
- The **gearing ratio** (excluding lease commitments) will be assessed as follows. The maximum weighting of the gearing ratio criterion will be 30% of the base salary:
  - the maximum weighting of the criterion, i.e., 30% of the base salary, will be reached for a gearing ratio equal to or below 20% (as in 2021);
  - the weighting of the criterion will be zero if the gearing ratio is equal to or above 40%;
  - the interpolations are linear between these two points of reference.

  Additional compensation of up to 10% of the base salary will be allocated if gearing ratio is lower than or equal to 15% with linear interpolation between the points of reference of 20% and 15% (as in 2021).

  Under IFRS 16, which is applicable as from January 1, 2019, TotalEnergies has been required to consolidate all leases on the assets side of the balance sheet with the corresponding financial liabilities on the liabilities side of the balance sheet (before January 1, 2019, only finance leases were consolidated). The Board had decided to assess the gearing ratio criterion without taking into account the financial debt corresponding to the leases.
- The **pre-dividend organic cash breakeven** will be assessed as follows. The maximum weighting of this criterion will be 30% of the base salary:
  - the maximum weighting of the criterion will be reached, i.e., 30% of the base salary, if the breakeven is below or equal to $30/b;
  - the weighting of the criterion will be zero if the breakeven is above or equal to $35/b;
  - the interpolations are linear between these two points of reference.

  Additional compensation of up to 10% of the base salary will be allocated if the pre-dividend organic cash breakeven is equal to or lower than $20/b with linear interpolation between the points of reference of $30/b and $20/b (compared to $30/b and $25/b in 2021).

  The pre-dividend organic cash break-even is defined as the Brent price for which the operating cash flow before working capital changes(1) (MBA) covers the organic investments(2). The ability of the Company to resist to the variations of the Brent barrel price is measured by this parameter.
- The **return on average capital employed (ROACE)**, by comparison, will be assessed as follows. The maximum weighting of the ROACE criterion will be 20% of the base salary. TotalEnergies' ROACE, as published from the consolidated balance sheet and the income statement, will be compared to the ROACE average of each of the four peers (ExxonMobil, Shell, BP and Chevron). The ROACE is equal to the net adjusted operating income(3) divided by the average of the capital employed (at replacement costs, net of deferred income tax and non-current liabilities) of the start and end of the fiscal year:
  - the maximum weighting of the criterion will be reached, i.e., 20% of the base salary, if TotalEnergies' ROACE is 2% above the average of the 4 peers' ROACE (as in 2021);
  - the weighting of the criterion will be zero if TotalEnergies' ROACE is under 2% or more compared to the average of the four peers' ROACE (as in 2021);
  - the interpolations will be linear between these two points of reference.

  Additional compensation of up to 10% of the base salary will be allocated if TotalEnergies' ROACE is 4% above the average of the 4 peers' ROACE with linear interpolation between the points of reference of 2% and 4% (as in 2021).

The aim of taking account of exceptional performance in financial criteria is to put the emphasis on elements that can be controlled and only allow for potential gains for the Chairman and Chief Executive Officer if exceptional results are achieved. In any case, the maximum amount of the financial criteria, including taking account of exceptional performance, cannot exceed the 110% cap of the base salary.

Personal contribution

The criteria for assessing the personal contribution of the Chairman and Chief Executive Officer, up to a maximum of 40% of his fixed portion, are as follows:

- Steering **the Corporation's strategy** of moving towards carbon neutrality, in line with the 2020/2030 targets announced to investors in September 2020, in particular increasing energy production focusing on gas and renewable energy/electricity, as well as moving towards a sales mix of 35% oil, 50% gas and 15% electricity, for up to **15%**;
- Profitable growth in **renewables and electricity**, for up to **10%**;
- **Corporate Social Responsibility (CSR) performance**, including the integration of climate issues in the Company's strategy, the Company's reputation in the domain of Corporate Social Responsibility, as well as the policy concerning all aspects of diversity, for up to **15%**.

Powers of the Board under special circumstances

In the event of a significant change affecting the calculation of the economic perimeters for the Company (change in accounting standard, change in the policy of rating agencies, significant patrimonial transaction approved by the Board of Directors, etc.), the Board reserves the right to calculate the parameters mutatis mutandis with justification of the changes i.e., excluding exogenous extraordinary elements.

In addition, the Board of Directors may exercise its discretionary powers regarding the determination of the compensation of the Chairman and Chief Executive Officer, in accordance with Articles L. 22-10-16, paragraph 1 and L. 22-10-17, paragraph 3 of the French Commercial Code, and pursuant to Articles L. 22-10-8 and L. 22-10-34 of the French Commercial Code, in the event of particular circumstances that could justify that the Board of Directors adjusts, exceptionally and both on the upside and the downside, one or more of the criteria that make up his compensation to ensure that the results of the application of the criteria described above reflect both the performance of the Chairman and Chief Executive Officer and the performance of the Company either in absolute terms or relative to the four peers of the Company, for the economic criteria measured in comparison with these four peers.

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(1) The operating cash flow before working capital changes is defined as cash flow from operating activities before changes in capital at replacement cost, excluding the impact of contracts recognized at fair value in the iGRP segment, and including capital gains on the disposal of renewables projects (as of the first quarter of 2020).

(2) Organic investments: net investments excluding acquisitions, asset sales and other operations with non-controlling interests.

(3) Adjustment items include special items, the inventory effect and the impact for change in fair value.

This adjustment would be made to the variable compensation of the Chairman and Chief Executive Officer by the Board of Directors on the proposal of the Compensation Committee, within the limit of the variable compensation cap of 180% of the fixed compensation, after the Board of Directors ensured that the interests of the Corporation and of its shareholders are aligned with those of the executive director.

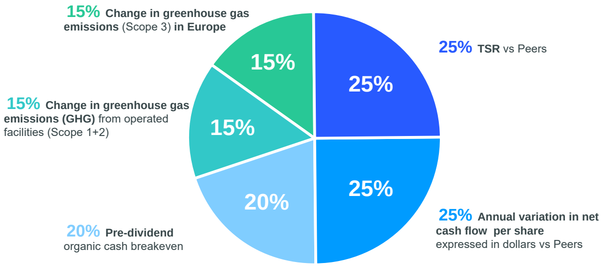
Pursuant to Article L. 22-10-34 of French Commercial Code, the payment of this annual variable portion is subject to the approval of the Shareholders' Meeting to be called in 2023 to approve 2022 financial statements.

C) Performance shares

The granting of performance shares to the Chairman and Chief Executive Officer corresponds to the long-term component of his global compensation. Performance shares are definitively granted at the end of a three-year vesting period. The definitive grant of shares is subject to a presence condition and performance conditions assessed at the end of this three-year vesting period.

In accordance with the principles of the compensation policy approved by the Shareholders' Meeting on May 28, 2021, which approved the principle of increasing the number of performance shares to be granted to the Chairman and Chief Executive Officer for fiscal years 2021, 2022 and 2023 to the following levels: 90,000; 100,000 and 110,000 shares, the compensation policy for fiscal year 2022 includes the granting of **100,000 performance shares** to the Chairman and Chief Executive Officer as part of a 2022 plan that is not specific to him.

Performance conditions



The definitive number of granted shares will be based on the TSR (Total Shareholder Return) and the annual variation of the net cash flow by share in dollars compared to his peers as well as the pre-dividend organic cash breakeven, the change in the greenhouse gas (GHG) emissions from operated facilities (Scope 1+2) and the change in GHG emissions (Scope 3(1)) in Europe in fiscal years 2022, 2023 and 2024, and applied as follows:

- For **25%** of the shares, the Corporation will be ranked against its peers (ExxonMobil, Shell, BP and Chevron) each year during the three vesting years (2022, 2023 and 2024) based on the **TSR** criterion of the last quarter of the year in question, the dividend being considered reinvested based on the closing price on the ex-dividend date.
- For **25%** of the shares, the Corporation will be ranked against its peers (ExxonMobil, Shell, BP and Chevron) each year during the three vesting years (2022, 2023 and 2024) using the **annual variation in net cash flow per share** criterion expressed in dollars.

  Based on the ranking, a grant rate will be determined each year for each of these two first criteria: 1st: 180% of the grant; 2nd: 130% of the grant; 3rd: 80% of the grant; 4th and 5th: 0%, with a maximum of 100%.
- For **20%** of the shares, the **pre-dividend organic cash breakeven criterion** will be assessed during the three vesting years (2022, 2023 and 2024) as follows:
  - the maximum grant rate, i.e., 100% for this criterion, will be achieved if the breakeven is less than or equal to \$30/b,
  - the grant rate will be zero if the breakeven is greater than or equal to \$35/b.
  - the interpolations will be linear between these two points of reference.

  The pre-dividend organic cash breakeven is defined as the Brent price for which the operating cash flow before working capital changes(2) (MBA) covers the organic investments(3). The ability of the Company to resist to the variations of the Brent barrel price is measured by this parameter.
- For **15%** of the shares, the **change in the greenhouse gas (GHG) emissions on operated facilities (Scope 1+2)** will be assessed each year with regard to the achievement of the target to reduce the GHG emissions set for fiscal years 2022, 2023 and 2024 and corresponding to 41.8 Mt CO_2e for 2022, 41.2 Mt CO_2e for 2023 and 40.6 Mt CO_2e for 2024:
  - the maximum grant rate, i.e., 100% for this criterion, will be obtained if the GHG emissions (Scope 1+2) of the year considered reach the target set;
  - the grant rate will be zero if the GHG emissions (Scope 1+2) of the year considered are 1 Mt CO_2e above the target set;
  - the interpolations will be linear between these two points of reference.
- For **15%** of the shares, the **criterion of the change in the indirect greenhouse gas (GHG) emissions related to the use by customers of the energy products (Scope 3(4)) in Europe** will be assessed each year for the achievement of the target to reduce these GHG emissions set as follows: 2022: -14%; 2023: -16% and 2024: -18%, relative to GHG emissions in 2015.
  - the maximum grant rate, i.e., 100% for this criterion, will be reached if the reductions in GHG emissions (Scope 3) in Europe for the year considered reach the target set;
  - the grant rate will be zero if the reductions in GHG emissions (Scope 3) in Europe in the year in question are 4 points below the target set, i.e., 2022: -10%; 2023: -12% and 2024: -14%;
  - the interpolations will be linear between these two points of reference.

A grant rate will be determined each year for each of these last three criteria.

For each of the five criteria, the average of the three grant rates obtained (for each of the three fiscal years for which the performance conditions are assessed) will be rounded to the nearest 0.1 whole percent (0.05% being rounded to 0.1%) and capped at 100%. The definitive grant rate will be rounded to the nearest 0.1 whole percent (0.05% being rounded to 0.1%). In the case of fractional shares, the number of shares definitively granted after determination of performance conditions will be determined according to the weighting of each criterion and rounded up to the next whole number of shares.

At the end of the three-year vesting period, the executive director will be required to hold 50% of the shares definitively allocated to him at the end of the vesting period in registered form until the end of his term of office.

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(1) GHG Protocol - Category 11.

(2) The operating cash flow before working capital changes is defined as cash flow from operating activities before changes in capital at replacement cost, excluding the impact of contracts recognized at fair value in the iGRP segment, and including capital gains on the disposal of renewables projects (as of the first quarter of 2020).

(3) Organic investments: net investments excluding acquisitions, asset sales and other operations with non-controlling interests.

(4) GHG Protocol - Category 11.

Treatment of performance shares in the event of the Chairman and Chief Executive Officer leaving the Company

The Board paid particular attention to the comments made by shareholders concerning the treatment of performance shares granted to the Chairman and Chief Executive Officer in the event of his leaving the Company and clarified the following points:

- In the event of the retirement or of a change of position within the Company, the Chairman and Chief Executive Officer upholds all vesting rights in the course of acquisition,
- In the event of forced departure, other than for serious or gross misconduct, the Board of Directors may decide that the Chairman and Chief Executive Officer upholds his vesting rights in the course of acquisition on a pro rata basis according to the length of time of his presence within the Company,
- In the event of resignation or termination of his function for gross negligence or misconduct, his vesting rights in the course of acquisition will be lost in whole.

The upholding of existing vesting rights in the course of acquisition under the conditions of departure described above is accompanied by the upholding of the performance criteria set for the definitive grant of the shares.

In case of exceptional circumstances, the Board of Directors may decide to maintain stock options and performance share grants after the executive director left, the decision of the Board of Directors has to be duly motivated and taken in the corporate interest.

D) Commitments made by the Corporation to the Chairman and Chief Executive Officer

The commitments made by the Corporation to the Chairman and Chief Executive Officer relate to the pension plans, the retirement benefit and the severance benefit to be paid in the event of forced departure related to a change of control or strategy, as well as the life insurance and healthcare benefits. They were approved by the Board of Directors on March 14, 2018, and by the Annual Shareholders' Meeting on June 1, 2018, in accordance with the provisions of Article L. 225-42-1 of the French Commercial Code.

It should be noted that Mr. Pouyanné already benefited from all these provisions when he was an employee of the Corporation, except for the commitment to pay severance benefits in the event of forced departure related to a change of control or strategy. It should also be noted that Mr. Pouyanné, who joined the Company on January 1, 1997, ended the employment contract that he previously had with the Corporation through his resignation at the time of his appointment as Chief Executive Officer on October 22, 2014.

Pension plans

Pursuant to applicable legislation, the Chairman and Chief Executive Officer is eligible for the basic French Social Security pension and for pension benefits under the ARRCO and AGIRC supplementary pension plans.

He also participates in the internal defined contribution pension plan applicable to all TotalEnergies SE employees (*Régime collectif et obligatoire de retraite supplémentaire à cotisations définies*), covered by Article L. 242-1 of the French Social Security Code. The Corporation's commitment is limited to its share of the contribution paid to the insurance company that manages the plan. For fiscal year 2021, this pension plan represented a booked expense to TotalEnergies SE in favor of the Chairman and Chief Executive Officer of €2,468.

The Chairman and Chief Executive Officer also participates in a supplementary defined-benefit pension plan, covered by Article L. 137-11 of the French Social Security Code, set up and financed by the Corporation and approved by the Board of Directors on March 13, 2001, for which management is outsourced to two insurance companies effective January 1, 2012. In accordance with the ordinance 2019-697 published on July 4, 2019, this plan is closed to any new participant as from July 4, 2019, and, for participants as of July 4, 2019, and retiring as from January 1, 2020, the amount of supplementary pension provided for in this plan is calculated on the basis of number of years of service as at December 31, 2019, and up to a maximum of 20 years.

This plan applies to all TotalEnergies SE employees whose compensation exceeds eight times the annual ceiling for calculating French Social Security contributions (PASS), set at €41,136 for 2021 (i.e., €329,088), and above which there is no conventional pension plan.

To be eligible for this supplementary pension plan, participants must have served for at least five years, be at least 60 years old and exercised his or her rights to retirement from the French Social Security. The benefits under this plan are subject to a presence condition under which the beneficiary must still be employed at the time of retirement. However, the presence condition does not apply if a beneficiary aged 55 or older leaves the Corporation at the Corporation's initiative or in case of disability.

The length of service acquired by Mr. Pouyanné as a result of his previous salaried duties held at the Company since January 1, 1997, has been maintained for the benefit of this plan.

The compensation taken into account to calculate the supplementary pension is the average gross annual compensation (fixed and variable portion) over the last three years. The amount paid under this plan is equal to 1.8% of the compensation falling between 8 and 40 times the PASS and 1% for the portion of the compensation falling between 40 and 60 times this ceiling, multiplied by the number of years of service as of December 31, 2019, up to a maximum of 20 years.

The sum of the annual supplementary pension plan benefits and other pension plan benefits (other than those set up individually and on a voluntary basis) may not exceed 45% of the average gross compensation (fixed and variable portion) over the last three years. In the event that this percentage is exceeded, the supplementary pension is reduced accordingly. The amount of the supplementary pension determined in this way is indexed to the ARRCO pension point.

The supplementary pension includes a clause whereby 60% of the amount will be paid to beneficiaries in the event of death after retirement.

The Board noted that Mr. Pouyanné can no longer acquire additional pension rights under this plan given the rules for determining pension rights set out in the plan and the 20 years of service of Mr. Pouyanné as of December 31, 2016.

The conditional rights granted to Mr. Patrick Pouyanné for the period from January 1, 1997, to December 31, 2016 (inclusive), are now equal to a reference rate of 36% for the portion of the base compensation falling between 8 and 40 times the PASS and 20% for the portion of the base compensation falling between 40 and 60 times the PASS.

Based on Mr. Pouyanné's seniority capped at 20 years on December 31, 2016, the commitments made by TotalEnergies SE to the Chairman and Chief Executive Officer in terms of supplementary defined benefits and similar pension plans represented, at December 31, 2021, a gross annual retirement pension estimated at €638,431. It corresponds to 16.34% of Mr. Pouyanné's gross annual compensation consisting of the annual fixed portion for 2021 (i.e., €1,400,000) and the variable portion paid in 2022(1) for fiscal year 2021 (i.e., €2,506,000).

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(1) Subject to approval by the Ordinary Shareholders' Meeting on May 25, 2022.

Nearly the full amount of TotalEnergies SE's commitments under these supplementary and similar retirement plans (including the retirement benefit) is outsourced for all beneficiaries to insurance companies and the non-outsourced balance is evaluated annually and adjusted through a provision in the accounts. The amount of these commitments as of December 31, 2021, is €23.0 million for the Chairman and Chief Executive Officer (€23.1 million for the Chairman and Chief Executive Officer and the executive and non-executive directors covered by these plans). These amounts represent the gross value of TotalEnergies' commitments to these beneficiaries based on the estimated gross annual pensions as of December 31, 2021, as well as the statistical life expectancy of the beneficiaries.

The total amount of all the pension plans in which Mr. Pouyanné participates represents, at December 31, 2021, a gross annual pension estimated at €756,353, corresponding to 19.36% of Mr. Pouyanné's gross annual compensation defined above (annual fixed portion for 2021 and variable portion paid in 2022 for fiscal year 2021).

Retirement benefit

The Chairman and Chief Executive Officer is entitled to a retirement benefit equal to those available to eligible members of the Company under the French National Collective Bargaining Agreement for the Petroleum Industry. This benefit is equal to 25% of the fixed and variable annual compensation received during the 12 months preceding retirement.

The receipt of this retirement benefit is subject to conditions related to the performance of the beneficiary. On March 18, 2020, the Board of Directors decided to introduce a new criterion relating to the organic cash breakeven, which is monitored by investors, replacing the previous criterion relating to growth in hydrocarbon production, which is no longer relevant in view of the adaptation of the Company's strategy to the challenges of climate change.

Therefore, the conditions applicable to the beneficiary will be deemed to be fulfilled if at least two of the following criteria are met:

- the average return on equity (ROE) for the three years preceding the year in which the Chairman and Chief Executive Officer leaves is at least 10%;
- the average gearing ratio for the three years preceding the year in which the Chairman and Chief Executive Officer leaves is less than or equal to 30%; and
- the pre-dividend organic cash breakeven of the three years preceding the year in which the Chairman and Chief Executive Officer retires is below or equal to $30/b.

The retirement benefit cannot be combined with the severance benefit described below.

Severance benefit

The Chairman and Chief Executive Officer is entitled to a benefit equal to two years of his gross compensation in the event of a forced departure related to a change of control or strategy. The calculation is based on the gross compensation (fixed and variable) of the 12 months preceding the date of termination or non-renewal of his term of office.

The severance benefit will only be paid in the event of a forced departure related to a change of control or strategy. It will not be due in case of gross negligence or willful misconduct or if the Chairman and Chief Executive Officer leaves the Corporation of his own volition, accepts new responsibilities within the Company or may claim full retirement benefits within a short time period.

The receipt of the severance benefit is subject to conditions linked to the beneficiary's performance. On March 18, 2020, the Board of Directors decided to introduce a new criterion relating to the organic cash breakeven, which is monitored by investors, replacing the previous criterion relating to growth in hydrocarbon production, which is no longer relevant in view of the adaptation of the Company's strategy to the challenges of climate change.

Therefore, the conditions applicable to the beneficiary are deemed to be fulfilled if at least two of the following criteria are met:

- the average return on equity (ROE) for the three years preceding the year in which the Chairman and Chief Executive Officer leaves is at least 10%;
- the average gearing ratio for the three years preceding the year in which the Chairman and Chief Executive Officer leaves is less than or equal to 30%; and
- the pre-dividend organic cash breakeven of the three years preceding the year in which the Chairman and Chief Executive Officer retires is below or equal to $30/b.

Life insurance and health expense reimbursement plans

The Chairman and Chief Executive Officer is covered by the following life insurance plans provided by various life insurance companies:

- an "incapacity, disability, life insurance" plan applicable to all employees, partly paid for by the Corporation, that provides for two options in case of death of a married employee: either the payment of a lump sum equal to 5 times the annual compensation up to 16 times the PASS, corresponding to a maximum of €3,290,880 in 2021, plus an additional amount if there is a dependent child or children, or the payment of a lump sum equal to 3 times the annual compensation up to 16 times the PASS, plus a survivor's pension and education allowance;
- a second "disability and life insurance" plan, fully paid by the Corporation, applicable to executive officers and senior executives whose annual gross compensation is more than 16 times the PASS. This contract, signed on October 17, 2002, amended on January 28 and December 11, 2015, guarantees the beneficiary the payment of a lump sum, in case of death, equal to two years of compensation (defined as the gross annual fixed reference compensation (base France), which corresponds to 12 times the monthly gross base salary paid during the month prior to death or sick leave, to which is added the highest amount in absolute value of the variable portion received during one of the five previous years of activity), which is increased to three years in case of accidental death and, in case of accidental permanent disability, a lump sum proportional to the degree of disability. Death benefits are increased by 15% for each dependent child.

Payments due under this contract are made after the deduction of any amount paid under the above-mentioned plan applicable to all employees.

The Chairman and Chief Executive Officer also has the use of a company car and is covered by the health care plan available to all employees.

4.3.3 Executive officers' compensation

TotalEnergies' executive officers include the members of the Executive Committee.

During the fiscal year 2020, the Corporation, taking into account the definition used by the US regulations applicable to Executive Officers and in the interest of harmonization, has chosen to reduce the list of its Executive Officers to the members of the Executive Committee in order to align this list with the list of "Persons Discharging Managerial Responsibilities" (PDMR) within the meaning of Article 19.5 of Regulation (EU) No. 596/2014 on Market Abuse. For the purposes of this regulation, PDMRs are defined as the persons referred to in Article L. 621-18-2 (a) of the French Monetary and Financial Code (the "directors") and the persons referred to in Article L. 621-18-2 (b) of the same code that the Corporation has defined as the members of the TotalEnergies Executive Committee.

As of December 31, 2021, the list of the executive officers of TotalEnergies was as follows (eight people, as of December 31, 2020):

- Patrick Pouyanné, Chairman and Chief Executive Officer and Chairman of the Executive Committee;
- Helle Kristoffersen, President, Strategy & Sustainability, member of the Executive Committee;
- Stéphane Michel, President, Gas, Renewables & Power, member of the Executive Committee;
- Thierry Pflimlin, President, Marketing & Services, member of the Executive Committee;
- Bernard Pinatel, President, Refining & Chemicals, member of the Executive Committee;
- Jean-Pierre Sbraire, Chief Financial Officer, member of the Executive Committee;
- Namita Shah, President, OneTech, member of the Executive Committee;
- Nicolas Terraz, President, Exploration & Production, member of the Executive Committee.

In 2021, the aggregate amount paid directly or indirectly by TotalEnergies' French and foreign companies as compensation to TotalEnergies' executive officers in office as of December 31, 2021 (8 people, as of December 31, 2020) was €9.83 million (compared to €10.84 million in 2020). The variable component (based on economic, Safety performance and personal contribution criteria) represented 48.02% of this global amount of €9.83 million.

4.3.4 Stock option and performance share grants

4.3.4.1 GENERAL POLICY

In addition to its employee shareholding development policy, TotalEnergies SE has implemented a policy to involve employees and senior executives in the its future performance which entails granting performance shares each year. TotalEnergies SE also granted stock options until 2011. These shares are granted under selective plans based on a review of individual performance at the time of each grant.

The stock option and performance share plans offered by TotalEnergies SE concern only TotalEnergies shares and no shares of the TotalEnergies listed subsidiaries or options on them are granted by the Company.

All grants are approved by the Board of Directors, on the proposal of the Compensation Committee. For each plan, the Compensation Committee recommends a list of beneficiaries, the conditions as well as the number of options or shares granted to each beneficiary. The Board of Directors then gives final approval for this list and the grant conditions.

Grant of performance shares

Grants of performance shares under selective plans become definitive only at the end of a three-year vesting period, subject to the fulfillment of applicable presence and performance conditions. At the end of the vesting period, the TotalEnergies shares are definitively granted to the beneficiaries, who must then hold them for at least two years.

Stock options

Stock options were granted until 2011 with a term of eight years, with a strike price set at the average of the closing TotalEnergies share prices on Euronext Paris during the 20 trading days preceding the grant date, without any discount. Exercise of the options granted between 2007 and 2011 was subject to a presence condition and performance conditions, notably related to the Company's return on equity (ROE), and variable depending on the plan and category of beneficiary.

Since the 2011 plan, the Board of Directors has not granted any new TotalEnergies stock options, and all the stock option plans have since expired.

The 21st resolution of the Extraordinary Shareholders' Meeting on May 29, 2020, authorized the Board of Directors to grant stock options to certain Company employees and executives for a period of 38 months. This authorization was not used by the Board in 2021.

4.3.4.2 MONITORING OF GRANTS TO THE EXECUTIVE DIRECTORS

STOCK OPTIONS

No stock options have been granted since September 14, 2011. Until that date, the Company's executive directors in office at the time of the decision were granted stock options as part of broader grant plans approved by the Board of Directors for certain Company employees and senior executives. The options granted to the executive directors were subject to the same requirements applicable to the other beneficiaries of the grant plans.

For the options granted between 2007 and 2011, the Board of Directors made the exercise of the options granted to the executive directors in office contingent upon a presence condition and performance conditions based on the Company's ROE and ROACE. The grant rate of the performance-related options was 60% for the 2008 Plan, and 100% for the 2009, 2010 and 2011 plans.

As of December 31, 2021, Mr. Pouyanné did not hold any TotalEnergies stock options.

Stock options granted in 2021 to each executive director by the issuer and by any Company's company

Table 4 – AMF position-recommendation – DOC-2021-02 (Appendix 2)

Executive directors	Plan N° and date	Nature of the options (purchase or subscription)	Valuation of options (€)[a]	Number of options granted during the fiscal year	Strike price	Exercise period
Patrick Pouyanné Chairman and Chief Executive Officer	–	–	–	–	–	–

(a) According to the method used for the Consolidated Financial Statements.

Stock options exercised in fiscal year 2021 by each executive director

Table 5 – AMF position-recommendation – DOC-2021-02 (Appendix 2)

	Plan N° and date	Number of options exercised during the fiscal year	Strike price
Patrick Pouyanné Chairman and Chief Executive Officer	–	–	–

GRANT OF PERFORMANCE SHARES

Mr. Pouyanné is granted performance shares as part of the broader grant plans approved by the Board of Directors for certain Company employees. The performance shares granted to him are subject to the same requirements applicable to the other beneficiaries of the grant plans.

SUMMARY TABLES

Shares granted to each director(a) in fiscal year 2021 by the issuer and by any Company's company

Table 6 – AMF position-recommendation – DOC-2021-02 (Appendix 2)

Executive and non-executive directors	Plan N° and date	Number of shares granted during the fiscal year	Valuation of the shares (€)(b)	Acquisition date	Date of transferability	Performance conditions

Patrick Pouyanné
Chairman and Chief Executive Officer
	2021 Plan
	05/28/2021
		90,000	1,972,800	05/29/2024	05/30/2026	– For **25%** of the shares, the Corporation's ranking against its peers(c) each year during the three vesting years (2021, 2022 and 2023) based on the **TSR criterion** of the last quarter of the year in question, the dividend being considered reinvested based on the closing price on the ex-dividend date;
						– For **25%** of the shares, the Corporation's ranking each year against its peers(c) during the three vesting years (2021, 2022 and 2023) using the **annual variation in net cash flow per share criterion** expressed in dollars.
						– For **20%** of the shares, the **pre-dividend organic cash breakeven criterion** will be assessed during the three vesting years (2021, 2022 and 2023) as follows:
						  – the maximum grant rate, i.e., 100% for this criterion, will be achieved if the breakeven is less than or equal to $30/b,
						  – the grant rate will be zero if the breakeven is greater than or equal to $40/b,
						  – the interpolations are linear between these two points of reference.
						– For **15%** of the shares, the **change in the greenhouse gas (GHG) emissions on operated facilities (Scope 1+2)** will be assessed each year with regard to the achievement of the target to reduce the GHG emissions set for fiscal years 2021, 2022 and 2023 and corresponding to 42.4 Mt CO_2e for 2021, 41.8 Mt CO_2e for 2022 and 41.2 Mt CO_2e for 2023.
						  – the maximum grant rate, i.e., 100% for this criterion, will be obtained if the GHG emissions (Scope 1+2) reach the target set;
						  – the grant rate will be zero if the GHG emissions (Scope 1+2) of the year considered are 1 Mt CO_2e above the target set;
						  – the interpolations are linear between these two points of reference.
						– For **15%** of the shares, the **criterion of the change in the indirect greenhouse gas (GHG) emissions related to the use by customers of the energy products (Scope 3(d)) in Europe** will be assessed each year according to the achievement of the target to reduce these GHG emissions, set as follows: 2021: -12%; 2022: -14% and 2023: -16%, relative to GHG emissions in 2015.
						  – the maximum grant rate, i.e., 100% for this criterion, will be reached if the reductions in GHG emissions (Scope 3) in Europe achieve the target set;
						  – the grant rate will be zero if the reductions in GHG emissions (Scope 3) in Europe of the year in question are 4 points below the target set, i.e., 2021: -8%; 2022: -10%; 2023: -12%;
						  – the interpolations are linear between these two points of reference.

Valérie Della Puppa Tibi Director representing employee shareholders since May 29, 2019	2021 Plan 05/28/2021	–	–	–	–	
Romain Garcia-Ivaldi Director representing employees since June 9, 2020	2021 Plan 05/28/2021	–	–	–	–	
Angel Pobo Director representing employees since October 14, 2020	2021 Plan 05/28/2021	250	5,480	05/29/2024	05/30/2026	
TOTAL		**90,250**	**1,978,280**			

(a) List of executive and non-executive directors who had this status during fiscal year 2021.

(b) In accordance with the accounting of the performance shares for fiscal year 2021 in accordance with IFRS 2 which takes into account an award rate hypothesis of 80% at the end of the acquisition period, this amount corresponds to the shares granted in 2021, valued on the basis of a unit fair value of 27.40 euros. This fair value was calculated in accordance with IFRS 2 on the grant date of the plan, i.e., May 28, 2021, on the basis of a closing price of the TotalEnergies share on that date of 38.145 euros.

(c) ExxonMobil, Shell, BP and Chevron.

(d) GHG Protocol - Category 11.

Shares that have become transferable for each director[a]

Table 7 – AMF position-recommendation – DOC-2021-02 (Appendix 2)

Executive and non-executive directors	Plan N° and date	Number of shares that became transferable during fiscal year 2021	Vesting conditions
Patrick Pouyanné Chairman and Chief Executive Officer	2018 Plan 03/14/2018	50,400	The performance conditions are based for: – 50% of the performance shares granted, on the Corporation's ranking against its peers[b] completed each year during the three vesting years (2018, 2019 and 2020) based on the TSR criterion of the last quarter of the year in question, the dividend being considered reinvested based on the closing price on the ex-dividend date; and – 50% of the performance shares granted, on the Corporation's ranking against its peers[b] completed each year during the three years of vesting (2018, 2019 and 2020) using the annual variation in net cash flow per share expressed in dollars criterion.
Valérie Della Puppa Tibi Director representing employee shareholders since May 29, 2019	2018 Plan 03/14/2018	–	
Romain Garcia-Ivaldi Director representing employees since June 9, 2020	2018 Plan 03/14/2018	178	
Angel Pobo Director representing employees since October 14, 2020.	2018 Plan 03/14/2018	185	

(a) List of executive and non-executive directors who had this status during fiscal year 2021.

(b) ExxonMobil, Shell, BP and Chevron.

For the 2018 plan, the vesting rate of shares granted, subject to performance conditions, linked to the TSR criterion and the annual change in net cash flow per share, was 70%.

4.3.4.3 FOLLOW-UP OF TotalEnergies STOCK OPTION PLANS AS OF DECEMBER 31, 2021

Since the 2011 plan, the Board of Directors has not granted any new TotalEnergies stock options, and all the stock option plans have since expired.

History of TotalEnergies stock option grants – Information on stock options

Table 8 – Position-recommendation – DOC-2021-02 (Appendix 2)

	Plan
TotalEnergies stock option grants	None
Date of the Shareholders' Meeting	–
Date of Board meeting/grant date	–
Total number of options granted by the Board of Directors, including to:	–
Executive and non-executive directors[a]	–
– *P. Pouyanné*	None
– *V. Della Puppa Tibi*	None
– *R. Garcia Ivaldi*	None
– *A. Pobo*	None
Date as of which the options may be exercised:	–
Expiry date	–
Subscription or purchase price*(€)*	–
Cumulative number of options exercised/subscribed as of December 31, 2021	**–**
Cumulative number of options canceled or expired as of December 31, 2021	**–**
Number of options remaining at the end of the year	–

(a) List of executive and non-executive directors who had this status during fiscal year 2021.

Stock options granted to the ten employees (other than executive or non-executive directors) receiving the largest number of options/Stock options exercised by the ten employees (other than executive or non-executive directors) exercising the largest number of options

Table 9 – AMF position-recommendation – DOC-2021-02 (Appendix 2)

	Total number of options granted/ exercised	Weighted average strike price (€)	Plan
Options granted in fiscal year 2021 by TotalEnergies SE and its affiliates[a] to the 10 employees of TotalEnergies SE and its affiliates (other than executive or non-executive directors) receiving the largest number of options (aggregate – not individual information)	–	–	None
Options held on TotalEnergies SE and its affiliates[a] and exercised in fiscal year 2021 by the 10 employees of TotalEnergies SE and its affiliates (other than executive or non-executive directors at the date of the exercises) who purchased or subscribed for the largest number of shares (aggregate – not individual information)	–	–	None

(a) Pursuant to the conditions of Article L. 225-180 of the French Commercial Code.

4.3.4.4 FOLLOW-UP OF TotalEnergies PERFORMANCE SHARE GRANTS AS OF DECEMBER 31, 2021

BREAKDOWN HISTORY OF TotalEnergies PERFORMANCE SHARE GRANTS BY CATEGORY OF BENEFICIARY

The following table gives a breakdown of TotalEnergies performance share grants by category of beneficiary (executive officers, other senior executives and other employees):

		Number of beneficiaries	Number of notified shares	Percentage	Average number of options per beneficiary
2017 Plan[a] Decision of the Board of Directors of July 26, 2017	Executive officers[b]	12	266,500	4.7%	22,208
	Senior executives	277	1,321,200	23.3%	4,770
	Other employees[c]	10,288	4,092,249	72.0%	398
	TOTAL	**10,577**	**5,679,949**	**100%**	**537**
2018 Plan[a] Decision of the Board of Directors of March 14, 2018	Executive officers[b]	13	301,000	5.0%	23,154
	Senior executives	288	1,443,900	23.7%	5,014
	Other employees[c]	10,344	4,338,245	71.3%	419
	TOTAL	**10,645**	**6,083,145**	**100%**	**571**
2019 Plan[a] Decision of the Board of Directors of March 13, 2019	Executive officers[b]	13	326,500	5.1%	25,115
	Senior executives	290	1,514,000	23.5%	5,221
	Other employees[c]	10,730	4,606,569	71.5%	429
	TOTAL	**11,033**	**6,447,069**	**100%**	**584**
2020 Plan Decision of the Board of Directors of March 18, 2020	Executive officers[b]	13	303,700	4.5%	23,362
	Senior executives	292	1,580,400	23.5%	5,412
	Other employees[c]	10,838	4,843,252	72.0%	447
	TOTAL	**11,143**	**6,727,352**	**100%**	**604**
2021 Plan Decision of the Board of Directors of March 17, 2021, with effect from May 28, 2021	Executive officers[b]	8	272,000	4.0%	34,000
	Senior executives	280	1,579,100	23.3%	5,640
	Other employees[c]	11,039	4,913,448	72.6%	445
	TOTAL	**11,327**	**6,764,548**	**100%**	**579**

(a) For the 2017 and 2018 plans, the vesting rate of shares granted, subject to performance conditions, linked to the TSR criterion and the annual change in net cash flow per share, was 70%. For the 2019 plan, the vesting rate of shares granted, subject to performance conditions, linked to the TSR criterion, the annual change in net cash flow per share and the organic *cash* breakeven, was 98.9%.

(b) The executive officers as of the date of the Board meeting authorizing the grant.

(c) Ms. Della Puppa Tibi is a TotalEnergies SE employee and a TotalEnergies SE director representing employee shareholders since May 29, 2019, and was not granted any shares under the 2020 and 2021 plans. Mr. Garcia-Ivaldi is a TotalEnergies SE employee and a TotalEnergies SE director representing employees since June 9, 2020, and was not granted any shares under the 2021 plan. Mr. Pobo is a TotalEnergies SE employee and TotalEnergies SE director representing employees since October 14, 2020 and was granted 250 shares under the 2021 plan.

The breakdown of TotalEnergies performance share grants by gender and category of beneficiary is as follows:

		Percentage of beneficiaries by gender and by category of beneficiaries		Average number of performance shares granted by beneficiary	
		Men	**Women**	**Men**	**Women**
2017 Plan	Senior management (JL 15+)[a]	85%	88%	1,294	1,353
	JL 10 to 14[b]	25%	26%	266	249
	JL 9-[b]	2%	2%	108	112
2018 Plan	Senior management (JL 15+)[a]	85%	87%	1,363	1,416
	JL 10 to 14[b]	26%	26%	277	261
	JL 9-[b]	2%	2%	119	121
2019 plan	Senior management (JL 15+)[a]	83%	91%	1,392	1,405
	JL 10 to 14[b]	24%	26%	288	264
	JL 9-[b]	2%	2%	122	122
2020 Plan	Senior management (JL 15+)[a]	83%	86%	1,444	1,453
	JL 10 to 14[b]	24%	24%	299	279
	JL 9-[b]	2%	2%	126	130
2021 Plan	Senior management (JL 15+)[a]	83%	87%	1,406	1,492
	JL 10 to 14[b]	24%	25%	298	282
	JL 9-[b]	2%	2%	127	127

(a) Including senior executives.

(b) JL: Job level of the position according to the Hay method (unique classification and job evaluation reference).

The performance shares, which were previously bought back by the Corporation on the market, are definitively granted to their beneficiaries at the end of a three-year vesting period from the grant date.

The vesting of performance shares is subject to a presence condition and performance conditions.

For the 2021 plan, the applicable performance conditions are the following:

- For **25%** of the shares, the Corporation will be ranked against its peers (ExxonMobil, Shell, BP and Chevron) each year during the three vesting years (2021, 2022 and 2023) based on the **TSR criterion** of the last quarter of the year in question, the dividend being considered reinvested based on the closing price on the ex-dividend date.
- For **25%** of the shares, the Corporation will be ranked against its peers (ExxonMobil, Shell, BP and Chevron) each year during the three vesting years (2021, 2022 and 2023) using the **annual variation in net cash flow per share criterion** expressed in dollars.

Based on the ranking, a grant rate will be determined each year for each of these two first criteria: 1st: 180% of the grant; 2nd: 130% of the grant; 3rd: 80% of the grant; 4th and 5th: 0%, with a maximum of 100%.

- For **20%** of the shares, the **pre-dividend organic cash breakeven criterion** will be assessed during the three vesting years (2021, 2022 and 2023) as follows:
  - the maximum grant rate, i.e., 100% for this criterion, will be achieved if the breakeven is less than or equal to $30/b,
  - the grant rate will be zero if the breakeven is greater than or equal to $40/b,
  - the interpolations are linear between these two points of reference.

The pre-dividend organic cash breakeven is defined as the Brent price for which the operating cash flow before working capital changes covers the organic investments. The ability of the Company to resist to the variations of the Brent barrel price is measured by this parameter.

- For **15%** of the shares, the **criterion of the change in the greenhouse gas (GHG) emissions on operated facilities (Scope 1+2)** will be assessed each year with regard to the achievement of the target to reduce the GHG emissions set for fiscal years 2021, 2022 and 2023 and corresponding to 42.4 Mt CO_2e for 2021, 41.8 Mt CO_2e for 2022 and 41.2 Mt CO_2e for 2023.
  - the maximum grant rate, i.e., 100% for this criterion, will be obtained if the GHG emissions (Scope 1+2) reach the target set;
  - the grant rate will be zero if the GHG emissions (Scope 1+2) of the year considered are 1 Mt CO_2e above the target set;
  - the interpolations are linear between these two points of reference.
- For **15%** of the shares, the **criterion of the change in the indirect greenhouse gas (GHG) emissions related to the use by customers of the energy products (Scope 3(1)) in Europe** will be assessed each year for the achievement of the target to reduce these GHG emissions set as follows: 2021: -12%; 2022: -14% and 2023: -16%, compared to GHG emissions in 2015.
  - the maximum grant rate, i.e., 100% for this criterion, will be reached if the reductions in GHG emissions (Scope 3) in Europe achieve the target set;
  - the grant rate will be zero if the reductions in GHG emissions (Scope 3) in Europe of the year in question are 4 points below the target set, i.e., 2021: -8%; 2022: -10%; 2023: -12%;
  - the interpolations are linear between these two points of reference.

A grant rate will be determined each year for each of these last three criteria.

In addition, shares that have been definitively granted cannot be disposed of before the end of a mandatory two-year lock-up period.

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(1) GHG Protocol - Category 11.

BREAKDOWN HISTORY OF TotalEnergies PERFORMANCE SHARE PLANS

History of TotalEnergies performance share grants – Information on performance shares granted

Table 10 – AMF Position-recommendation – DOC-2021-02 (Appendix 2)

	2017 Plan	2018 Plan	2019 Plan	2020 Plan	2021 Plan
Date of the Shareholders' Meeting	**05/24/2016**	**05/24/2016**	**06/01/2018**	**06/01/2018**	**06/01/2018**
Date of Board meeting/grant date	**07/26/2017**	**03/14/2018**	**03/13/2019**	**03/18/2020**	**05/28/2021**
Closing price on grant date	€43.220	€47.030	€51.210	€21.795	€38.145
Average purchase price per share paid by the Corporation	€48.20	€40.23	€44.86	n/a	n/a
Total number of performance shares granted, including to:	5,679,949	6,083,145	6,447,069	6,727,352	6,764,548
Executive and non-executive directors(a)	60,260(b)	72,280(b)	72,280(b)	72,300(b)	90,250
– *P. Pouyanné*	*60,000*	*72,000*	*72,000*	*72,000*	*90,000*
– *V. Della Puppa Tibi*	*n/a*	*n/a*	*n/a*	–	–
– *R. Garcia-Ivaldi*	*n/a*	*n/a*	*n/a*	*n/a*	–
– *A. Pobo*	*n/a*	*n/a*	*n/a*	*n/a*	*250*
Start of the vesting period	07/26/2017	03/14/2018	03/13/2019	03/18/2020	05/28/2021
Definitive grant date, subject to the conditions set (end of the vesting period)	07/27/2020	03/15/2021	03/14/2022	03/20/2023	05/29/2024
Vesting rate after determination of the performance conditions:					
– *Executive director*	*70%*	*70%*	*98.9%*	*n/a*	*n/a*
– *Employees*	*70%*	*70%*	*98.9%*	*n/a*	*n/a*
Total number of performance shares definitively granted(c) at the end of the vesting period, including:	4,297,492	4,578,150	6,174,912	n/a	n/a
– *P. Pouyanné*	*42,000*	*50,400*	*71,208*	*n/a*	*n/a*
Disposal possible from (end of the lock-up period)	07/28/2022	03/16/2023	03/15/2024	03/21/2025	05/30/2026
Number of performance shares granted:					
– *Outstanding as of January 1, 2021*	–	*5,961,865*	*6,352,464*	*6,706,888*	
– *Notified in 2021*	–				6,764,548
– *Canceled in 2021*	–	(1,395,555)	(58,578)	(52,301)	(31,118)
– *Definitively granted in 2021*	–	(4,566,310)	(4,810)	(1,385)	(690)
OUTSTANDING AS OF DECEMBER 31, 2021	**–**	**–**	**6,289,076**	**6,653,202**	**6,732,740**

(a) List of executive and non-executive directors who had this status during fiscal year 2021. Ms. Della Puppa Tibi is a TotalEnergies SE employee and a TotalEnergies SE director representing employee shareholders since May 29, 2019. Mr. Garcia-Ivaldi is a TotalEnergies SE employee and a TotalEnergies SE director representing employees since June 9, 2020. Mr. Pobo is a TotalEnergies SE employee and a TotalEnergies SE director representing employees since October 14, 2020.

(b) The number of performance shares granted to executive and non-executive directors includes performance shares granted to executive and non-executive directors (directors representing employees or directors representing employee shareholders) who had this quality at the grant date.

(c) Shares definitively granted include early grants following the death of the beneficiaries of shares for the respective plan.

If all the performance shares outstanding at December 31, 2021, were definitively granted, they would represent 0.75%(1) of the Corporation's share capital on that date.

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(1) On the basis of a share capital divided into 2,640,429,329 shares.

Performance shares granted to the 10 employees (other than executive and non-executive directors) receiving the largest number of performance shares granted

	Number of performance shares notified/ definitively granted	Award date	Definitive grant date (end of the vesting period)	Date of transferability (end of the lock-up period)
Performance share granted by decision of the Board of Directors at its meeting on March 17, 2021, effective as of May 28, 2021, to the 10 employees of TotalEnergies SE and its affiliates (other than executive or non-executive directors at the date of the exercises) who purchased or subscribed for the largest number of performance shares[(a)]	232,500	05/28/2021	05/29/2024	05/30/2026
Performance shares definitively granted in fiscal year 2021 to the 10 employees of TotalEnergies SE and its affiliates (other than executive and non-executive directors on the date of the decision) receiving the largest number of performance shares	127,750	03/14/2018	03/15/2021	03/16/2023

(a) These shares will be definitively granted to their beneficiaries at the end of a three-year vesting period, i.e., on May 29, 2024, subject to five performance conditions being met. The shares that have been definitively granted cannot be disposed of before the end of a two-year lock-up period, i.e., May 30, 2026.

4.4 Additional information about corporate governance

4.4.1 Regulated agreements and undertakings and related party transactions

[REDACTED SECTION: CERTAIN TEXT HAS BEEN REDACTED.]

[REDACTED SECTION: CERTAIN TEXT HAS BEEN REDACTED.]

REGULATED AGREEMENTS AND UNDERTAKING

[REDACTED SECTION: CERTAIN TEXT HAS BEEN REDACTED.]

In addition, to TotalEnergies' knowledge, there exists no agreement, other than the agreements related to its ordinary course of business and signed under normal conditions, engaged, directly or through an intermediary, between, on the one hand, any director or shareholder holding more than 10% of TotalEnergies SE's voting rights and, on the other hand, a company controlled by TotalEnergies SE within the meaning of Article L. 233-3 of the French Commercial Code.

RELATED-PARTY TRANSACTIONS

Details of related-party transactions as specified by the regulations adopted under EC regulation 1606/2002, entered into by TotalEnergies' companies during fiscal years 2019, 2020 or 2021, are provided in Note 8 of the notes to the Consolidated Financial Statements (refer to point 8.7 of chapter 8).

These transactions primarily concern equity affiliates and non-consolidated companies.

4.4.2 Delegations of authority and powers granted to the Board of Directors with respect to share capital increases and authorization for share cancellation

TABLE COMPILED IN ACCORDANCE WITH ARTICLE L. 225-37-4, 3° OF THE FRENCH COMMERCIAL CODE SUMMARIZING THE USE OF DELEGATIONS OF AUTHORITY AND POWERS GRANTED TO THE BOARD OF DIRECTORS WITH RESPECT TO SHARE CAPITAL INCREASES DURING FISCAL YEAR 2021

Type		Cap on par value, or number of shares or expressed as % of share capital	Use in 2021 by value or number of shares	Available balance as of 12/31/2021 by value or number of shares(a)	Date of the delegation of authority or authorization by the Extraordinary Shareholders' Meeting	Expiry date and term of authorization granted to the Board of Directors
Maximum cap for the issuance of securities granting immediate or future rights to share capital	Securities representing debt securities giving rights to a portion of share capital	€10bn in securities	–	€10bn	May 29, 2020 (15th, 16th, 17th and 19th resolutions)	July 29, 2022 26 months
	Share capital par value	An overall cap of €2.5bn (i.e., a maximum of 1,000 million shares issued with a preemptive subscription right), from which can be deducted:	28.59 million shares	€2.43bn (i.e. 971 million shares)	May 29, 2020 (15th resolution)	July 29, 2022 26 months
		1/ a specific cap of €650 million, i.e. a maximum of 260 million shares for issuances without a preferential subscription right (with potential use of an extension clause), including in compensation with securities contributed within the scope of a public exchange offer, provided that they meet the requirements of Article L. 22-10-54 of the French Commercial Code, from which can be deducted:	–	€650 million	May 29, 2020 (16th and 18th resolutions)	July 29, 2022 26 months
		1a/ a sub-cap of €650 million with a view to issuing, through an offer as set forth in Article L. 411-2-1 of the French Monetary and Financial Code, shares and securities resulting in a share capital increase, without a shareholders' preemptive subscription right	–	€650 million	May 29, 2020 (17th and 18th resolutions)	July 29, 2022 26 months
		1b/ a sub-cap of €650 million through in-kind contributions when the provisions of Article L. 22-10-54 of the French Commercial Code are not applicable	–	€650 million	May 29, 2020 (19th resolution)	July 29, 2022 26 months
		2/ a specific cap of 1.5% of the share capital on the date of the Board(c) decision for share capital increases reserved for employees participating in a Company savings plan	18 million shares(b)	21.6 million shares	May 28, 2021 (17th resolution)	July 28, 2023 26 months
Stock options granted to Company employees and to executive directors		0.75% of share capital on the date of the Board decision to grant options	_	19.8 million shares	May 29, 2020 (21st resolution)	July 29, 2023 38 months
Performance shares granted to Company employees and to executive directors		1% of share capital on the date of the Board decision to grant the shares	_	26.4 million shares(c)	May 28, 2021 (16th resolution)	May 28, 2024 38 months

(a) Based on share capital as of December 31, 2021, divided into 2,640,429,329 shares.

(b) The meeting of the Board of Directors on September 15, 2021 decided to proceed with a share capital increase in 2022 with a cap of 18,000,000 shares (subscription to the shares under this operation is planned for the second quarter of 2022, subject to the decision of the Chairman and Chief Executive Officer). As a result, the available balance under this authorization amounts to 21,606,439 shares as of December 31, 2021.

(c) The number of shares that may be granted under the 16th resolution of the Extraordinary Shareholders' Meeting held on May 28, 2021 may not exceed 1% of the share capital on the date of the Board of Directors' decision. In addition, the shares granted pursuant to the presence and performance conditions to the Executive Directors under the 16th resolution of the Extraordinary Shareholders' Meeting held on May 28, 2021, may not exceed 0.015% of the capital existing on the date of the Board meeting that decided on the grant, *i.e.,* 396,064 shares.

USE OF THE AUTHORIZATION TO CANCEL SHARES OF THE CORPORATION DURING FISCAL YEAR 2021

Pursuant to the terms of the 13th resolution of the Shareholders' Meeting held on May 26, 2017, the Board of Directors is authorized to cancel shares of the Corporation up to a maximum of 10% of the share capital of the Corporation existing as of the date of the operation within a 24-month period. This authorization is effective until the Shareholders' Meeting held to approve the financial statements for the year ended December 31, 2021.

Pursuant to this authorization, the Board of Directors decided, on February 8, 2021, to reduce its share capital by canceling 23,284,409 treasury shares. As of February 8, 2021, the Corporation's share capital amounted to €6,574,599,040.00 divided into 2,629,839,616 shares.

Since the end of the fiscal year 2021, the Board of Directors also use this authorization and decided to reduce the share capital of the Corporation by canceling 30,665,526 treasury shares. The share capital of the Corporation as of February 9, 2022 is thus set at €6,524,409,507.50 divided into 2,609,763,803 shares.

4.4.3 Provisions of the Articles of Association governing shareholders' participation in Shareholders' Meetings

The Corporation's Articles of Association amended as a result of the change of corporate name of the Corporation were approved by the Annual Shareholders' Meeting of May 28, 2021. The statutory provisions of TotalEnergies SE presented below are those resulting from the Articles of Association of TotalEnergies SE.

4.4.3.1 CALLING OF SHAREHOLDERS TO SHAREHOLDERS' MEETINGS

Shareholders' Meetings are convened and conducted under the conditions provided for by law.

The Board of Directors, the statutory auditor or a court-appointed representative can ask for a meeting to be convened, as well as one or more shareholders together holding at least 5% of the share capital.

The Ordinary Shareholders' Meeting is convened to take any decisions that do not modify the Corporation's Articles of Association. It is held at least once a year within six months of the closing date of each fiscal year to approve the financial statements of that year. It may only deliberate, at its first meeting, if the shareholders present, represented or participating by remote voting hold at least one fifth of the shares that confer voting rights. No quorum is required at its second meeting. In accordance with regulation (EC) 2157/2001 on the Statute for a European company (SE), the Ordinary Shareholders' Meeting rules by a majority of votes cast by the shareholders present or represented by proxy. The votes cast do not include those attached to shares in which the shareholder did not take part in the vote, abstained, or returned a blank or invalid vote.

Only the Extraordinary Shareholders' Meeting is authorized to modify the Articles of Association. It may not, however, increase shareholders' commitments. It may only deliberate, at its first meeting, if the shareholders present, represented or participating by remote voting hold at least one quarter, and, at the second meeting, one fifth of the shares that confer voting rights. In accordance with regulation (EC) 2157/2001 on the Statute for a European company (SE), the Extraordinary Shareholders' Meeting rules by a majority of two thirds of votes cast by the shareholders present or represented by proxy. The votes cast do not include those attached to shares in which the shareholder did not take part in the vote, abstained, or returned a blank or invalid vote.

One or more shareholders holding a certain percentage of the Corporation's share capital (calculated using a decreasing scale based on the share capital) may ask for items or draft resolutions to be added to the agenda of a Shareholders' Meeting under the terms and conditions and within the deadlines set forth by the French Commercial Code. Requests to add items or draft resolutions to the agenda must be sent no later than 20 days after the publication of the notice of meeting that the Corporation must publish in the French official journal of legal notices (*Bulletin des annonces légales obligatoires*, BALO). Any request to add an item to the agenda must be justified. Any request to add a draft resolution must be accompanied by the draft resolution text and brief summary of the grounds for this request. Requests made by shareholders must be accompanied by a proof of their share ownership as well as their ownership of the portion of capital as required by the regulations. Review of the item or draft resolution filed pursuant to regulatory conditions is subject to those making the request providing a new attestation justifying the shares being recorded in a book-entry form in the same accounts on the second business day preceding the date of the meeting.

The Central Social and Economic Committee may also request the addition of draft resolutions to the meeting agendas under the terms and conditions and within the deadlines set by the French Labor Code. In particular, requests to add draft resolutions must be sent within 10 business days following the date on which the notice of meeting was published.

4.4.3.2 ADMISSION OF SHAREHOLDERS TO SHAREHOLDERS' MEETINGS

Participation in any form in Shareholders' Meetings is subject to registration of the shares, either in the registered account maintained by the Corporation (or its securities agent) or recorded in bearer form in a securities account maintained by a financial intermediary. Proof of this registration is obtained under a certificate of participation (*attestation de participation*) delivered to the shareholder. Registration of the shares must be effective no later than midnight (Paris time) on the second business day preceding the date of the Shareholders' Meeting. If the shares are sold or transferred prior to this record date, the certificate of participation will be canceled, and the votes sent by mail and proxies sent to the Corporation will be canceled accordingly. If shares are sold or transferred after this record date, the certificate of participation will remain valid and votes cast or proxies granted will be taken into account.

4.4.4 Information regarding factors likely to have an impact in the event of a public takeover or exchange offer

In accordance with Article L. 22-10-11 of the French Commercial Code, information relating to factors likely to have an impact in the event of a public offering is provided below.

- **Structure of the share capital**

  The structure of the Corporation's share capital as well as the interests that the Corporation is aware of pursuant to Articles L. 233-7 and L. 233-12 of the French Commercial Code are presented in points 6.4.1 to 6.4.3 in chapter 6.

- **Restrictions on the exercise of voting rights and transfers of shares provided in the Articles of Association – Clauses of the agreements of which the Corporation has been informed in accordance with Article L. 233-11 of the French Commercial Code**

  The provisions of the Articles of Association relating to shareholders' voting rights are mentioned in point 7.2.4 of chapter 7. The Corporation has not been informed of any clauses as specified in paragraph 2 of Article L. 22-10-11 of the French Commercial Code.

- **Holders of securities conferring special control rights**

  Article 18 of the Articles of Association stipulates that double voting rights are granted to all the registered shares held in the name of the same shareholder for at least two years. Subject to this condition, there are no securities conferring special control rights as specified in paragraph 4 of Article L. 22-10-11 of the French Commercial Code.

- **Control mechanisms provided for in an employee shareholding system**

  The rules relating to the exercise of voting rights within the Corporation collective investment funds are presented in point 6.4.2 of chapter 6.

- **Shareholder agreements of which the Corporation is aware and that could restrict share transfers and the exercise of voting rights**

  The Corporation is not aware of any agreements between shareholders as specified in paragraph 6 of Article L. 22-10-11 of the French Commercial Code which could result in restrictions on the transfer of shares and exercise of the voting rights of the Corporation.

- **Rules applicable to the appointment and replacement of members of the Corporation's Board of Directors and amendment of the Articles of Association**

  No provision of the Articles of Association or agreement made between the Corporation and a third party contains a specific provision relating to the appointment and/or replacement of the Corporation's directors that is likely to have an impact in the event of a public offering.

- **Powers of the Board of Directors in the event of a public offering**

  The delegations of authority or authorizations granted by the Shareholders' Meeting that are currently in effect limit the powers of the Board of Directors during public offering on the Corporation's shares.

- **Agreements to which the Corporation is party and which are amended or terminated in the event of a change of control of the Corporation – Agreements providing for the payment of compensation to members of the Board of Directors or employees in the event of their resignation or dismissal without real and serious grounds or if their employment were to be terminated as a result of a public offering**

  Although a number of agreements made by the Corporation contain a change in control clause, the Corporation believes that there are no agreements provided for in paragraph 9 of Article L. 22-10-11 of the French Commercial Code. The Corporation also believes that there are no agreements provided for in paragraph 10 of Article L. 22-10-11 of the French Commercial Code. For commitments made for the Chairman and Chief Executive Officer in the event of a forced departure owing to a change of control or strategy, refer to point 4.3.2 of this chapter.

4.4.5 Statutory auditors

4.4.5.1 AUDITOR'S TERM OF OFFICES

MAIN STATUTORY AUDITORS

ERNST & YOUNG Audit

1/2, place des Saisons, 92400 Courbevoie – Paris-La Défense, Cedex 1

Appointed: May 14, 2004
Last reappointment: May 24, 2016, for a six-fiscal year term

Laurent Vitse, Stéphane Pédron

KPMG S.A.

Tour EQHO, 2 avenue Gambetta, CS 60055, 92066 Paris-La Défense Cedex

Appointed: May 13, 1998
Last reappointment: May 24, 2016, for a six-fiscal year term

Jacques-François Lethu, Éric Jacquet

ALTERNATE AUDITORS

Auditex

1/2, place des Saisons, 92400 Courbevoie – Paris-La Défense, Cedex 1

Appointed: May 21, 2010
Appointment renewed on May 24, 2016, for a six-fiscal year term

KPMG Audit IS

Tour EQHO, 2 avenue Gambetta, CS 60055, 92066 Paris-La Défense Cedex

Appointed: May 24, 2016, for a six-fiscal year term

French law provides that the auditors are appointed for renewable six-fiscal year terms. The terms of office of the statutory auditors and of the alternate auditors will expire at the end of the Shareholders’ Meeting convened on May 25, 2022 to approve the financial statements for fiscal year 2021.

The rules of rotation of the statutory auditors resulting from the European audit reform, and in particular the provisions of Article 41 of Regulation (EU) N° 537/2014 of the European Parliament and of the Council of April 16, 2014 pertaining to the specific requirements for the statutory audit of public interest entities, authorize the renewal of the appointment of Ernst and Young for a new term of 6 fiscal years, Ernst and Young having been appointed as the Corporation's statutory auditors at the Shareholders' Meeting on May 14, 2004.

However, they do not allow for the renewal of KPMG's appointment, insofar as, on the date of entry into force of Regulation (EU) N° 537/2014, *i.e.,* June 16, 2014, KPMG had been the Corporation's statutory auditor for more than 20 years. As a result, a new statutory auditor, selected through a call for tender, must be proposed for appointment by the Shareholders' Meeting on May 25, 2022.

The Audit Committee independently conducted a selection process that began at its meeting on October 8, 2019. At the end of this process, at its meeting on October 26, 2020, the Audit Committee recommended to the Board of Directors the appointment of PricewaterhouseCoopers Audit as statutory auditor (in preference to Deloitte), noting that this appointment should enable a high level of audit quality to be maintained for the Corporation and the scope of consolidation.

The Audit Committee also recommended to the Board of Directors that it propose to the Shareholders' Meeting that Ernst and Young be reappointed as the statutory auditor for a further six-year term. This appointment should also allow a high level of audit quality to be maintained for the Corporation and the consolidation scope.

The Board of Directors approved these proposals, which will be submitted to the Shareholders’ Meeting to be held on May 25, 2022.

The statutory auditors will be appointed for six fiscal years, in accordance with Article L. 823-3 of the French Commercial Code.

4.4.5.2 FEES RECEIVED BY THE STATUTORY AUDITORS (INCLUDING MEMBERS OF THEIR NETWORKS)

	ERNST & YOUNG Audit				**KPMG S.A.**			
	Amount in $m (excluding VAT)		**%**		**Amount in $m (excluding VAT)**		**%**	
	2020	**2021**	**2020**	**2021**	**2020**	**2021**	**2020**	**2021**
Audit								
Statutory auditors, certification, examination of the parent company and consolidated accounts	27.2	27.8	77.5	77.5	23.3	22.9	78.3	75.0
TotalEnergies SE	4.1	3.9	11.7	11.0	4.9	4.0	16.5	13.1
Fully consolidated subsidiaries	23.1	23.9	65.8	66.5	18.4	18.9	61.8	61.9
Services other than statutory audit – Audit-related services	3.0	4.0	8.5	11.2	3.3	4.5	10.9	14.6
TotalEnergies SE	0.6	0.2	1.7	0.7	0.9	1.8	2.9	5.9
Fully consolidated subsidiaries	2.4	3.8	6.8	10.5	2.4	2.7	8.0	8.7
SUBTOTAL	**30.2**	**31.8**	**86.1**	**88.7**	**26.6**	**27.3**	**89.2**	**89.6**
Other services provided by the networks to fully consolidated subsidiaries								
Legal, tax, labor law	4.2	3.7	12.0	10.4	2.0	2.1	6.8	6.8
Other	0.7	0.4	1.9	0.9	1.2	1.1	4.0	3.6
SUBTOTAL	**4.9**	**4.1**	**13.9**	**11.3**	**3.2**	**3.2**	**10.8**	**10.4**
TOTAL	**35.1**	**35.9**	**100**	**100**	**29.8**	**30.5**	**100**	**100**

5

Non-financial performance

[REDACTED SECTION: CERTAIN TEXT HAS BEEN REDACTED.]

Chapter 5 of this Universal Registration Document constitutes the consolidated statement of non-financial performance as per Articles L. 22-10-36 and L. 225-102-1 of the French Commercial Code and discloses how the Corporation and the entities included in the scope of consolidation, in accordance with Article L. 233-16 of the French Commercial Code, take into account the social and environmental consequences of their activities, as well as the effects of those activities with regard to respect for human rights and fighting corruption and tax evasion.

Pursuant to the aforementioned Articles, this statement also includes information about the impact on climate change of the Corporation's activity and the use of the goods and services that it produces; its societal commitments in order to promote sustainable development and the circular economy; the collective agreements in place within the Corporation and their impact on the Corporation's financial performance as well as on employees' working conditions; actions aimed at fighting discrimination and promoting diversity; and the measures taken on behalf of people with disabilities(1).

This statement of non-financial performance was prepared with the assistance of several of the Corporation's corporate functional divisions, in particular the Legal, Finance, People & Social Engagement and Strategy & Sustainability Divisions. The statement was reviewed by the Audit Committee and was thereafter approved by the Board of Directors.

The data presented in the statement of non-financial performance are provided on a current-scope basis. The reporting scopes and methodology concerning the information in this chapter are presented in point 5.11 of this chapter.

5.1 Sustainable development at the heart of the strategy

TotalEnergies' SUSTAINABILITY DEVELOPMENT AMBITION

TotalEnergies aims to be a major player in the energy transition and to achieve carbon neutrality (net zero emissions) by 2050, together with society (refer to points 1.2 to 1.4 of Chapter 1).

TotalEnergies is present in more than 130 countries. The nature of its activities and its geographical footprint in sometimes complex environments place the Company at the junction of a range of society's concerns relating to people, the environment and business ethics. TotalEnergies places sustainable development in all its dimensions at the heart of its strategy, its projects and operations in order to contribute to the well-being of the population.

A Code of Conduct that affirms the Company's values and principles of action

TotalEnergies is guided by its values and operating principles, which apply to the conduct of its operations. These are described in the Code of Conduct and are binding on all subsidiaries and employees. The Code of Conduct specifies that TotalEnergies abides by the OECD Guidelines for Multinational Enterprises as well as the principles of the United Nations Global Compact, and that the Company is committed to respecting internationally recognized human rights. It states the Company's commitments and expectations for each of its stakeholders and serves as a reference for employees and any other person working on behalf of the Company. It also describes the procedures in place to allow everyone to express their concern about the implementation of the Code of Conduct.

Open dialogue with stakeholders

TotalEnergies sets up dialogue procedures based on the consultation and involvement of stakeholders in order to develop constructive and transparent relations with them. This dialogue contributes to identifying main risks and impacts of the Company's operations and, more generally, by providing greater insight into main changing societal patterns and expectations of each of the major stakeholder categories.

Employees		More information
Main stakeholders	– 100,000 employees – Employee representative bodies – Trade unions and employee associations	Sections 5.6 and 3.6
Main modalities of dialogue	– Surveys and questionnaires – Negotiation, concertation, consultation or information of representative bodies – Signing of agreements – Processing of alerts	
Main tools and frameworks for dialogue	– TotalEnergies Survey(2) conducted every two years (new ongoing survey 2022): 83,000 employees participated in the last TotalEnergies Survey in 2019 in 126 countries; surveys conducted within business segments – Participatory approach(3) – TotalEnergies European Works Council – Signing of international agreements such as with IndustriALL Global Union (2015-2019) – Membership of and participation in the Global Deal (since 2017) – Employee representative bodies and collective bargaining: 90.8% of employees with trade union representation and/or employee representation in 2021; 347 agreements signed with employee representatives worldwide are active in 2021 – Whistleblowing mechanisms	

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(1) TotalEnergies has not made any specific societal commitments to prevent food waste and food poverty or to promote animal welfare and responsible, fair and sustainable food, as these are not significant issues in view of the nature of the Company's activities.

(2) Consultation tool for all employees worlwide allowing the Company to gather thier views and expectations with regard to their working situation and their perceptions of the company, both at the local level and Company-wide.

(3) A Company-wide participatory initiative was launched in early 2022, in the form of workshops and a collaborative platform, to involve all employees in the achievement of TotalEnergies' ambitions in terms of sustainable development. On the basis of the activities of each entity, this initiative aims to identify the SDGs on which a positive impact or progress can be made, in order to meet stakeholder expectations of the Company.

Employees		More information
Main entities/teams involved	– Human resources	
Main topics of common interest and identified expectations	– Health and safety – Workplace well-being, working hours, work organization, impact of COVID-19 – Compensation – Training, employability and skills, mobility – Equal opportunity, diversity – Social dialogue – Respect for human rights in the workplace – Social and environmental responsibility	

Investors and financial players		More information
Main stakeholders	– Individual shareholders – Institutional investors – Investor coalitions – Financial and non-financial analysts – Market regulators	Sections 5.4, 3.6 and 6.6 Chapter 11
Main modalities of dialogue	– Financial and non-financial publications – Individual or group meetings – Questionnaires from rating agencies and analysts (financial and/or ESG)	
Main tools and frameworks for dialogue	– Investors presentation on the occasion of annual and quarter results publication and "Strategy & Outlook" in September – Approximately 1,500 meetings held (individual interviews and roadshows) including 200 exchanges dedicated to ESG topics – Written answers to commitment letters from investors or shareholders groups such as Climate Action 100+ – Annual Shareholders' Meeting: answers given to the more than 500 questions asked online via the dedicated platform, answers given to written questions. For the 2021 Shareholders' Meeting, the Board of Directors submitted to the shareholders of TotalEnergies SE for opinion, the Company's ambition in terms of sustainable development and the energy transition towards carbon neutrality and its related targets by 2030 (resolution approved by more than 90% of the votes cast) – An ISO 9001 certified team dedicated to relationships with individual shareholders and offering a comprehensive communication package, featuring dedicated direct-line, email address, and postal address – Shareholders' Circle – Shareholder Advisory Committee	
Main entities/teams involved	– Executive management – Finance Department; Financial Communications; Individual Shareholder Relations – Legal Department	
Main topics of common interest and identified expectations	– Corporate governance – Financial and non-financial performance – Investment strategy – Climate - decarbonization strategy and trajectory – Climate - risk information and performance indicators – Operational, financial and ESG risk management – Transparency – Compliance with ESG guidelines	

Customers		More information
Main stakeholders	– Private customers (B2C) – Business customers (B2B) – Government (B2G) – Consumers and users of products and services	Sections 5.3, 5.8, 5.9 Chapter 2
Main modalities of dialogue	– Commercial relationship – Key account management – Technical and commercial partnerships – Complaints and claims	
Main tools and frameworks for dialogue	– Customer Relationship Management (mainly Salesforce platform) – Team dedicated to 45 global key accounts relationship by Marketing & Services sector – Annual customer satisfaction surveys; global B2B satisfaction survey conducted every two years (latest in 2021) – Barometer on reputation and image (every two years) – With all these awards(1),TotalEnergies is the most awarded company and received the symbolic “2021 Awards Prize” for the company with the most trophies and distinctions in the field of customer relations during the year – Processing complaints and claims	
Main entities/teams involved	– Marketing/Strategy of business segments – Sales force – Consumer Services – Research & Development	
Main topics of common interest and identified expectations	– Consumer health & safety – Carbon intensity of products used – Energy efficiency services – Low carbon goods and services – Access to energy – Energy price – Digitization of services – Competition law	

Suppliers		More information
Main stakeholders	– Network of over 100,000 suppliers and subcontractors	Sections 5.10, 3.6
Main modalities of dialogue	– Qualification – Call for tenders – Assessment and action plans – Contracting – Awareness raising – Audits	
Main tools and frameworks for dialogue	– Fundamental principles of purchasing – Suppliers qualification, assessment and audit processes: 12,000 main suppliers integrated with the supplier approval tool in 2021 and 83 audits performed in 2021 on suppliers at risk – Survey and questionnaire – Suppliers Day (every two years) – Awareness-raising materials; regarding the Supply Chain Carbon Footprint Initiative, 1,000 suppliers informed about the Company's expectations and its SGG's approach, 500 joined the first webinar session – Alert mechanism including internal mediator	

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(1) TotalEnergies Electricité et Gaz France finished on the podium of multi award-winners brands in the field of Customer Experience in 2021: The Customer Excellence Award (3rd consecutive year), the Customer Relationship Podium (4th consecutive year), the Qualiweb Award for the best online customer relationship (4th year) and the CX Award for Data and personalization.

Suppliers		**More information**
Main entities/teams involved	– TotalEnergies Global Procurement	
Main topics of common interest and identified expectations	– Fight against climate change and consideration of GES emissions – Human rights in the supply chain (including risks related to child labor, forced labor, working conditions, discrimination, health and safety of workers) – Environment in the supply chain (including risks related to pollution and damage to biodiversity) – Support for the economic development of SMEs and adpated and protected sector companies – Compliance with contractual terms and payment deadlines	

Professional associations		**More information**
Main stakeholders	– Professional or multi-stakeholder business organizations	Sections 5.4, 5.5, 5.9 List of associations available on TotalEnergies' website
Main modalities of dialogue	– Consultations – Memberships and participation in collective initiatives	
Main tools and frameworks for dialogue	– List of professional associations of which TotalEnergies is a member: 929 in 2021 – Annual evaluation of public positions taken by associations of which TotalEnergies is a member – TotalEnergies company's Advocacy Directive (December 2021)	
Main entities/teams involved	– Public Affairs – Legal Department – Business segments	
Main topics of common interest and identified expectations	– Climate - deployment of the energy transition – Climate - transparency and consistency of supported positions – Environment and safety - regulations and risk management – Employment and economic development	

Civil society		**More information**
Main stakeholders	– Communities neighboring sites – Institutions and multilateral agencies – Universities and research centers – Experts and researchers – NGOs – Media	
Main modalities of dialogue	– Project management – Listening – Interrogation and alerts – Cooperation – Partnerships (especially with university chairs) – Mediation	
Main tools and frameworks for dialogue	– Assessment of the safety, environmental and societal challenges for new projects – Voluntary Principles on Security and Human Rights (VPSHR) initiative and tools for self-diagnosis and risk analysis – Societal impact studies begun or conducted in 2021: 103 in the Integrated Gas, Renewables & Power segment and 13 in the Exploration & Production segment – Stakeholder Relationship Management (SRM+) methodology: 13 entities began or conducted studies in 2021 – SIMBA (Societal Impact Management and Baseline Assessment) mobile application for the ongoing recording and tracking of the opinions, concerns and expectations of stakeholders – Management of complaints from neighboring communities – Citizen Action - TotalEnergies Foundation Program	

Civil society		More information
Main entities/teams involved	– Health, Safety and the Environment – Business segments – Security – OneTech R&D – Sustainability & Climate – Legal division – Communication – TotalEnergies' corporate foundation	
Main topics of common interest and identified expectations	– Human rights, including Indigenous and tribal peoples' rights, right to health and adequate standard of living – Employment - conversion of sites with a view to a just transition – Economic development of areas where the Company is established – Innovation and R&D – Access to energy – Major accident risk prevention – Protection of the environment and biodiversity – Climate including deployment of the energy transition – Access to land, sea and resources – Impacts on cultural and religious practices and heritage	

Public authorities		More information
Main stakeholders	– Host countries – Authorities – Administrations	Sections 5.3, 5.4, 5.5, 5.7, 5.8, 5.9, 3.5, 3.6
Main modalities of dialogue	– Agreements and authorizations – Project management – Cooperation – Mediation	
Main tools and frameworks for dialogue	– Compliance program – TotalEnergies company's Advocacy Directive (December 2021) – Voluntary Principles on Security and Human Rights	
Main entities/teams involved	– Executive management – Country chairs – Legal department – Public Affairs – Security	
Main topics of common interest and identified expectations	– Fighting corruption and tax evasion – Human rights – Climate change – Protection of the environment and biodiversity – Major accident risk prevention – Economic development – Access to energy	

IDENTIFICATION AND ASSESSMENT OF MAIN CHALLENGES AND RISKS

The Company employs a continuous process of identifying and mapping risks in order to develop sector-specific policies that reflect the desired level of control. The Company manages its activities through internal management systems implemented at the different levels of the Company.

In doing so, the Company performs regular assessments, following a variety of procedures, of the risks and impacts linked to its activities on the social field, on people's health and safety, on the environment, climate, human rights and business ethics, as well as on its supply chain.

- The risks and challenges relating to health, safety and the environment are identified as part of a dynamic process that draws in particular on lessons learned, which are included in the HSE (Health, Safety and Environment) reference framework known as One MAESTRO (*Management and Expectations Standards Toward Robust Operations*).
- The identification of climate-related risks and challenges is carried out by the Sustainability & Climate division.
- The Human resources division is responsible for identifying risks and challenges related to the workforce.
- In terms of human rights, TotalEnergies relies in particular on the U.N. Guiding Principles on Human Rights to identify its salient risks.
- In terms of purchasing, a mapping of the CSR (Corporate Social Responsibility) risks has been drawn up and regularly updated since 2012.

In conjunction with these risk identification processes, a dialogue based on stakeholders' involvement and participation is implemented in order to develop constructive and transparent relationships with them and to identify the main challenges and expectations and contribute to their evaluation and prioritization.

These assessments are generally carried out:

- prior to investment, acquisitions and divestitures decisions on the Company's industrial projects (evaluation by the Risk Committee of safety and security studies, impact assessments, particularly environmental and societal, and evaluation of consistency with the Company's climate strategy, prior to review by the Executive Committee);
- during operations;
- prior to placing new substances on the market (toxicological and ecotoxicological studies, life cycle analyses).

These assessments incorporate the regulatory requirements of the countries where the Company operates and generally accepted professional practices. In addition, internal control systems are structured and regularly adjusted to align with the specific nature of the strategic areas and orientations set by the Board of Directors and General Management.

TotalEnergies has therefore identified the main risks and challenges linked to its activities. As part of its statement of non-financial performance, these are listed in the introduction to the sections relating to social information, health, safety, the environment, climate, human rights, the fight against corruption and tax evasion, societal policy and relations with contractors and suppliers.

For each of the challenges identified, the Company has deployed policies and operational actions with quantitative and qualitative objectives aimed at minimizing negative impacts and maximizing positive impacts of its operations from an economic, social and environmental perspective.

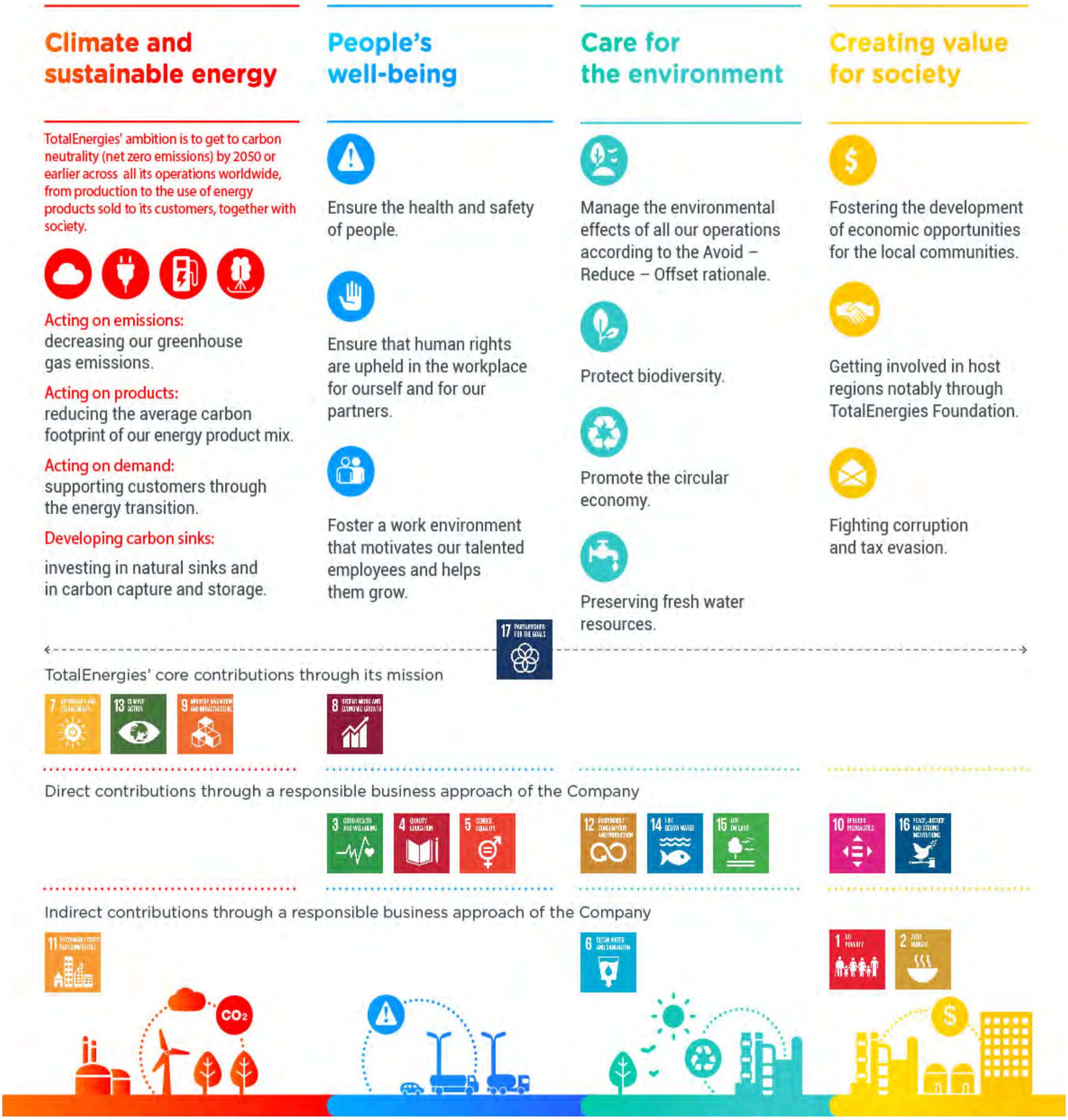
Our contribution to the Sustainable Development Goals

TotalEnergies has structured its CSR (Corporate Social Responsibility) approach for conducting its activities so as to contribute to the achievement of the United Nations Sustainable Development Goals (SDGs), to which TotalEnergies committed its support in 2016.

As part of its determination to strengthen its efforts in the segments in which it can act with most authority as an integrated multi-energy Company, TotalEnergies involves its employees in identifying the SDGs on which it can have the greatest impact, in connection with its ambition to reach carbon neutrality (net zero emissions) by 2050, together with society. The Company's contributions to the SDGs are illustrated below in the form of pictograms and in more detail on its website.

TotalEnergies' CSR approach is based on four pillars:

- Climate and sustainable energy: leading the transformation of the energy model to contribute to the fight against climate change and meet the needs of populations;
- People's well-being: being a reference as an employer and responsible operator. TotalEnergies intends on promoting a work environment that combines performance and conviviality and ensuring compliance with human rights in the workplace, both within the Company and among its partners, but also the safety and health of people;
- Care for the environment: to be exemplary in the management of the environment and the use of the planet's natural resources. TotalEnergies intends on ensuring that the environmental impacts of all its operations are managed according to the Avoid-Reduce-Offset approach, thereby helping to preserve the environment, biodiversity and fresh water resources. To this end, TotalEnergies promotes the circular economy;
- Creating value for society: generating shared prosperity across regions. TotalEnergies aims to be a creator and a driver of positive change for the communities in its host regions.



Climate and sustainable energy

TotalEnergies' ambition is to get to carbon neutrality (net zero emissions) by 2050 or earlier across all its operations worldwide, from production to the use of energy products sold to its customers, together with society.

Acting on emissions: decreasing our greenhouse gas emissions.

Acting on products: reducing the average carbon footprint of our energy product mix.

Acting on demand: supporting customers through the energy transition.

Developing carbon sinks: investing in natural sinks and in carbon capture and storage.

People's well-being

Ensure the health and safety of people.

Ensure that human rights are upheld in the workplace for ourself and for our partners.

Foster a work environment that motivates our talented employees and helps them grow.

Care for the environment

Manage the environmental effects of all our operations according to the Avoid – Reduce – Offset rationale.

Protect biodiversity.

Promote the circular economy.

Preserving fresh water resources.

Creating value for society

Fostering the development of economic opportunities for the local communities.

Getting involved in host regions notably through TotalEnergies Foundation.

Fighting corruption and tax evasion.

TotalEnergies' core contributions through its mission

Direct contributions through a responsible business approach of the Company

Indirect contributions through a responsible business approach of the Company

TRANSPARENCY, A PRINCIPLE OF ACTION

The Company believes that transparency is an essential principle of action in building a trust-based relationship with its stakeholders and enables a path of continuous improvement.

Pending the adoption of an international, standardized non-financial reporting framework, TotalEnergies ensures it is accountable for its performance on the basis of the various commonly used ESG reporting frameworks. As such, TotalEnergies refers to the Global Reporting Initiative (GRI) standards and those of the Sustainability Accounting Standards Board (SASB), for which detailed tables of correspondence are available on its website. TotalEnergies' reporting includes the World Economic Forum's core indicators(1) (please refer to chapter 11). Furthermore, the Company follows the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD) for its climate reporting. TotalEnergies provides additional information on its website in pages specifically dedicated to its sustainability development approach.

TotalEnergies' sustainability approach is recognized: in 2021, the Company was once again confirmed as a LEAD Company by the United Nations Global Compact for its full commitment to CSR.

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(1) Measuring Stakeholder Capitalism: Towards Common Metrics and Consistent Reporting of Sustainable Value Creation, white paper, September 2020.

TotalEnergies has been included in the FTSE4Good index (London Stock Exchange) since 2001. In 2021, TotalEnergies obtained for its business units listed on the EcoVadis platform the Gold status for TotalEnergies Electricité et Gaz France, Total Refining & Chemicals, TotalEnergies Raffinage Chimie, Saft Groupe and Greenflex) and the Silver status for TotalEnergies Marketing & Services, TotalEnergies Gas & Power Limited and Alcad. In 2021, TotalEnergies received scores of A- on both the CDP Climate Change questionnaire and the Water questionnaire.

5.2 Business model

The business model implemented by the Corporation and all of the entities included in the scope of consolidation in accordance with Article L. 233-16 of the French Commercial Code is set forth in the integrated report (refer to point 1.1.3 of chapter 1). The business activities of the Company are presented in details in chapter 2.

5.3 Health & Safety for everyone

It is around safety, cardinal value of the Company, in accordance with the strictest standards and with regard to health that the operational measures and indicators used to manage the Company's activities are based.

The activities of TotalEnergies involve health and safety risks for its employees, contractors, and residents in the vicinity of its industrial sites. Furthermore, certain products marketed by TotalEnergies may present risks for the health and safety of consumers.

In this context, TotalEnergies has therefore identified its main health and safety risks:

- risk of major industrial accident;
- risk of workplace accident;
- risk of transport accident;
- risk of damage to health at the workplace;
- risk of damage to the health and safety of consumers.

The risks and challenges relating to people's health and safety are identified as part of a dynamic process that draws in particular on lessons learned, which are included in the HSE reference framework known as One MAESTRO (Management and Expectations Standards Toward Robust Operations).

To address its challenges, TotalEnergies relies on the HSE division, which forms part of the new Strategy & Sustainability division, whose President is a member of the Executive Committee.

In line with the various businesses of the Company, the HSE division coordinates the promotion and implementation of TotalEnergies' policies to enable the HSE divisions of the subsidiaries to prevent or mitigate risks. Indicators are monitored so that the Company's actions in relation to health and safety can be continuously adapted.

TotalEnergies conducts its operations on the basis of its Safety Health Environment Quality Charter (available on its website). It forms the common foundation for the Company's management frameworks, and sets out the basic principles applicable to safety, security, health, the environment, quality and societal commitment. Company directives and rules define the minimum requirements expected. General specifications, guides and manuals are used to implement these directives and rules. TotalEnergies' subsidiaries implement these requirements by means of their own management systems, which take account of specific local specificities and local regulatory requirements. The Company's reference framework is available to all employees.

The HSE reference framework common to all business segments has been rolled out since 2018 in order to give greater overall consistency to the Company's operations, while continuing to respect the specific characteristics of the various business segments. This reference framework, named One MAESTRO, applies to the subsidiaries and their operated sites as defined in point 5.11 of this chapter (scope of One MAESTRO). It is based on 10 fundamental principles: (1) leadership and management commitment, (2) compliance with laws, regulations and Company requirements, (3) risk management, (4) operational accountability, (5) contractors and suppliers, (6) expertise and training, (7) emergency preparedness, (8) learning from events, (9) monitoring, audit and inspection, and (10) performance improvement.

In order to evaluate the implementation of this framework, TotalEnergies' subsidiaries operating sites are audited every three to five years. The periodicity of HSE audits is defined according to a risk-based approach, which takes into account, among other things, the results of previous HSE audits and the status of the corresponding action plans. In 2021, 41 HSE audits were conducted. These subsidiaries also undertake self-assessments at least every two years. The Company's HSE audit protocol is based on the One MAESTRO framework and includes *inter alia* the requirements of ISO 14001:2015 and ISO 45001:2018. The audit protocol is applied fully during self-assessments and according to a risk-based approach during audits.

Furthermore, the One MAESTRO framework provides that subsidiaries of TotalEnergies holding an interest in assets or activities operated by third parties must promote the Company's HSE requirements and best practices and endeavor to ensure that similar requirements are adopted by the operator. It also provides that the HSE risks relating to these assets or activities must be assessed at least every five years and that the TotalEnergies' employees in charge of managing non-operated assets must be trained in HSE management. Assessing the risks relating to these assets and activities provides the basis for promoting the Company's HSE rules implemented by the asset manager, particularly during board meetings. This can also take place during technical assistance missions or through HSE audits or reviews, when these are provided for by a shareholders' agreement. In 2021, the Company participated in 18 audits of non-operated assets.

Furthermore, before any final decision to invest in a construction project or acquire or sell a subsidiary, the proposals presented to the Company's Risk Committee are assessed with regard to health and safety risks.

Our health and safety targets	**Facts**
– zero fatalities	– 1 fatality in 2021
– continuously decrease the TRIR[(1)] and reach a TRIR of 0.70 in 2022. The target in 2021 was 0.75	– a TRIR of 0.73 in 2021 below the 2021 target
– maintain the health of employees at work	– 97% of employees with specific occupational risks received regular medical monitoring in 2021[(2)]
– preventing the occurrence of major industrial accidents	– no major industrial accident in 2021

5.3.1 Preventing the occurrence of major industrial accidents

To prevent the occurrence of a major industrial accident such as an explosion, fire, leakage of hazardous products or mass leakage that might cause death, physical injury, large-scale pollution or pollution at an environmentally sensitive site, or important damage to property, TotalEnergies implements suitable risk management policies and measures which apply to the operated activities. The Major Risks division of the HSE division provides support in the application of this policy.

At year-end 2021, in addition to its drilling and pipeline transportation operations, TotalEnergies had 181 operated sites and zones exposed to such risks. These correspond to all activities relating to hydrocarbon production, whether offshore or onshore, as well as Seveso-classified industrial sites (upper and lower threshold) and their equivalents outside of the European Union (186 sites at the end of 2020 and 180 at the end of 2019).

The Company's policy for the management of major industrial accident risks applies from the facilities design stage in order to minimize the potential impacts associated with its activities. The policy is described in the One MAESTRO reference framework. It provides for the analysis of the risks related to the Company's industrial operations at each operated site subject to these risks, based on incident scenarios for which the probability of occurrence and the severity of the consequences are assessed. Based on these parameters, a prioritization matrix is used to determine whether further measures are needed. These mainly include preventive measures but can also include mitigation measures. They may be technical or organizational. These analyses are updated periodically, at least every five years, or when facilities are modified. Training on major accident risks is organized at head office and at subsidiary sites for operating staff.

With regard to the design and construction of facilities, technical standards include applicable regulatory requirements and refer to industry best practices. The construction of the Company's facilities is entrusted to qualified contractors who undergo a demanding internal selection process and who are monitored. In the event of a modification to a facility, the Company's rules define the management process to be adopted.

With regard to the management of operations and integrity of facilities operated by the Company, formal rules have been set out to prevent specific risks that have been identified either by means of risk analyses or from internal and industry feedback. For specific works, the preliminary risk analysis may lead to the establishment of a permit to work, the process of which, from preparation through to closure, is defined. The Company's reference framework also provides a process to manage the integrity of facilities, which includes, for example, preventive maintenance, facility inspections, identification of safety critical equipment for special monitoring, management of anomalies and downgraded situations, and regular audits. These rules are part of the One MAESTRO reference framework. Operations teams receive regular training in the management of operations in the form of companionship or in-person trainings.

For example, in order to control the integrity of **pipelines** operated by the Company, they are subject to periodic surveys such as cathodic protection checks, ground or aerial surveillance or in line inspections. These actions are planned as part of the pipeline monitoring and maintenance programs. These controls and their frequency are reinforced in areas with high human or environmental risks identified by the risk analysis.

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(1) TRIR (Total Recordable Injury Rate): number of recorded incidents per million hours worked.

(2) Data from the WHRS (see point 5.11).

In terms of indicators, TotalEnergies monitors the number of Tier 1 and Tier 2 losses of containment as defined by the American Petroleum Institute (API) and the International Association of Oil & Gas Producers (IOGP). The Company set itself the target of having fewer than 70 Tier 1 and Tier 2 events in 2021. This target was not reached in 2021. The number of Tier 1 and Tier 2 events is lower than in 2020 without returning to the level of 2019. In addition to the 77 Tier 1 and Tier 2 operational events indicated in the table below, the Company recorded 4 Tier 1 or Tier 2 events due to sabotage or theft in 2021.

Losses of primary containment[(a)]	**2021**	**2020**	**2019**
Losses of primary containment (Tier 1)	29	30	26
Losses of primary containment (Tier 2)	48	54	47
Losses of primary containment (Tier 1 and Tier 2)	77	84	73

(a) Tier 1 and Tier 2: indicator of the number of losses of primary containment with more or less significant consequences (fires, explosions, injuries, etc.), as defined by API 754 (for downstream) and IOGP 456 (for upstream). Excluding acts of sabotage and theft.

Tier 1 and 2 events had only moderate consequences such as lost time injuries, fires or pollution of limited extent or with no impact. The Company did not have any major industrial accidents in 2021.

In order to manage any major industrial accident efficiently, TotalEnergies has implemented a **global crisis management system** that is based primarily on an on-call system available 24/7, as well as a dedicated crisis management center at head office that makes it possible to manage two simultaneous crises. The framework provides that subsidiaries draw up plans and procedures for interventions in the event of leaks, fires or explosions and that subsidiaries have to test these at regular intervals.

In 2021, in the context of the COVID-19 pandemic, the Company consolidated its resilience capacity by testing its procedures and methodologies in different formats through crisis management exercises: face-to-face, remote or hybrid. This was made possible in particular through the development of digital crisis units for the headquarters, segments and subsidiaries and the deployment of associated training. The intervention teams at subsidiaries and at head office practice their crisis management activities regularly on the basis of scenarios identified by the risk analyses. These personnel may follow dedicated training depending on their specific functions. In order to maintain training capacity regardless of how the situation developed, training for internal crisis management individuals was delivered either face-to-face or remotely depending on countries' accessibility. In 2021, 416 individuals were thus trained in crisis management in subsidiaries and at head office.

TotalEnergies also continued to roll out its *Incident Management System* (IMS) at subsidiaries operating hydrocarbon or gas exploration and production sites within the Exploration & Production and Integrated Gas, Renewables & Power segments. The IMS is a harmonized system for the management of emergency situations described by a good practices guide of the International Petroleum Industry Environmental Conservation Association (IPIECA) and increasingly being adopted by the major operators. In 2021, 240 employees were trained in the IMS and 7 Exploration-Production subsidiaries carried out a large-scale application exercise, bringing the total number of trained employees to 581 and the number of subsidiaries where the IMS is deployed to 14.

5.3.2 Preventing occupational accidents

The Company has a **policy for the prevention of occupational accidents** which applies to all employees of subsidiaries and of contractors working on a site operated by one of these subsidiaries. The safety results are monitored with the same attention for all. This policy is described in the One MAESTRO reference framework.

The indicators monitored by TotalEnergies include work-related accidents whether they occur at workplace, during transportation within the framework of long-term contracts, or during an industrial accident. In addition to its aim of zero fatalities in the exercise of its activities, TotalEnergies has set itself the target of continuously reducing the TRIR indicator and, for 2022, of reducing it below 0.70 for all personnel of the Company and its contractors. The 2021 target was 0.75.

Safety indicators	**2021**	**2020**	**2019**
Millions of hours worked – All Personnel	389	389	467
Company Personnel	215	211	243
Contractors' employees[(a)]	174	178	224
Number of occupational fatalities – All Personnel	1	1	4
Company Personnel	1	0	0
Contractors' employees[(a)]	0	1	4
Number of occupational fatalities per hundred million hours worked – All Personnel	0.26	0.26	0.86
TRIR[(b)]: number of recorded injuries per million hours worked – All Personnel	0.73	0.74	0.81
Company Personnel	0.59	0.63	0.74
Contractors' employees[(a)]	0.91	0.87	0.87
LTIR[(c)]: (lost time injury rate) number of lost time injuries per million hours worked – All Personnel	0.48	0.48	0.48
Company Personnel	0.47	0.50	0.52
Contractors' employees[(a)]	0.48	0.46	0.43
SR[(d)]: number of days lost due to accidents at work per million hours worked	15	17	17

(a) As defined in point 5.11.4 of this chapter.

(b) TRIR: Total Recordable Injury Rate.

(c) LTIR: Lost Time Injury Rate.

(d) SR: Severity rate. It replaces the SIR (Serious Injury Rate) indicator previously disclosed.

In 2021, out of the 285 occupational accidents reported, 273 related to accidents at the workplace. 76% of these occurred, in decreasing order of the number accidents, when handling loads or objects, walking, using portable tools or working with powered systems.

The Company's efforts on safety over a period of more than 10 years have allowed it to reduce the TRIR by more than 70% between 2010 and 2021. This improvement is due to constant efforts in the field of safety and, in particular:

- the implementation of the HSE frameworks, which are regularly updated and audited;
- the prevention of specific risks such as handling loads (ergonomics), road transportation, walking;
- training and general awareness raising with safety issues for all levels of management (world safety day, special training for managers);
- HSE communication efforts targeting all Company personnel;
- the introduction of HSE objectives into the compensation policy for Company employees (refer to point 5.6.1.2 of this chapter).

Despite the measures implemented and detailed below, there was regrettably one accidental fatality among the Company's personnel in 2021. It occurred during annual planned maintenance checks on an electrical transformer in Kazakhstan.

As part of the policy for preventing workplace accidents, TotalEnergies has defined rules and guidelines for HSE training, personal protective equipment and high-risk operations for Company employees and contractors working on sites operated by the Company. In order to continually move its practices forward, TotalEnergies also implements a **process for analyzing accidents**, irrespective of their nature, with the method used and the level of detail involved depending on the actual or potential level of severity of the event. By way of example, a near miss with a high severity potential is treated as a severe accident, and its analysis is considered essential factor of progress. Depending on its relevance to other Company entities, it will trigger a safety alert and, depending on the circumstances, the circulation of lessons learned and updating of the reference framework. The reporting of anomalies and near misses (approximately 600,000 in 2021 and stable compared to 2021) is strongly encouraged and is permanently monitored. The involvement of each employee in identifying anomalies and dangerous situations is an indicator of employees' vigilance in accident prevention and reflects the safety culture within the Company.

The Company's HSE division includes a division of specialists in high-risk operations (work at height, lifting, confined spaces, etc.) which consolidates in-house knowledge and relations with contractors, and issues the relevant One MAESTRO rules. The HSE division also includes a division aimed at providing support for subsidiaries in their own voluntary approach to **strengthen their safety culture**. This division also develops and disseminates tools to improve human performance by identifying the Organizational and Human Factors (OHF) of a work situation and defining appropriate measures. In 2020, a digital platform was put in place to host these tools, as well as examples of how to apply them, factsheets and information about the fundamental concepts of OHF. This platform includes the principles covered by two guides of the One MAESTRO standard, dealing respectively with OHF and Integrated Safety Culture approaches. The implementation of these principles is promoted within the Company through dedicated modules integrated into the training programs for different populations, or through specific training programs at the request of subsidiaries.

In addition to its One MAESTRO reference framework, the Company has put in place its *Twelve Golden Rules for Safety at Work*. Widely circulated within the Company, they bring together the fundamental rules which must be scrupulously observed by all personnel, whether employees or the staff of contractors, in all the countries and business segments in which the Company is active. The aim of the Golden Rules is to set out simple, easy-to-remember rules that cover a large number of occupational accidents. The *Stop Card* system in place also enables any employee of the Company or a contractor to intervene if, for example, any of the Golden Rules are not being followed. Starting in 2019, the Company has also rolled out the *Our lives first: zero fatal accidents* program, comprising the introduction of joint safety tours with contractors, the incorporation into the permit to work process of a ritual to be performed prior to undertaking work at the Company's operated sites (*Safety Green Light*), and tools to step up on-site checks and assess compliance with safety rules for eight high-risk activities (working at height, lifting operations, work on process or powered systems, working in confined spaces, hot work, excavation work, manual cleaning using high-pressure jets and Industrial cleaning using mobile pump and vacuum truck).

The correct implementation of the One MAESTRO reference framework, and more generally, of all the Company's occupational safety programs, is verified with site visits and **audits**. Contractors' HSE commitment is also monitored by means of a **contractors qualification** and **selection** process. The reference framework states that for a contractor to be authorized to carry out high-risk work on a site operated by a Company subsidiary, its HSE management system needs to be certified by a recognized third-party body or be inspected for compliance. For contractors with a high number of hours worked, a Safety Contract Owner can be appointed from among the senior executives of Company segments or members of executive committees of Company subsidiaries to initiate high-level dialogue with the contractor's management and increase the level of commitment and visibility on HSE issues.

Whatever the nature of the health, safety and the environment risks, preventive actions require all employees to adhere to the Company's HSE policies. To this end, TotalEnergies provides **training intended for the various groups** (new arrivals, managers, senior executives and directors) in order to establish a broad-based, consistent body of knowledge that is shared by everyone:

- *Safety Pass:* these safety induction courses were started on January 1, 2018 for new arrivals. Various courses exist depending on the position and cover the Company's main HSE risks, the risks linked to the site activities as well as those linked to the workplace. The theoretical content is supplemented by practical life-saving actions training sessions;
- *HSE for Managers* is aimed at current or future operational or functional managers within one of the Company's entities. This training was delivered in virtual classroom mode as well as face-to-face in 8 sessions in 2021, in which about 200 managers took part;
- *Safety Leadership for Executives* is intended for the Company's senior executives. Its objective is to give senior executives the tools allowing them to communicate and develop a safety culture within their organization. Three sessions were held in 2021 to train around 50 Company executives.

In order to ensure and reinforce knowledge of the reference framework, a knowledge evaluation tool containing over 3,000 multiple-choice questions was developed in 2018 for use by the HSE managers of subsidiaries, operated sites and their teams. This tool can also be used to determine a suitable training plan, if necessary. More than 100 evaluations were carried out in 2021.

In addition to training measures, the HSE division hosts regular events on HSE-related topics, with experts and specialists communicating a set of rules and good practices, internal and external, each month. The annual World Day for Safety is another key event. The theme for 2021 was “The Golden Rules everywhere, everyday”. In addition, TotalEnergies encourages and promotes its subsidiaries’ safety initiatives. Each year, a safety contest is organized and a prize is awarded to the best HSE initiative by a subsidiary.

Finally, safety, as a value of TotalEnergies, is taken into account in the **employee compensation policy** (refer to point 5.6.1.2 of this chapter).

In terms of **security**, the Company’s policy aims to ensure that the Company’s people, property and information assets are protected from malicious intent or acts. To achieve this, TotalEnergies relies on its Security department, which develops the Company’s reference framework and oversees the security situation in the countries in which it operates in order to determine general security measures to be adopted (such as authorization to travel). It also provides support to subsidiaries, particularly in the event of a crisis. The Company’s security reference framework applies to all subsidiaries controlled by TotalEnergies. It provides that the security management system for subsidiaries must include the following stages: analysis of the threat, risk assessment, choice of a security posture, implementation of preventive or protective measures, control and reporting and then regular reviews. It must also comply with the requirements of local regulations. The framework requires each subsidiary to develop a security plan, operating procedures and an action plan. Within the framework of developing new activities, the Company’s Security department recommends the organization and resources to be deployed in connection with the business segments.

In each country in which TotalEnergies operates, the Country Chair is responsible for the security of operations in the country. The Country Chair ensures the deployment of measures and resources, with the support of a Country Security Officer and subsidiaries’ CEOs. Subsidiaries’ management systems and security plans are checked on a regular basis by the Company’s Security department or the Country Chair. Awareness raising and training programs and a centralized system for reporting security events are organized by the Company’s Security department.

5.3.3 Preventing transport accidents

In the field of **road transportation**, the Company has for many years adopted a policy intended to reduce the number of accidents by applying standards that are, in some cases, more stringent than certain local regulations. This policy, defined in the One MAESTRO reference framework, applies to all the Company’s personnel and Company entities' contractors. For example, it includes a ban on telephoning while driving, even with a hands-free set, a ban on using motorized two-wheeled vehicles for business travel, mandatory training for drivers, and the definition of strict technical specifications for Company vehicles (in particular, light vehicles must pass NCAP 5* tests). Additional requirements are defined depending on the level of road traffic risks in the country in question and the nature of the activity. Thus, in countries with high road traffic risks, vehicles are equipped with recorders of driving inputs and the conduct of drivers is monitored.

Since 2012, a large-scale inspection program of transportation contractors has also been rolled out by Marketing & Services, the segment with the most road transportation within the Company, with the delivery of products to service stations and consumers. This program has been extended to the product transportation activities of the Polymers division of the Refining & Chemicals segment, to the liquid sulfur transportation activities of the Integrated Gas, Renewables & Power segment, and is being progressively extended to the Exploration & Production segment. It calls on independent transportation experts who inspect the practices and processes adopted by transportation contractors with regard to the recruitment and training of drivers, vehicle inspections and maintenance, route management, and the HSE management system. After inspection, an action plan is adopted. If there is a serious shortcoming or repeated poor results, the transportation contractor may be excluded from the list of approved transportation contractors. Furthermore, there has been a training center since 2015 in Radès in Tunisia. It offers transportation training for employees of subsidiaries and road transportation contractors working for the Company that are interested.

To measure the results of its policy, TotalEnergies has, for many years, been monitoring the number of severe road accidents involving its employees and those of contractors. The 50% reduction in the number of severe accidents between 2016 and 2021 is a testament to the efforts that have been made. In 2021, the number of severe road accidents involving light vehicles decreased significantly relative to 2020, confirming the progress recorded.

Based on the use of new technologies to prevent road accidents, TotalEnergies has made it mandatory for all new heavy vehicles in the Marketing & Services segment to be equipped with certain driver assistance systems[1] wherever these technologies are offered by manufacturers. In Marketing & Services, the decision was also taken to deploy fatigue detection systems in countries with high road risk, after conclusive testing over several months. More than 3,200 transportation vehicles are expected to be equipped by the end of 2022, representing approximately 30% of the entire fleet under long-term contract.

In addition, the second part of the *SafeDriver* video campaign that began in 2019 is expected to continue into 2022, covering for example the topics of blind spots, fatigue and driving in difficult situations, distractions at the wheel and speed and safe distances.

Number of severe road accidents[(a)]	2021	2020	2019
Light vehicles and public transportation[(b)]	1	0	9
Heavy goods vehicles (trucks)[(b)]	20	27	24

(a) Overturned vehicle or other accident resulting in the injury of an occupant (declared accident).

(b) Vehicles under long-term contract (over 6 months) with TotalEnergies.

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[1] Such as AEB (advanced emergency braking), LDW (lane departure warning) and EBS (electronic braking system) for motor vehicles and RSS (roll stability support) for semi-trailers.

In **maritime** and **inland waterways** transportation, the process and criteria for selecting ships and barges are defined by the teams in charge of vetting. These criteria take into account not only the ship or barge but also the crew, ensuring that the crew has all the qualifications and training required under the STCW (Standards of Training, Certification and Watchkeeping for Seafarers) convention. These same teams also verify the application of the safety management system defined for ships by the ISM (International Safety Management) Code of the IMO (International Maritime Organization) as well as industry recommendations such as OCIMF (Oil Companies International Marine Forum) and SIGTTO (Society of International Gas Tanker and Terminal Operators) which take into account the human factor to prevent accidents to people on board ships or barges. In addition, TotalEnergies' chartering contracts require that the crew belong to a recognized trade union affiliated to the ITF (International Transport Workers' Federation). The ITF represents the interests of transportation workers' unions in bodies that make decisions about jobs, conditions of employment or safety in the transportation sector, such as the International Labor Organization (ILO) or the IMO.

With regard to **air transportation**, a carrier selection process exists to limit the risks relating to travel by Company and contractors' employees, if their journey is organized by TotalEnergies. This process is based on data from recognized international organizations: ICAO (International Civil Aviation Organization), IOSA (IATA Operational Safety Audit), IOGP International Association of Oil and Gas Producers), and civil aviation authorities' recommendations. Airlines that do not have a rating from an international body are assessed by an independent body commissioned by the Company.

5.3.4 Preventing occupational health risks

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12 RESPONSIBLE CONSUMPTION AND PRODUCTION

With regard to the prevention of occupational health risks, the One MAESTRO framework provides that subsidiaries of the Company identify and assess risks at the workplace in the short, medium and long term. To do this, the framework provides application guides for implementation. The analysis of these health risks relates to chemical, physical, biological, ergonomic and mental risks. This results in the roll-out of an action plan. An Industrial Health correspondent in subsidiaries is identified and tasked with implementing the policy for identifying and assessing work-related health risks. The actions are integrated into the entities' HSE action plans and can be audited as part of the One MAESTRO audits.

In general, **potential exposure to chemical or hazardous products** at a site operated by a Company entity or nearby is one of the most closely monitored risks in view of the potential consequences. New facility construction projects comply with international technical standards from the design stage in order to limit exposure. For production sites operated by a Company entity and subject to this risk, the One MAESTRO reference framework sets out the prevention process in several stages.

- First, hazardous products such as carcinogenic, mutagenic or toxic to reproduction (CMR) products are listed and their risks identified.
- Second, potential exposure to levels that may present a risk to the health of personnel, contractors or local residents at the site or nearby are identified and assessed, and prevention or mitigation measures are implemented in order to control the risk.
- Last, the approach is checked (atmospheric checks, specific medical monitoring, audits etc.) in order to verify its effectiveness and implement improvement measures if necessary. This is also set out formally in a risk assessment file, which is revised regularly by the subsidiary.

In terms of preventing **mental health risks** (MHR), TotalEnergies has set up a global program that aims to support all employees exposed to such risks, wherever they are in the world. This program, spearheaded by the Company's People & Social Engagement division, the Company medical coordinator and a representative of each of TotalEnergies' business segments, has four priorities:

- a minimum level of awareness and training through the distribution of a MHR prevention kit, which has been translated into 11 languages and validated by international experts. This forms the starting point for all training activities;
- a system for measuring individual levels of stress and assessing collective MHR factors in the working environment to facilitate the production of action plans;
- a system for listening to and supporting all employees, irrespective of their location. Supervised by international experts and available in more than 50 languages, it provides, as far as possible, care and support to employees in their native language and in accordance with their specific cultural environment;
- regular monitoring of the indicators for enhanced control with maximum proximity to employees. The implemented system guarantees anonymity, confidentiality and the security of personal data during the entire period of support.

The framework provides for that Company subsidiaries implement the Company's MHR prevention program or an equivalent local program. At December 31, 2021, 141 MHR referents were actively contributing within their subsidiaries to the implementation of the four priority areas and 65 sites had set up a MHR prevention committee.

In terms of **medical monitoring**, the health referential framework provides that each Company subsidiary offers all employees a medical checkup at least every two years and sets out a formal medical monitoring procedure taking into account the requirements under local law (frequency, type of examination, etc.) and the level of exposure of its personnel to the various risks. Medical monitoring of employees is conducted at a health department, which may be internal (occupational health departments in France, clinics in five countries in Africa) or external. Furthermore, in view of its activities and exposure, TotalEnergies has an international medical department that designs, coordinates and supervises operational medical logistics abroad. It is the decision-making level in terms of medical safety of expatriate and national employees. For foreign subsidiaries, it coordinates the organization of health services, employee aptitude assessments, medical monitoring and support for employees and expatriates' families, and medical evacuations. It also conducts audits of medical facilities in countries where TotalEnergies is present and issues recommendations.

At the corporate level, TotalEnergies also has a Medical Advisory Committee that meets regularly to discuss key health issues relating to the Company's activities. It decides whether there is a need for additional health protection strategies to be implemented. It consists of external scientific experts and the Company's senior executives and stakeholders concerned by these issues. In 2021, a feedback session on the COVID-19 pandemic was conducted in order to learn from it and use it in any possible future crisis.

On a broader level, TotalEnergies also supports the **promotion of individual and collective health programs** in the countries where it operates, including vaccination campaigns and screening programs for certain diseases (COVID-19, AIDS, cancer, malaria, etc.) for employees, their families and local communities. It is also developing social protection schemes (see section 5.6.1.2 of this chapter). Lifestyle risk awareness activities (anti-smoking and anti-alcohol campaigns, etc.) are also implemented on a regular basis.

TotalEnergies has put in place the following indicators to monitor the performance of its program:

Health indicators (WHRS scope)	2021	2020	2019
Percentage of employees with specific occupational risks benefiting from regular medical monitoring	97%	97%	98%
Number of occupational illnesses recorded in the year (in accordance with local regulations)	158	136	128

Musculoskeletal disorders (MSDs), the main cause of occupational illnesses in the Company, represented 55% of all recorded illnesses in 2021, compared to 53% in 2020 and 67% in 2019 for the Global Workforce Analysis scope. The Company provides subsidiaries with a guide to best practices for assessing the risk of MSDs, assists subsidiaries' HSE departments in implementing ergonomic risk management measures and offers employees training in the prevention of musculoskeletal disorders. In addition, the health check-up offered at least every two years allows for the prevention or early detection of musculoskeletal pathologies.

The next most common declared occupational diseases are diseases related to COVID-19[1] (12%), mental health risks (8%) and former exposure to asbestos (6%).

In 2020, TotalEnergies organized itself to cope with the **COVID-19 pandemic**. This health crisis affected all the Company's entities. It continues to be distinguished from other crises by its duration and its scale.

A coordination unit was set up at the Company's head office in January and a Company crisis management unit (CMU) was created in March. Since then, while ensuring the continuity of the activity, the CMU has been in charge of:

- advising the Company's Executive Committee;
- ensuring coordination among all Company entities and sharing best practices;
- defining, in accordance with the rules of each country, conditions for effective protection of all employees' health;
- continuing the procurement and distribution of consumable products, as well as the constitution of safety stocks of protective equipment;
- adapting the travel policy;
- running internal communications and preparing information for employee representatives;
- carrying out periodic reporting.
- ensuring that the Company's subsidiaries deploy, depending on the local context and the legislation in force, an in-company vaccination program for the Company's employees and those of external companies permanently present on the sites operated by the Company. In total, this system has been deployed in 48 countries.

The Company's CMU is still active and regularly makes the necessary adjustments and adaptations in response to developments in the pandemic and changes in the various countries' regulations.

5.3.5 Limiting risks for the health and safety of consumers

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12 RESPONSIBLE CONSUMPTION AND PRODUCTION

Unless certain precautions are taken, some of the petroleum or chemical products marketed by TotalEnergies pose potential consumer health and safety risks. Respecting regulatory requirements is the main measure to limit risk throughout the life cycle of these products.

TotalEnergies has also defined the minimum requirements to be observed in order to market its petroleum or chemical products worldwide with the goal of reducing potential risks to consumer health and the environment. These include the identification and assessment of the risks inherent to these products and their use, as well as providing information to consumers. The material safety datasheets that accompany the petroleum and chemical products marketed by the Company (available in at least one of the languages used in the relevant country), as well as product labels, are two key sources of information.

The implementation of these requirements is monitored by teams of regulatory experts, toxicologists and ecotoxicologists within the Refining & Chemicals and Marketing & Services segments of the Company. The task of these teams is to ensure the preparation of safety documentation for the marketed petroleum and chemical products so that they correspond to the applications for which they are intended and to the applicable regulations. They therefore draw up the material safety datasheets and compliance certificates (contact with food, toys, pharmaceutical packaging, etc.) and ensure REACH[2] registration if necessary. They also monitor scientific and regulatory developments and verify the rapid implementation of new datasheets and updates within Company entities.

Governance of the process is rounded off within the Company's business units or subsidiaries of the Refining & Chemicals and Marketing & Services segments with the designation of a product manager who ensures compliance during the market release of his or her entity's petroleum and chemical products. The networks of product managers are coordinated by the Company's specialist teams either directly or via an intermediate regional level in the case of the Marketing & Services segment.

The safety datasheets for oil and gas produced by subsidiaries of the Exploration & Production segment are produced by the Marketing & Services expertise center. The compliance of the go-to-market process of these products is ensured by the subsidiary.

For the Integrated Gas, Renewables & Power segment, the implementation of the Company's requirements for the marketing of chemical or petroleum products is carried out by each subsidiary concerned according to its own organization.

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(1) Diseases related to COVID-19 were not recognized as occupational diseases in some countries, such as in France.

(2) European Parliament regulation Registration, Evaluation, Authorization and restriction of CHemicals (REACH).

5.4 Climate change-related challenges (as per TCFD recommendations)

TotalEnergies supports the objectives of the Paris Agreement, which calls for reducing greenhouse gas (GHG) emissions in the context of sustainable development and eradicating poverty, and which aims to hold the increase in the planet's average temperature to well below 2 °C above pre-industrial levels. To achieve these targets, the world's energy systems need to be transformed. This dual challenge consisting of providing more energy to as many people as possible with less GHG emissions concerns society as a whole, with governments, investors, companies and consumers all playing an important role.

At the heart of the climate stakes, TotalEnergies' aim is to provide energy that is more available, more affordable, cleaner and accessible to as many people as possible. In this context, the Company's ambition is to reach carbon neutrality (net zero emissions) by 2050 together with society.

5.4.1 Governance

TCFD correspondence table(1)

THEME	Recommended TCFD disclosures
Governance	
Disclose the organization's governance around climate-related risks and opportunities.	a) Describe the board's overseeing of climate-related risks and opportunities. b) Describe management's role in assessing and managing climate-related risks and opportunities.

In order to contribute concrete responses to the issue of climate change, TotalEnergies relies on a structured organization and governance.

Climate issues are addressed at the highest level of the organization by the Board of Directors and the Executive Committee, which have fully committed to transforming TotalEnergies into a multi-energy company and a major player in the energy transition.

At the Annual General Meeting on May 28, 2021, for the first time, the Board of Directors decided to submit to the shareholders of TotalEnergies SE for their opinion the Corporation's ambition in terms of sustainable development and energy transition towards carbon neutrality and its objectives in this area by 2030. This resolution was approved by more than 90% of the votes cast.

In support of the Company's governance bodies, the Sustainability and Climate division shapes the approach to climate and accompanies the strategic and operational divisions of the Company's business segments. By defining and monitoring indicators, progress can be measured and the Company's actions can be adjusted (details of the indicators used are provided in point 5.6.4 of this chapter).

OVERSIGHT BY THE BOARD OF DIRECTORS

TotalEnergies's Board of Directors endeavors to promote value creation by the business in the long term by taking into consideration the social and environmental challenges of its business activities. It determines the Company's strategic orientation and regularly reviews, in connection with this strategic orientation, the opportunities and risks such as financial, legal, operating, social and environmental risks, and the measures taken as a result. It thus ensures that climate-related issues are incorporated into the Company's strategy and the investment projects that are submitted to it. It examines climate change risks and opportunities during the annual strategic outlook review of the Company's business segments. It reviews performance each year.

The skills of the directors in the area of climate are presented in section 4.1.1.5 of chapter 4. A continuing training program relating to the climate for directors has been approved in 2021 and will be rolled out in 2022. It will include the Climate Fresco (a scientific, collaborative and creative workshop designed to raise awareness of climate change and in particular its causes and consequences), as well as various modules on the following themes: Energy, Climate Change and Environmental Risks; Energy and Climate; Climate Change and Financial Risks and Opportunities; Causes and issues of global warming.

To carry out its work, the Board of Directors relies on its Strategy & CSR Committee, whose internal rules were amended first in September 2017, and again in July 2018 in order to broaden its missions in the realm of CSR and in questions relating to the inclusion of climate-related issues in the Company's strategy. In this regard, the Strategy & CSR Committee met on October 26 and October 27, 2021, to review current climate issues and their consequences for the Corporation's strategy. On this occasion, the Board of Directors engaged in a dialogue with Mr. Fatih Birol, Executive Director of the International Energy Agency.

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(1) Task Force on Climate-related Financial Disclosures.

The Board of Directors has also been integrating climate issues into its compensation structures for several years. In 2021, the Board of Directors decided to change the criteria for determining the variable portion of the Chairman and Chief Executive Officer's compensation by introducing two new criteria to assess his personal contribution, weighing 25% of this variable portion, namely steering the strategy of transformation towards carbon neutrality and profitable growth in renewables and electricity. CSR performance is also a qualitative criterion for evaluating personal contribution. CSR performance is assessed by considering the extent to which climate issues are included in the Company's strategy, the Company's reputation in the field of CSR and the policy concerning all aspects of diversity. These criteria complement the quantitative HSE criteria and those introduced in 2019 relating to changes in GHG emissions (Scope 1+2).

The variable compensation of the Company's senior executives (approximately 300 people at the end of 2021) includes a criterion linked to the achievement of the GHG emissions reduction target (Scope 1+2).

Since 2020, the criteria for awarding performance shares to the Chairman and Chief Executive Officer and to all the Company's employees also include this objective. At its meeting on March 17, 2021, the Board of Directors decided to introduce a new criterion for granting performance shares linked to changes in indirect GHG emissions from customers' use of energy products (Scope 3)(1) in Europe (see point 4.3.2 in chapter 4).

ROLE OF MANAGEMENT

TotalEnergies' Chairman and Chief Executive Officer, assisted by the Executive Committee, in accordance with the long-term strategic direction set by the Board of Directors, implements the strategy of the Company while making sure climate change challenges are taken into account and detailed in the operational road maps. The work is based in particular on risk mapping, which includes climate issues.

A Sustainability & Climate division, which reports to the President, Strategy & Sustainability, a member of the Executive Committee, coordinates the Company's actions in this area.

The Climate-Energy Steering Committee, chaired by the Vice President Climate which mainly includes representatives of Strategy and HSE management from the various business segments, is responsible for structuring the Company's approach to climate issues, and in particular for:

- proposing targets for reducing GHG emissions for the Company's operations;
- proposing a strategy to reduce the carbon intensity of the energy products used by the Company's customers;
- monitoring existing or emerging CO_2 markets; and
- driving new technology initiatives, in particular with industrial partners, to reduce GHG emissions (energy efficiency, CO_2 capture and storage, for example).

5.4.2 Strategy

TCFD correspondence table

THEME	Recommended TCFD disclosures
Strategy	
Disclose the actual and potential impacts of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning where such information is material.	a) Describe the climate-related risks and opportunities that the organization has identified over the short, medium, and long terms. b) Describe the impact of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning. c) Describe the resilience of the organization's strategy, taking into consideration different climate-related scenarios, including a scenario of 2 °C or less.

IDENTIFICATION OF CLIMATE-RELATED RISKS AND OPPORTUNITIES

The risks and opportunities related to climate change are analyzed according to different timescales: short term (two years), medium term (until 2030) and long term (beyond 2030).

The identification and the impact of climate-related risks form an integral part of TotalEnergies's global risk management processes. In particular, they cover the risks related to transition including those due to regulatory changes, such as the introduction of carbon taxes, as well as the physical risks due to the effects of climate change. The impact of these risks is analyzed for the Company's assets and for investment projects (refer to point 3.1.1 of chapter 3).

To achieve carbon neutrality, the energy mix will need to change and in view of this, climate change also provides TotalEnergies with opportunities. In the coming decades, demand for electricity will grow faster than the global demand for energy(2), and the contribution of renewables and gas to the production of electricity will therefore play an essential role in the fight against climate change. Electricity alone will not be sufficient to meet all needs, particularly those connected to transportation.

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(1) GHG Protocol - Category 11.

(2) IEA, World Energy Outlook 2021.

Gas and sustainable biofuels[1] will be attractive and credible alternatives to conventional fuels and the Company intends to develop them. The development of gas production is accompanied by measures to control methane and CO_2 emissions (Scope 1+2). This development could be accompanied by an increasing share of biogas. The development of hydrogen could also contribute to meeting energy demand.

Helping customers improve their energy efficiency also offers opportunities and forms part of a trend that will be accelerated by digital technology. TotalEnergies wants to be innovative and bring them new product and service offerings. The Company aims to develop this approach for industrial and mobility applications.

In addition, ecosystems, and forests in particular, store carbon naturally. Consequently, their conservation and the restoration of their role as carbon sinks are crucially important in the fight against global warming. TotalEnergies therefore wants to develop its activities related to natural carbon sinks.

Finally, certain sectors, such as cement and steel, could struggle to reduce their GHG emissions. They will therefore require carbon capture, utilization and storage (CCUS) technology. Consequently, the Company intends to step up the development of CCUS.

IMPACT OF CLIMATE-RELATED RISKS AND OPPORTUNITIES

OUR STRATEGY: AN INTEGRATED MULTI-ENERGY COMPANY

A vision of a Net Zero TotalEnergies in 2050, Together with Society

The work carried out over the last year has produced a clearer picture of what a Net Zero TotalEnergies in 2050, together with society, and energy transition leader would look like, inspired in particular by the International Energy Agency's Net Zero vision. Reinventing a net zero energy system means producing decarbonized electrons and molecules and developing carbon sinks to absorb the CO_2 from residual hydrocarbons (for producing chemicals, for example). This observation supplements the ambition presented to shareholders in May 2021.

In 2050:

- Around half of the energy produced by TotalEnergies would be renewable electricity with corresponding storage capacity, or around 500 TWh/year. This would require developing around 400 GW of renewable capacity.
- Decarbonized molecules would account for around 25% of the energy produced by TotalEnergies, equivalent to 50 Mt/year, in the form of biogas, hydrogen, or synthetic liquid fuels from the following circular reaction: $H_2 + CO_2 \rightarrow$ "e-fuels".
- TotalEnergies would produce around 1 Mb/day of hydrocarbons (or close to four times less than in 2030, in line with the reduction outlined in the IEA's Net Zero vision) made up primarily of liquefied natural gas (around 0.7 Mb/d, i.e., 25 to 30 Mt/y). Very low-cost oil would account for the rest. This oil would be used, in particular, by the petrochemicals industry to produce around 10 Mt/year of polymers, of which two-thirds from the circular economy.
- These hydrocarbons would represent around 10 Mt/year of residual Scope 1 emissions, including methane emissions close to zero (below 0.1 $MtCO_2e$/year),which would be fully offset by nature-based carbon sink solutions.
- These hydrocarbons would represent Scope 3 emissions of around 100 Mt/year. To get to net zero together with society, TotalEnergies would help "eliminate" the equivalent of 100 Mt of CO_2 a year produced by its customers by developing:
  - A carbon storage service for customers that would store 50 to 100 Mt/year of CO_2.
  - An industrial "e-fuels" activity that would avoid 25 to 50 Mt/year of CO_2 for the Company's customers through production with 100% green hydrogen while making up for the intermittence of renewable energies to replace fossil fuels.

The Company will spend the next ten years building the projects and skills needed to make TotalEnergies a net zero energy company by 2050, together with society.

Our multi-energy offering: Ambition for 2030 and progress in 2021

To achieve carbon neutrality, the global energy mix will have to change considerably. Today, fossil energies still account for more than 80% of the mix[2]. The markets for low carbon electricity and gas (natural gas, biogas and hydrogen) will need to expand, while coal will have to be eliminated and demand for oil will need to stabilize and then decline.

TotalEnergies is already carving out a position in this energy offering of the future and diversifying its energy mix by reducing the share of petroleum products and increasing natural gas, as transition fuel, and renewable electricity.

The energy mix of the Company's sales will shift significantly as well, and could stand at 50% gas, 30% petroleum products, 15% majority-renewable electricity and 5% biomass and hydrogen by 2030.

This movement to lower-carbon products will allow the Company to reduce the lifecycle carbon intensity of energy products sold by at least 20% by 2030.

Our production

TotalEnergies aims at an oil production peak this decade and then decreasing to around 1.4 Mb/d in 2030. It aims to increase gas production by around 50% between 2015 and 2030 (from 1.3 Mboe/d to 2 Mboe/d) and raise electricity generation to 120 TWh in 2030 from 1.7 TWh in 2015.

In 2021, the Company's energy production increased by nearly a quarter in relation to 2015.

Our sales

The Company is reducing its sales of petroleum products to align with production by 2030, or around 1.4 Mb/d. Sales of gas and electricity will rise sharply, doubling for gas and by a factor of 20 for electricity over the 2015-2030 period.

The lifecycle carbon intensity of our products

In 2021, TotalEnergies continued to reshape its mix thanks to increased sales of LNG (up 10% at 42 Mt in 2021 vs. 2020) and electricity (up 20% at 57 TWh in 2021 vs. 2020) and a 10% decrease in petroleum product sales. The lifecycle carbon intensity of products sold continued to improve with a 2% decline (excluding the impact of COVID-19).

Levers to decarbonize the energy mix of the Company are the following.

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(1) According to the sustainability and GHG gas reduction criteria defined in Article 29 of Directive (EU) 2018/2001 of 11 December 2018 on the promotion of the use of energy from renewable sources.

(2) Source: IEA Key World Energy Statistics 2021.

Growth in electricity will account for nearly two-thirds of the decrease in carbon intensity between 2015 and 2030. The second lever involves reducing sales of petroleum products and increasing production of gas (especially LNG) and sales of products based on biomass.

Lastly, carbon sinks and lower emissions from the Company's facilities will each contribute around 5% of the decrease in carbon intensity.

Electricity – Becoming a world leader in renewable electricity by integrating the value chain from production to sales

TotalEnergies wants to become one of the top five worldwide producers of renewable electricity (solar and wind). In five years, the Company has invested more than $10 billion, primarily in photovoltaic electricity and offshore wind, for an average of $2 billion per year. In 2021, TotalEnergies lifted its investments in electricity and renewables to more than $3 billion, or 25% of its net investments.It intends to finance investments of more than $60 billion in renewable power generation capacity by 2030. The Company makes profitable investments, meaning projects with a return of more than 10%(1). The mix combines regulated markets with deregulated markets integrated across the entire electricity value chain. As a result, the Renewables & Electricity business's EBITDA(2) exceeded $1 billion in 2021.

In the past four years, the Company's gross installed capacity for renewable power grew from 0.7 GW in 2017 to more than 10 GW in 2021. The objective is to have **35 GW of gross capacity in 2025** and 100 GW in 2030. The 2025 figure is based on **projects that have been identified or are in development.** The Company's goal is to increase electricity production from 21 TWh in 2021 to 120 TWh in 2030.

TotalEnergies' broad international footprint gives it a competitive advantage for identifying and developing profitable renewables projects. For that reason, TotalEnergies created a "Renewable Explorers" network in 2021 in some 60 host countries.

Since 2015, TotalEnergies has been building a portfolio of flexible power generation using combined-cycle gas turbine (CCGT) plants, with a capacity of 4 GW at end-2021. These plants complement the development of renewables by supporting the grid during periods of peak demand or when there is not enough sunshine or wind. Ultimately, the CCGT units are targeted for decarbonization, either by changing from gas to biomethane or hydrogen or by sequestering their emissions through carbon capture and storage (CCS).

Further accelerating our positions in photovoltaic solar energy in 2021

TotalEnergies' solar portfolio expanded rapidly in 2020 and again in 2021, notably in India and the United States. This growth will continue, as solar energy accounts for three-quarters of the 35 GW the Company wants to develop by 2025.

Continued scaling up in offshore wind in 2021

Offshore wind offers high utilization rates with significant development potential and better acceptability than onshore wind, notably in Europe. TotalEnergies sees strong growth potential in offshore wind energy, especially since it can leverage its teams' expertise in managing and operating offshore megaprojects.

The offshore wind projects portfolio's total capacity exceeds **10 GW, of which two-thirds fixed-bottom and one-third floating.**

Launch in 2021 of several stationary electricity storage projects to support renewables

Electricity storage solutions are necessary to offset the intermittence of solar and wind projects, make the most of daily volatility in the electricity markets and ensure grid stability. In this segment, TotalEnergies benefits from the technological expertise of Saft, which also aims to make the most of this fast-growing market.

Natural Gas, Transition Fuel

For TotalEnergies, natural gas is a key transition energy. It plays a major role in power generation thanks to its flexibility and capacity for responding to the strong growth in demand fueled by the electrification of uses. Natural gas releases half the greenhouse gas emissions of coal in power generation and, when used as a substitute, makes it possible to achieve substantial reductions as is already in the case in the United States and United Kingdom. Obviously, for gas to play this role, all the participants in the value chain – businesses and States – must pull together to fight methane emissions, as was underlined at the COP26 meeting in Glasgow with the commitment from 105 States to reduce methane emissions by 30% by 2030. TotalEnergies has committed to reducing methane emissions by 80% by 2030(3).

Main strengths of gas

- Widely available resources, well redistributed worldwide thanks to LNG.
- A simple and immediate solution for decarbonizing electricity and industry, especially in high energy consuming sectors like steel and cement manufacturing.
- An ideal partner for renewables, which are intermittent and seasonable by nature.
- A core component of numerous coal-consuming countries' roadmaps for getting to net zero.
- A source for massively developing blue hydrogen with carbon capture and storage (CCS) technologies.

TotalEnergies' strategy

- Increase the share of natural gas in the sales mix to 50% by 2030.
- Strengthen the Company's position among the Top 3 in LNG.
- Cover the entire gas value chain, from production and trading to gas-fired power plants and retailing.
- Reduce the gas value chain's emissions and eliminate methane emissions.
- Work with local partners to promote the shift from coal to natural gas.

Ranking among the top three worldwide in low carbon LNG by 2030

Once liquefied, natural gas can be transported and delivered to places of use. Global demand for liquefied natural gas (LNG) has seen strong growth, rising by 9% a year between 2015 and 2021. With 42 Mt sold in 2021, TotalEnergies is the world's second largest non-state-owned LNG company. It aims to sell 50 Mt per year by 2025, i.e. to maintain a stable global market share of 10%. In 2021, 99% of the Company's LNG sales went to countries that have committed to carbon neutrality.

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(1) Return on equity, including partial divestments.

(2) Adjusted EBITDA (Earnings Before Interest, Tax, Depreciation and Amortization) corresponds to the adjusted earnings before depreciation, depletion and impairment of tangible and intangible assets and mineral interests, income tax expense and cost of net debt, i.e., all operating income and contribution of equity affiliates to net income.

(3) See "Eliminating our Methane emissions" later in this chapter.

Reducing our LNG value chain's emissions intensity

This growth requires an exemplary strategy for greenhouse gas emissions. In reducing emissions across the LNG chain, the priority is on methane**.** The Company is also working on improving liquefaction plant performance, notably in the United States, in Qatar and in Russia, with energy efficiency projects, electrification using renewable solar and wind energy, and native carbon capture and storage. Lastly, TotalEnergies is renewing its fleet of LNG carriers with new vessels that emit on average 40% less CO_2 than older ships.

Petroleum products: adapting to demand

Demand for petroleum products is expected to stagnate and then decline between now and 2030 thanks to technological progress and evolving uses. By 2050, demand will have dropped significantly. Petroleum products will have to meet increasingly stringent requirements on limiting the emissions related to their extraction and use.

TotalEnergies is reducing the share of petroleum products in its sales mix, from 65% in 2015 to 44% in 2021, with a targeted 30% in 2030. The objective is for the Company's petroleum product sales not to exceed its oil production, which itself will peak during the decade before declining, or around 1. Mb/d in 2030.

Investments remain necessary to satisfy demand, given the natural decline in field output. The Company gives priority to oil projects with low technical costs (typically below $20/b) and a low breakeven point (typically below $30/b). All new projects are assessed for their contribution to the average carbon intensity of their category in the Upstream portfolio. All approved projects must help reduce this intensity. New hydrocarbon developments are limited to the least emitting fields. In 2021, for example, TotalEnergies decided to exit Venezuela, considering that production of the Orinoco Belt's heavy oils did not meet its greenhouse gas emissions objectives.

The Tilenga and EACOP projects in Uganda were approved with a low technical cost of $11 per barrel and CO_2 emissions significantly below those of the current portfolio (13 kg CO_2 per barrel vs. 18 kg CO_2 per barrel).

Late 2021, the Company broadened its presence in Brazil's offshore Atapu and Sépia fields, which represent low-cost, low-emissions reserves.

In addition, TotalEnergies respects exclusion zones and good environmental practices. TotalEnergies will not explore for oil in the Arctic Sea ice and will not approve any capacity increases in Canada's oil sands.

In September 2021, TotalEnergies signed major multi-energy agreements in Iraq covering the construction of a new gas network and treatment units, the construction of a large-scale seawater treatment unit and the construction of a 1 GW photovoltaic power plant.

Promoting circular management of resources

TotalEnergies joined the Platform for Accelerating the Circular Economy (PACE) in 2022. This initiative launched by the World Economic Forum and now hosted by the World Resources Institute aims to speed the transition to a more circular economy. The Company pledges to double the circularity of its businesses within the next ten years. It contributes to the circular economy at different points in the value chain: through purchasing, sales and production, as well as through the management of its own waste.

Biofuels

Over their lifecycle, biofuels emit over 50% less CO_2e than their fossil equivalents (in accordance with European standards), making them a key element in the decarbonization of liquid fuels. TotalEnergies currently has a biofuel production capacity of 500 kt per year, primarily at the La Mède refinery in France. Its goal is to increase that to **2 Mt by 2025 and 5 Mt by 2030, sustainably produced.**

Today, more than 90% of the biofuels in the market are first generation, meaning they are made from virgin vegetable oils or sugar. TotalEnergies is investing in advanced biofuels projects based on animal fat or used oils, thereby limiting the competition for and impact on arable land. These advanced biofuels will add to the range of first-generation biofuels. Looking further out, the Company is investing in R&D into so-called second- and third-generation biofuels based on micro-algae, but they still raise numerous technological challenges.

TotalEnergies has converted its La Mède refinery in France into a world-class biorefinery to meet its ambition of being a biofuel market leader. The facility produces hydrotreated vegetable oil (HVO - a precursor for renewable diesel and sustainable aviation fuel), bionaphtha (a precursor for renewable polymers) and bioLPG (renewable liquefied gas) for use in mobility or heating.

The agricultural feedstock used to make these products complies with sustainability and traceability requirements concerning carbon footprint, non-deforestation and land use. The Company has made a commitment to stop sourcing palm oil in 2023 and aims to increase the share of used cooking oil and animal fat in feedstock to 50% by 2025. TotalEnergies' future Grandpuits zero-crude complex will also produce biofuel.

Biogas

Biogas, produced from the anaerobic digestion of organic waste, is a renewable gas comprised primarily of methane. Compatible with existing transportation and storage infrastructure, it has a key role to play in decarbonizing gas products and reducing greenhouse gas emissions through the development of a circular economy. **The Company aims to produce 2 TWh per year of biomethane starting in 2025 and more than 5 TWh per year by 2030 worldwide.**

In early 2021, TotalEnergies became a major player in biogas in France by acquiring Fonroche Biogaz, with 500 GWh/year of installed capacity. In late 2021, TotalEnergies and Clean Energy Fuel Corp.(1) broke ground for their first biomethane production unit in Friona, Texas. The output will be used as an alternative fuel for mobility, thereby helping to decarbonize road transportation. The facility will use livestock manure to produce more than 40 GWh per year of biomethane; as a result, 45 kt of CO_2e emissions will be avoided each year.

In early 2022, TotalEnergies and Veolia joined forces to produce biomethane from Veolia waste and water treatment facilities operating in more than 15 countries, with the goal of producing up to 1,5 TWh of biomethane a year by 2025.

Hydrogen

Hydrogen is an energy carrier between primary energy source and final application that does not generate any CO_2 during its lifecycle if it was produced in a decarbonized process. Growing generation of decarbonized electricity is creating opportunities to produce **green hydrogen** via electrolysis of water using decarbonized electricity. In addition, the development of carbon storage is paving the way for the development of **blue hydrogen using natural gas.**

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(1) TotalEnergies holds a capital share of 19.09% of Clean Energy Fuels Corp., U.S. Company listed on NASDAQ (as of 31 December 2021).

The European Union's objectives of installing more than 40 GW of electrolyzers powered by renewable electricity to produce up to 10 Mt of renewable hydrogen a year by 2030[1] help accelerate decarbonized hydrogen projects, particularly for industries where decarbonization and/or electrification are difficult. TotalEnergies is working with its suppliers and partners to decarbonize all of the hydrogen used in its European refineries by 2030. This represents a reduction in CO_2 emissions of 3 Mt per year. Further out, the Company aims to pioneer mass production of clean and low carbon hydrogen to serve demand for hydrogen fuel as soon as the market takes off**.**

TotalEnergies, working with Engie, is developing the Masshylia green hydrogen project at the La Mède biorefinery. The project will be powered by solar and wind farms with an overall capacity of close to 300 MW. Its 125 MW electrolyzer will produce more than 10 kt/y of green hydrogen to meet the needs of the biorefinery and help reduce its emissions by 140 kt of CO_2 a year.

At the Zeeland refinery, the Company plans to capture carbon from the steam methane reforming unit (SMR) that produces hydrogen from natural gas. It is also developing a 150 MW electrolyzer intended to be linked to an offshore wind field. In all the Company has six projects in progress in Europe.

Synthetic or e-fuels

The production of synthetic fuels from renewable hydrogen and captured CO_2 is a promising avenue for decarbonizing transportation. The pace at which these e-fuels scale up will depend on the development of green hydrogen. Besides being low carbon themselves, they offer the advantage of recycling CO_2. E-fuels are one of the solutions for getting to net zero via carbon capture and utilization technologies.

TotalEnergies is staking out a position in this market, notably to help decarbonize the aviation industry with sustainable aviation fuel. In early 2022, TotalEnergies joined a Masdar and Siemens initiative in the United Arab Emirates to build a pilot unit for producing green hydrogen that will be used to convert CO_2 into sustainable aviation fuel.

Bioplastics and recycled plastics

The circular economy for plastics is based on three axes:

- Axis 1. **Mechanical recycling,** which is the most mature technology in the market. Mechanical recycling processes materials from selective sorting and collection centers and is suited to the needs of industries such as automobile manufacturing and construction. The Company's Synova subsidiary, with a production capacity of 45 kt at end-2021, is involved in this part of the value chain. It aims to produce 100 kt as from 2025.
- Axis 2. **Advanced recycling,** which can process waste that cannot be recycled mechanically and serve other markets, such as food-grade plastics. The Company currently produces polymers from advanced recycling at the Antwerp complex using TACoil produced by partner Plastic Energy, with which it has joined forces to build a production unit at Grandpuits. TotalEnergies is also partnering with Honeywell to promote advanced recycling of plastics in Europe and the United States.
- Axis 3. **Bioplastics.** The Company provides customers with biopolymers made from biofeedstocks based on vegetable oils or used cooking oils processed at the La Mède biorefinery (and Grandpuits tomorrow), as well as polylactic acid (PLA), a fully recyclable and compostable bioplastic based on starch or sugar produced by its joint venture with Corbion at the PLA plant in Rayong, Thailand and future unit at Grandpuits in France.

In 2021, the Company produced 60 kt of recycled and bioplastic. It aims to produce **30% recycled or biopolymers by 2030, or one million tons.**

OUR CLIMATE AMBITION: NET ZERO EMISSIONS BY 2050, TOGETHER WITH SOCIETY

The world's energy mix needs to change if the objectives of the Paris Agreement are to be achieved. As a broad energy company, therefore, TotalEnergies has factored this development into its strategy and set itself the ambition of achieving carbon neutrality (net zero emissions) by 2050, together with society.

TotalEnergies promotes a policy of reducing GHG emissions based on the following principles in order of priority:

- avoid emissions;
- reduce them by using the best available technologies;
- offset the residual emissions thus minimized.

TotalEnergies sets the intermediate targets by 2030:

At the global level

1. Achieve **by 2050 or earlier** carbon neutrality (zero net emissions) for TotalEnergies' operated activities **(Scope 1+2)** with intermediate targets of:
   - reducing GHG emissions (Scope 1+2) of its operated facilities from 46 Mt CO_2e in 2015 to less than 40 Mt CO_2e by **2025** ;
   - reducing net emissions[2] of GHG (Scope 1+2) for its operated activities by at least 40% by **2030** compared to 2015, thus bringing net emissions to between 25 Mt and 30 Mt CO_2e.

These objectives for operated emissions include emissions related to the growth strategy in electricity deployed since 2015, which led to the development of a flexible power generation portfolio based on CCGT plants. These CCGT emissions, virtually nil in 2015, stood at 4 million tons in 2021 and could amount to more than 6 million tons in 2025.

2. Achieve **by 2050 or earlier** carbon neutrality (net zero emissions) for indirect GHG emissions related to its customers' use of energy products **(Scope 3)**, together with society. This axis requires TotalEnergies to work actively with its customers, since this means they will reduce their direct emissions (Scope 1+2) that correspond to TotalEnergies' indirect Scope 3 emissions.

The Company's intermediate targets for **2030** are to reduce:

- Scope 3 GHG emissions related to its customers' use of energy products to less than 400 Mt CO_2e, which is a level lower than in 2015, despite the growth of its energy production in the coming decade;
- Scope 3 GHG emissions from the petroleum products sold worldwide by more than 30% compared to 2015.
- the average carbon intensity of energy products used by customers by more than 20% compared to 2015. By 2025, the target reduction is at least 10%.

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(1) Source: *A hydrogen strategy for a climate-neutral Europe*, European Commission, 2020

(2) The calculation of net emissions takes into account negative emissions from natural sinks like forests, regenerative agriculture and wetlands.

In Europe[1]

3. Achieving carbon neutrality (zero net emissions) of energy products throughout the value chain (from production to use by customers) **by 2050 or earlier (Scope 1+2+3)**, together with society. Given that, for the Company, Europe currently accounts for about half of GHG emissions related to the use by its customers of energy products (Scope 3) and that Europe has set ambitious targets for 2030 towards carbon neutrality, TotalEnergies wants to actively contribute to this ambition.

The Company has set itself the following intermediate objectives for **2030:**

- reducing GHG emissions from energy products throughout the value chain (from production to use by its customers) (Scope 1+2+3) by at least 30% relative to 2015 ;
- reducing Scope 3 GHG emissions relating to customers' use of the energy products in Europe by at least 30% in absolute terms, relative to 2015, which represents a major step toward carbon neutrality by 2050.

Our levers to achieve our ambition of net zero emissions

To get to net zero by 2050, together with society, TotalEnergies is transforming into a multi-energy company and deploying specific action plans to reduce its emissions and achieve its short- and medium-term objectives.

The Company is taking action to:

- Reduce emissions from its operated industrial facilities (Scope 1+2) by more than 40% by 2030 and disclose the progress made at its operated and non-operated facilities.
- Reduce the indirect emissions related to its products (Scope 3), together with society – i.e., its customers, its suppliers, its partners and public authorities – by helping to transform its customers' energy demand.

1) Reducing Our Scope 1+2 emissions, using the best available technologies

Our objectives

TotalEnergies' primary responsibility as an industrial operator is to reduce the emissions resulting from its operations.

In early 2019, TotalEnergies announced its aim to reduce emissions from its operated facilities to less than 40 million tons by 2025 and set itself the target of cutting Scope 1+2 net emissions (including carbon sinks) for its operated activities by at least 40% in 2030 relative to 2015.

These objectives for operated emissions include emissions related to the growth strategy in electricity deployed since 2015, which led to the development of a flexible power generation portfolio based on CCGT plants. These CCGT emissions, virtually nil in 2015, stood at 4 million tons in 2021 and could amount to more than 6 million tons in 2025.

The main driver for achieving these objectives is to develop emissions-reduction projects at the Company's industrial sites using best available technologies. This means improving energy efficiency, reducing flaring and methane emissions, supplying sites with renewable electricity and deploying carbon capture and storage for residual emissions. To achieve the net emissions objective, nature-based projects (NBS - Nature Based Solutions) will help offset a limited share (5 to 10 Mt CO_2e per annum) of emissions by 2030.

Since late 2018, a dedicated team for reducing greenhouse gas emissions, known as the CO_2 Fighters, has been tracking GHG emissions across the Company. It's tasked with encouraging a low-carbon mindset within the Company, initiating energy efficiency projects, accelerating the electrification process at facilities and helping to introduce greener forms of energy consumption.

The team has overseen more than 400 emissions reduction projects, most of which have cost less than $10 per ton of CO_2. By 2025, 160 upstream projects and more than 200 downstream projects will yield reductions in Scope 1+2 emissions of 2.5 million and 4.5 million tons of CO_2 respectively.

A reduction target for 2030 in step with the 2030 objectives of Net Zero 2050 countries

TotalEnergies set its target of a **40% reduction in net emissions** (Scope 1+2) from its operated facilities between 2015 and 2030 with an eye to the European Union's objectives for 2030 and the objectives of countries with a net zero by 2050 pledge as part of the Paris Agreement.

To qualify the level of this ambition, the Company called on two independent third parties known for their expertise in energy and decarbonization to analyze the greenhouse gas emissions reduction objectives for 2030 of countries committed to net zero by 2050 as of COP26 in Glasgow: **Carbone 4**, a consultancy specialized in low-carbon strategy in France and the **Center on Global Energy Policy** at Columbia University in the United States.

These objectives, taken from each country's nationally determined contributions (NDCs), cover direct emissions on their territory, comparable to Scope 1 for businesses.

Carbone 4 makes a distinction between two scopes:

- Countries that explicitly mention their net zero by 2050 ambition in their NDC, having set a 2030 target consistent with that ambition.
- All countries that have publicly announced their net zero by 2050 ambition, notably at COP26, including those that have not updated their NDC since then.

The more restricted scope includes the 35 most ambitious countries[2], which have committed to reducing the net emissions[3] by **39 to 40%** between 2015 and 2030. The broader scope includes 43 countries[4] committed to a **28 to 31%** reduction over the same period.

In its study[5], Columbia University's Center on Global Energy Policy puts the reduction commitment for all countries with a net zero by 2050 pledge at **27% between 2015 and 2030**.

The European Union's "Fit for 55" objective of a 55% decrease between 1990 and 2030 corresponds to a **37% decrease between 2015 and 2030**[6].

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(1) Europe refers to the European Union, Norway, the United Kingdom and Switzerland.

(2) EU-27, United States, Japan, Canada, Australia, United Kingdom, South Korea, Argentina and South Africa

(3) Including sequestration capacity of forests

(4) Restricted scope + Brazil, Colombia, Israel, United Arab Emirates, Peru, Thailand, Malaysia and Vietnam

(5) "Tallying updated NDCs to gauge emissions reductions in 2030 and progress toward Net Zero" published on March 2, 2022

(6) EU-27. Adding in Norway, the United Kingdom and Switzerland, the reduction ambition is 39% between 2015 and 2030.

The IEA's NZE scenario

In its 1.5 °C scenario, the IEA is aiming for carbon neutrality by 2050, which requires a **39% reduction in net emissions from energy** between 2015 and 2030 (from 34 to 21 billion tons of CO_2e).

Our progress in 2021

Scope 1+2 emissions decreased from 41.5 Mt in 2020 to **37.0 Mt** (excluding COVID-19 effect) in 2021 thanks to 120 emissions-reduction initiatives carried out across the Company and portfolio management aligned with our strategy (divestment of the Lindsey refinery in the United Kingdom and the halt of Grandpuits in France).

These data include the commissioning of two combined cycle gas turbine plants.

Improving the efficiency of the Company's facilities

A portion of the direct emissions from the Company's facilities corresponds to energy losses through flaring, venting(1), etc. or fugitive emissions. This part is a minority (about 15%) but should be reduced as a priority. The second, more important part (about 85%) corresponds to energy use, either by combustion, for example to generate electricity, or within industrial processes, and is the subject of the Company's energy efficiency improvement projects.

Reducing flaring

Restricting routine flaring is a priority for reducing GHG emissions. Since 2000, TotalEnergies has made a commitment to discontinue routine flaring on its new projects. As a founding member of the World Bank's "Zero Routine Flaring by 2030" initiative since 2014, the Company has pledged to end the practice altogether by 2030. Routine flaring has been reduced by 90% since 2010, and the Company has set a new target to bring the level below 0.1 million cubic meters per day as from 2025.

Occasional, or non-routine, flaring connected with operational issues or the start-up of facilities has also been addressed with action plans, as has safety flaring, which is used to protect facilities. In Argentina and Bolivia, for example, the Company has reduced safety flaring by half, thanks to continuous monitoring of gas flows and optimized flaring parameters.

Using less energy

Improving energy efficiency means reducing the quantity of energy used to produce a given amount of energy, so emissions are reduced as well.

Exploration & Production is enhancing energy efficiency through projects to reduce the quantity of gas its facilities use to produce the energy they need.

Refining & Chemicals, for which energy consumption is a key factor in production costs, is continuing its efforts of recent years to improve energy efficiency as part of an investment plan totaling $450 million over the period 2018-2025.

Improving energy efficiency also entails finding new ways to use waste heat from units. Several refineries, including Leuna in Germany, have mapped and quantified their sources of waste heat. Research is underway to see how heat from nearby industrial and municipal ecosystems can be put to use.

The Company has made a firm commitment to embracing digital technology at its sites as a driver in improving energy performance. As of the end of 2021, 26 out of the 46 operated sites using more than 50,000 toe/year were equipped with an auditable energy management system using for instance ISO 50001 certification for their energy management system(2).

Decarbonizing electricity purchases (Scope 2)

In 2020, with its "Go-Green" project, TotalEnergies decided to aim for net zero emissions for all electricity purchases at its operated sites in Europe by 2025. All electricity needs at the Company's industrial and commercial sites, as well as its offices, will be met by renewable power obtained through the Company's regional generation capacity in Europe; a similar strategy has been adopted in the United States. Taken together, this will represent around 7 TWh/year.

- In Europe, electricity will be provided by solar farms acquired in Spain in 2020, offering capacity of 5 GW and production of 10 TWh/year by 2025. 6 TWh/year will be routed to European sites under a PPA(3). The Electricity Trading teams will manage the contract with Refining & Chemicals and excess production will be sold to third parties.
- For the United States, in 2021 the Company acquired a portfolio of 2.2 GW in solar projects and 0.6 GW in battery storage projects to cover 100% of electricity needs at operated industrial sites, including the Port Arthur refining and petrochemical complex and the La Porte and Carville petrochemical sites.

As a result, the Company is on track to reduce Scope 2 emissions across its operated scope by more than 2 million tons of carbon annually as of 2025.

Tend towards at zero methane emissions

Methane is a greenhouse gas with a global warming potential 25 times higher than that of CO_2 over 100 years. In 2021, the IPCC assessed methane's contribution to current warming at 0.5 °C since pre-industrial times. COP26 highlighted the major role that methane emissions reduction must play in limiting global warming, both in its final conclusion (the Glasgow Climate Pact) and through the Global Methane Pledge, a commitment by 105 countries, led by the United States and the European Union(4), to reduce their methane emissions by 30% from 2020 levels by 2030.

New objectives

The Company has been working on reducing its methane emissions for several years. It halved its operated methane emissions between 2010 and 2020. In line with the Glasgow agreements, the Company is setting new targets for the decade to come: reductions from 2020 levels of **50% by 2025 and 80%** by 2030.

The Company is also maintaining its target of keeping methane intensity(5) below 0.1% across its operated gas facilities.

Achieving those objectives requires improved measuring capability and redoubled efforts on emissions sources.

Measuring methane emissions more accurately

Methane emissions have numerous and dispersed sources. TotalEnergies is a pioneer in detecting and quantifying emissions across the entire value chain.

- The Company operates a site for testing methane emissions measurement technology. Known as the TADI complex(6), it is unparalleled in Europe; only one comparable site exists worldwide, in the United States(7).
- In addition, TotalEnergies is speeding up deployment of its drone-mounted methane detection technology, AUSEA(8), at all of its operated sites starting in 2022.

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(1) Venting: emissions associated with the venting of gases, on an occasional or continuous basis, at certain facilities, such as water treatment, hydrocarbon loading and unloading, glycol dehydrators and pneumatic devices fueled by natural gas.

(2) The ISO 50001 standard accompanies the implementation in companies of an energy management system that allows a better use of energy.

(3) Power Purchasing Agreement.

(4) These 105 countries represent 70% of the global economy and account for nearly half of the planet's anthropogenic methane emissions.

(5) The intensity of methane emissions in relation to the commercial gas produced, expressed in a volume/volume ratio.

(6) TotalEnergies Anomaly Detection Initiative.

(7) METEC, Colorado State University.

(8) Airborne Ultra-light Spectrometer for Environmental Applications.

The Company is also enhancing its reporting as part of OGMP 2.0, the second phase of the United Nations Development Programme's Oil & Gas Methane Partnership. OGMP 2.0 outlines a reporting framework that encompasses the entire gas value chain and non-operated scope, including a breakdown of emissions by source, information on inventory methodologies and the use of airborne measurement campaigns.

In late 2021, TotalEnergies was awarded Gold Standard(1) status by the OGMP. It will implement the necessary continuous improvement measures to maintain this level for methane emissions measurement and reporting.

Abating emissions at each source

Methane emissions are primarily attributable to venting (more than half the total) and flaring(2) (a quarter of the total); the rest are fugitive emissions (i.e., leaks at valves, flanges and couplings) or the product of incomplete gas combustion at our facilities (turbines, furnaces, boilers, etc.).

In order to tend towards zero methane emissions, stronger action will be taken on each of these emission sources:

- Reductions in venting: projects to reroute vents to the gas export system or the flare and to reduce instrument gas on producing assets. In 2021, the decline from the year before linked to reductions in venting came to 6,000 tons per year (projects in Gabon and the U.K.).
- Reductions in flaring: In 2021, the decrease in flaring from 2020 reduced emissions by 1,800 tons per year.
- Leak reduction: annual campaigns to identify and repair leaks at all operated sites will be deployed starting in 2022. In 2021, emissions declined by 4,000 tons as a result of leak reduction efforts, including a significant upgrade to the OML58 facility in Nigeria.

Moreover, all new projects include strict design criteria for preventing methane emissions: no instrument gas, no continuous cold venting and the systematic use of closed flares. All of these practices have been implemented at the CLOV site in Angola, Moho-Nord in the Republic of the Congo and Egina in Nigeria.

Capturing and storing carbon at our facilities

Reducing emissions at the facilities also means developing industrial processes for carbon capture, transport and storage (CCS(3)), a field in which TotalEnergies wields critical expertise in large-scale project management, gas treatment and geoscience.

The Company has been contributing to the development of CCS solutions in the Norwegian Sea since 1996 to reduce emissions from the Sleipner(4) and Snøhvit natural gas fields. The CO_2 associated with that natural gas, known as native CO_2, is isolated and injected into the subsurface. From 2010 to 2013, TotalEnergies developed a pilot project in Lacq, France, involving a complete CCS chain, in which carbon from a steam generator was captured using oxy-combustion technology (a European first) and then transported and stored in an depleted reservoir.

This experience in CCS opens the door to large-scale projects for reducing carbon emissions resulting from hydrogen production at the Company's refineries in Europe. Current CO_2 storage projects are located in the North Sea to take advantage of its significant potential, particularly in depleted fields operated by TotalEnergies. Moreover, the regulatory environment within the E.U. is favorable to such projects. Not only will they provide a way to reduce the Company's own emissions, but thanks to additional capacity, it can also offer CO_2 emissions storage to its customers to reduce their Scope 1 and the Scope 3 emissions of the Company. The 2021 budget for the entire CCS system was $100 million and TotalEnergies is now aiming to expanding storage capacity of about **10 Mt CO_2/year by 2030**.

- In Norway, the Company, together with Equinor and Shell, launched Northern Lights, the first large-scale carbon transport and storage project. Approved by the Norwegian government in 2020, the project is currently in the construction phase. It will allow industrial emitters in Norway and elsewhere in Europe to store their emissions.
- In the Netherlands, TotalEnergies and its partners are studying the Aramis project designed to develop a logistics chain and hub in the port of Rotterdam to transport CO_2 to depleted offshore fields, some of which are operated by TotalEnergies.
- In the United Kingdom, the Company is working with its partners on the Northern Endurance Partnership transport and storage project, which aims to decarbonize the Teesside and Humberside industrial regions.

Working with our partners on non-operated assets

TotalEnergies' Scope 1+2 emissions based on equity share amounted to 54 million tons of CO_2e in 2021. Half of those emissions were attributable to its interests in sites it operates(5); interests in sites operated by its partners, primarily upstream, accounted for the other half.

For those non-operated assets, the Company acts by exerting its influence and by sharing best practices with its partners. In 2021 TotalEnergies helped to prepare action plans for reducing emissions at its non-operated Refining & Chemicals assets (notably Naphtachimie in France, HTC in South Korea and Satorp in Saudi Arabia). As with its operated assets, the Company takes steps to improve energy efficiency, electrify operations using green electricity, reduce flaring and manage methane emissions.

In 2021, TotalEnergies joined forces with Novatek to reduce the intensity of the LNG chain, and conducted an energy efficiency audit of the Lavéra petrochemical facility in France.

In Norway, TotalEnergies is a partner in the Johan Sverdrup field, which came onstream in 2019 and has an emissions intensity of less than 2 kilograms of CO_2e/boe thanks to the use of green electricity supplied from shore, and the Oseberg field, where an electrification project was initiated in 2021. It is also studying plans to electrify the Snøhvit LNG plant alongside the operator, Equinor. In the United Arab Emirates, where TotalEnergies is the biggest international operator, its non-operated onshore assets were powered with green electricity as of January 1, 2022, and with the partner, ADNOC, the Company is reviewing an electrification project for the offshore fields. Photovoltaic solar projects are also in the works at the non-operated Refining & Chemicals facilities in Saudi Arabia, Algeria and South Africa.

For the first time in 2021, TotalEnergies released the methane emissions from its non-operated assets. The operators of those assets were each asked to provide their emissions data, itemized by source(6). Those operators differ in their measuring and reporting capabilities, but the Company is working with them in a commitment to continuous improvement, with the aim of reaching the highest reporting level in the OGMP 2.0 framework.

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(1) International Methane Emissions Observatory (IMEO) report under OGMP2.0

(2) Emissions associated with incomplete gas combustion, based on a standardized estimate of 2% of volumes flared.

(3) Carbon capture and storage.

(4) TotalEnergies sold its interest in this field in 2016.

(5) 27 million tons on an equity share basis, 37 million tons of CO_2e on a 100% share basis.

(6) Thirteen sources using the methodology in the OGMP 2.0 reporting framework.

Offsetting residual emissions with natural carbon sinks

In addition to taking action to prevent and reduce greenhouse gas emissions, it will be necessary to offset residual carbon emissions if TotalEnergies is to achieve net zero emissions together with society. For that reason, it is investing in natural carbon sinks, such as forests, regenerative agriculture and wetlands.

The model for managing areas must be integrated and shared with the local population. Within this framework, operations may comprise a variety of techniques (conservation, afforestation-reforestation, agroforestry, agricultural transition, blue carbon, etc.) and appropriate types of contracts (purchase contract, sustainable financing mechanism, impact funds, financed project, etc.). The goal is to combine and balance the value of agricultural and forestry revenues with the value of co-benefits for the population, soil, biodiversity, and the water cycle and that of carbon credits. When this is done, the local standard of living improves and the causes of degradation and deforestation, which are major sources of greenhouse gas emissions, recede. The Company works with experienced partners to manage the long-term approach required and the risks involved in these complex projects. The projects are certified in accordance with the highest standards, including Vera VCS and CCB.

Backed by an average annual budget of $100 million between 2020 and 2030, TotalEnergies aims to build up a stock of 100 million credits(1) and develop the annual capacity to produce at least five million credits a year as from 2030. The Company does not intend to trade these carbon credits but rather to gradually use its stock and annual production to neutralize its residual Scope 1+2 emissions as from 2030. As of end-2021, TotalEnergies' stock stood a little under 7 million certified credits. The cumulative budget for all of the signed operations amounts to nearly $350 million over their lifetime, for an anticipated aggregate volume of credits of 23 million in 2030 and 31 million in 2050.

2) Reducing Scope 3 emissions, together with society

The Scope 3 emissions of an integrated multi-energy company

One major focus of TotalEnergies' strategy is to shape its customers' consumption habits. About 90% of petroleum product emissions occur when those products are used (Scope 3(2)), while only about 10% are generated in their production (Scope 1+2).

Our objectives for 2030

TotalEnergies has set a target by 2030 of reducing its global Scope 3 emissions related to the use by its customers of the energy products sold to below 2015 levels, even though over the same period the Company plans to produce and sell 30% more energy products due, in particular, to growth in sales of LNG and electricity.

On the other hand, to anticipate the decline in oil demand by the end of the decade, the Company has initiated a voluntary strategy to adapt its downstream refining and distribution activities to bring them back to its oil production level. Accordingly, the Company has committed to a new objective by 2030: to reduce Scope 3 emissions from petroleum products sold worldwide by more than 30% between 2015 and 2030.

The sharp rise in sales of electricity (a twentyfold increase over the period 2015-2030) will make it possible to decarbonize the Company's energy mix without adding to indirect Scope 3 emissions (GHG Protocol - Category 11).

Gas is a key transition fuel that allows customers to replace the higher emitting coal they use and that TotalEnergies does not produce or sell (the Company voluntarily withdrew from coal in 2016). TotalEnergies will increase twofold its sales of LNG over the period 2019-2030. Reducing sales of petroleum products by more than 30% and boosting sales of biofuels to three times their current level will help reduce Scope 3 emissions in absolute terms over the 2015-2030 period.

This Scope 3 trend over the 2020-2030 period varies by region, in line with evolving global energy demand (TotalEnergies having very little presence in North America):

- In support of the European Union's ambitions on the path toward carbon neutrality and in light of Europe's weight in its Scope 3 emissions in 2015 (256 million tons out of 410 million tons), the Company has set a specific target of reducing its Scope 1+2+3 emissions in Europe by 30% in absolute terms over the same period, as the reduction in sales of petroleum products will focus particularly on Europe.
- At the same time, the Company intends to provide populations in developing countries with the energy they need to raise their living standards. It is increasing its energy supplies in these regions with a priority on natural gas and renewable energies.

Together with our customers– mobility

TotalEnergies is actively striving to make net zero emissions an ambition it shares with its customers. The primary avenue for effectively advancing the energy transition is to gradually change the forms of energy its customers use. With that in mind, the Company is pursuing a marketing strategy focused on the lowest-carbon products and scaling back its offerings for certain applications where competitive low-carbon alternatives are available. As of 2018, transportation generated approximately 17% of global greenhouse gas emissions(3). The Company's belief is that the mobility of the future does not call for a single solution, but an array of complementary solutions.

Road Transport

Road transportation undoubtedly offers a wider range of solutions for decarbonization than any other form of transport. TotalEnergies' strategy is to establish operations in four major new types of road mobility:

- **Winning recognition as a major player in electric mobility**

  As their driving range increases, electric vehicles (EVs) offer a future-oriented solution, accounting for 9% of total vehicle sales in 2021. TotalEnergies is acting on two key links in that value chain to spur adoption of EVs by its customers:

  - Deployment of charging infrastructure:
    - 150,000 charge points worldwide by 2025.
    - 300 service stations on motorways and major roads and 600 urban service stations with high power chargers (HPC) by 2030 to support e-mobility travel in Europe. This works out to one HPC every 150 km, for optimal coverage on long-distance trips.
    - TotalEnergies is transforming and adapting its presence in cities by developing an e-mobility network in Europe and Asia.
  - Production of affordable, high-performance batteries: Automotive Cells Company (ACC), a joint venture founded by TotalEnergies and Stellantis in 2020, is set to emerge as a global player in the development and manufacture of automotive batteries beginning in 2023. With Saft, TotalEnergies is giving the new company the benefit of its expertise in R&D. The batteries produced by ACC will power nearly one million EVs a year, or 10% of the European market. Mercedes-Benz joined ACC in September 2021. This is a major investment to contribute to the development of electric vehicles in Europe.

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(1) One credit corresponds to one ton of sequestered CO_2.

(2) GHG Protocol - Category 11

(3) Source: Climate Watch, World Resources Institute, 2018

- **Expanding the distribution of biofuels**

  At year-end 2021, internal combustion vehicles still accounted for more than 98% of the land vehicles on the road worldwide. Sustainable biofuels can reduce those vehicles' CO_2 emissions. In 2021, TotalEnergies distributed 3 million tons of sustainable biofuels(1) worldwide. Government policies to promote carbon neutrality are boosting demand for these renewable products, especially in Europe. The Company will be part of that change, and aims to sell 7 to 8 million tons in 2025.

- **Supporting our customers' energy transition thanks to NGV**

  Natural gas vehicle (NGV) fuel, marketed in the form of compressed natural gas (CNG) or liquefied natural gas (LNG), offers a transitional pathway for reducing CO_2 emissions. This fuel is now available at 600 of the service stations in the TotalEnergies global network. The incorporation of biogas, if there is enough available production, may make it possible to decarbonize NGV, CNG and LNG in the future. In February 2021, TotalEnergies inaugurated France's largest NGV and bio-NGV service station in Gennevilliers.

- **Promoting low-carbon solutions for trucks**

  Truck manufacturers are developing electric vehicles for daily journeys of less than 500 km and are also working on very high-power batteries that can extend truck's driving range. TotalEnergies is supporting that process by expanding its network of high-power charge points. Its goal is to have a charging station every 150 kilometers throughout Western Europe, with charging solutions available to trucking professionals directly at their home site. In addition, several truck manufacturers are looking at hydrogen as an attractive alternative for longer trips. With this in mind, TotalEnergies entered into a partnership with Daimler Trucks in 2021 dedicated to hydrogen infrastructure for trucks in France, Germany and Benelux.

Shipping

The maritime sector accounts for 90% of all goods transportation and 3% of global carbon emissions. Although heavy fuel oil remains the most common fuel for ship propulsion, the use of LNG, a bridge energy, can reduce CO_2 emissions by 20%. In the medium term, decarbonized liquid fuels (such as e-fuel or biofuels) and the use of hydrogen or ammonia will make it possible to reduce those emissions still further. TotalEnergies is working with major shipping companies to define the most appropriate fuels for achieving their decarbonization roadmaps.

In March 2021, TotalEnergies signed an agreement with MSC Cruises to supply some 45,000 tons of LNG annually to future cruise ships. In April 2021, TotalEnergies completed the first bunkering of the CMA CGM Jacques Saadé, the world's largest container ship powered by LNG, at Dunkirk. In July 2021, CMA CGM and TotalEnergies initiated a feasibility study for France's first bioLNG production project.

As part of its LNG sales, the company assesses the "GHG emissions of the value chain of the LNG products sold", i.e. the amount of GHGs emitted from the production of the gas to its final use.

Aviation

TotalEnergies is developing sustainable aviation fuels (SAFs). SAFs include biofuel produced from waste and residues sourced from the circular economy (animal fats, used cooking oil, etc.) as well as synthetic E-Jet fuel for aviation. SAFs will substantially reduce CO_2 emissions from air transportation. TotalEnergies is involved in many initiatives to produce and market sustainable aviation fuel in partnership with companies in the aviation industry. These biofuels can already be used as a drop-in fuel with standard jet fuel up to 50%, without any need to modify existing logistics infrastructure, aircraft or engines. With the start-up of production at La Mède in 2021 and Normandy in 2022, TotalEnergies is in a position to meet demand from its customers and the requirements of French legislation, which calls for aircrafts to use at least 1% biojet fuel effective January 1, 2022.

Residential, commercial and industrial uses

By the end of 2021, TotalEnergies sold electricity and natural gas to nine million residential and commercial customers in Europe. TotalEnergies is aiming for nearly 13 million sites (B2B and B2C) across every market segment in 2025. The Company gives preference to power from renewable sources and has developed a range of differentiated offerings for residential and business customers.

- For residential customers in Europe, TotalEnergies offers tailored solutions with its Green renewable power service, with rates that are locked in for one year, alongside conventional service offerings. It also helps consumers find energy savings with ConsoLive, a tool that lets them measure their electricity use in real time; ConsoLive's 40,000 current users have reduced their power consumption by an average of 13%.
- For businesses, TotalEnergies is signing a growing number of corporate power purchase agreements, or CPPAs, that rely on renewable energy. The Company also offers customers the option of adding solar power to their sites. In France, TotalEnergies is the market leader in solar power on buildings, having been awarded projects totaling more than 250 MW in the French Energy Regulatory Commission's CRE 4 call for tenders since 2017.

Portfolio management that is firmly focused on low-carbon energy

TotalEnergies' marketing units now deploy a strategy designed to prioritize markets that offer the highest margins per ton of CO_2 emitted, and streamline their portfolios accordingly. The Company emphasizes customized solutions that create a direct relationship with the customer, and its goal is to eliminate low-margin sales to resellers, an area in which it lacks a significant competitive advantage.

In the aviation industry, TotalEnergies is focusing on high-value-added airport facilities while maintaining its global presence.

As of 2025, the Company will no longer be selling heavy fuel oil for power generation, and it is already steering its customers toward alternatives, such as natural gas, biofuels and renewable energies.

Developing CO_2 storage services

Under the scenarios prepared by the IEA, the volume of CO_2 captured and stored using CCS processes could total 5 to 7 billion tons of CO_2e annually by 2050, compared to just 40 million tons today. Developing that business therefore represents a major challenge for the decades ahead to get to net zero by 2050.

TotalEnergies' CCS projects are helping to reduce its own emissions, but via additional available capacity, they will also help it develop services for transporting and storing carbon on behalf of industrial customers intent on reducing their emissions. The North Sea is an ideal setting for such projects, offering significant storage potential close to major industrial centers. TotalEnergies is taking part in several large-scale initiatives in the North Sea.

The Company's goal is to provide its customers with storage capacity of more than 10 Mt CO_2/year by 2030, with the ambition of lifting capacity to more than 50 Mt CO_2/year by 2050.

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(1) Physical volume of biofuels in equivalent ethanol and esters according to the rules defined by the European Union's RED Directive, excluding volumes sold to third parties by Trading.

Ecosolutions

Through the Ecosolutions program, the Company is developing innovative products and services that perform above market standards on the environmental front. At year-end 2021, 104 products and solutions bore the Total Ecosolutions label (vs. 86 at year-end 2020). The CO_2e emissions avoided throughout the lifecycle by the use of Ecosolutions products and solutions, compared to the use of benchmark products on the market for an equivalent level of service, are measured annually based on sales volumes. This represented 2 Mt CO_2e in 2021.

Together With Our Partners

Navigating the energy transition and capping global warming are global challenges. TotalEnergies can meet those challenges only by actively enlisting its partners, specifically by lobbying governments and industry associations, and its suppliers' entire ecosystem.

Support for the "Fit for 55" package

TotalEnergies supports the pledges made by nations worldwide to combat global warming as part of the Paris Agreement. Within the European Union, TotalEnergies supports the "Fit for 55" package, and particularly some key components that are aligned with its strategy and positions:

- Broader use of carbon pricing.
- A massive expansion of renewable energies.
- The deployment of infrastructure (charging stations, hydrogen).
- The development of low-carbon and renewable fuels for the transportation industry.

In support of those commitments by the European Commission, it has set a target in Europe of reducing Scope 1+2+3 emissions by 30% between now and 2030.

Mobilization of professional associations

TotalEnergies is a member of many professional associations and has published a list of its affiliations since 2016. The Company typically cooperates with these organizations on technical matters, but some take public stances on other issues, such as climate. The Company ensures that these organizations hold positions aligned with its own, and regularly reviews each organization's stance on the climate.

Since 2019, TotalEnergies has conducted an annual assessment of the climate-related public positions of the main professional associations of which it is a member. For those with such positions, the Company examines whether they are aligned with its own, based on the six principles from its Advocacy Directive:

- scientific position,
- the Paris Agreement,
- carbon pricing.
- the development of renewable energies and technologies aimed at decarbonizing
- the role of natural gas,
- the carbon offset mechanisms.

During the 2019 and 2020 reviews, the positions taken by the American Petroleum Institute (API) were deemed "partially aligned" with the Company's own positions. After voicing its points of disagreement with the API, and after continuing to promote its positions within the organization, in early 2021 TotalEnergies announced its decision not to renew its membership because of continued divergences over the role of natural gas and methane emissions (the API supports the rollback of the U.S. regulation on methane emissions), support for electric vehicles and the principle of carbon pricing.

TotalEnergies has likewise withdrawn from two other organizations whose positions are not aligned with its own: American Fuel & Petrochemical Manufacturers (AFPM) and the Canadian Association of Petroleum Producers (CAPP).

Additionally, TotalEnergies participates in organizations and initiatives devoted specifically to the fight against climate change.

In 2014, for example, the Company helped launch and develop the **Oil & Gas Climate Initiative** (OGCI). Comprising 12 major national and international energy operators, this global industry partnership is committed to developing solutions for a sustainable, low-carbon future. In 2021, the OGCI's members, which collectively account for more than one third of the world's oil and gas production, embarked on a new strategy for reaching net zero Scope 1+2 emissions by 2050. In addition, OGCI Climate Investments, a fund launched in 2017 to invest $1 billion over 10 years, provides funding to tech start-ups connected with the energy transition.

The Company is also engaged in other international initiatives involving the private and public sectors (non-exhaustive list):

- the World Bank's "**Zero Routine Flaring by 2030**" initiative aimed at stopping the routine flaring of the gases associated with oil production;
- for enhanced transparency, taking into account the recommendations of the G20 Financial Stability Board on climate, and of the **Task Force on Climate-related Financial Disclosures** (TCFD);
- for the development of new state-of-the-art energy companies, since 2017, within the **Breakthrough Energy Coalition** (BEC), a group of investors created by Bill Gates in 2015, and since 2016 within the **Breakthrough Energy Ventures**, a $1 billion fund created in 2016 by the BEC;
- to reduce methane emissions, as a member of the United Nations Development Programme's **Oil & Gas Methane Partnership** (OGMP) since 2014.

Support for carbon pricing

Carbon pricing is a major tool for reaching net zero. For more than a decade, TotalEnergies has advocated the adoption of carbon pricing, and applies an internal carbon price when evaluating its own projects.

By integrating an energy source's carbon content in its price, carbon pricing makes the most emission-intensive sources more expensive. In particular, putting a price on carbon gives all players an incentive to shift faster from coal to renewable energies and natural gas for electricity production. Over the long term, it also offers a way to channel investment to research into low-carbon technologies and carbon capture and storage.

The launch of China's emissions trading scheme (ETS) in 2021, the increase in the price per ton of carbon following reforms to the European ETS market and the return of the United States to discussions on climate all augur positively for the development of carbon pricing. According to the World Bank's Carbon Pricing Dashboard, more than 21% of global emissions are now covered by 64 carbon pricing systems worldwide.

Since 2014 the Company has been supporting a range of international initiatives that call for the implementation of regulatory mechanisms tailored to local conditions. TotalEnergies is a founding member of the **Climate Leadership Council** (CLC), which promotes a balanced approach to carbon pricing in the United States in which the revenue is redistributed to the American people in the form of a Carbon Dividend. TotalEnergies also supports the World Bank's **Carbon Pricing Leadership Coalition** (CPLC).

Lastly, TotalEnergies actively participates in the debate on climate issues, thanks especially to its long-term partnerships with university chairs, such as the Climate Economics Chair at Paris-Dauphine University, the climate change research program of Massachusetts Institute of Technology (MIT)(1), and Toulouse School of Economics. TotalEnergies also offers training and makes presentations at several universities, thereby taking part in the debate.

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(1) The Joint Program on the Science and Policy of Global Change.

3) Progress in 2021

The credibility of the Company's ambition for 2050 hinges on its ability to show the progress it has made so far, and it is firmly committed to doing that by publishing its 2021 results in meeting its targets online, often in advance:

- Emissions from operated facilities have declined by **approximately 20% since 2015**. This includes 4 Mt of emissions from CCGT power plants following on the implementation of the Company's new strategy in electricity to have flexible generation capacity; the decline for operated oil & gas activities thus actually came to 30%.
- For indirect emissions associated with customers' use of its products:
  - Scope 3 emissions worldwide have fallen since 2015. In Europe, those emissions **fell by 14%** (excluding the COVID-19 effect). On oil products alone the emissions fell by 19% (excluding the COVID-19 effect).
  - The lifecycle carbon intensity indicator for the energy products sold **felt by 10%** since 2015 (excluding the COVID-19 effect), making TotalEnergies the leader among its peers in decarbonizing its energy mix.

RESILIENCE OF THE ORGANIZATION'S STRATEGY

Very active management over the last few years has made the Company's portfolio more resilient. More than 35% of its future oil and gas production will come from low-breakeven assets that were not in the portfolio at the end of 2014.

The portfolio benefits from a low breakeven point in line with the strategic objective of less than $30/b (Company's organic breakeven point before dividend below $25/b in 2021), ensuring competitive resources.

In particular, in the upstream segment, TotalEnergies has the lowest production cost per barrel and carbon intensity per barrel of oil equivalent (operated Scope 1+2) among its peers, at around $5/boe and 17 kg CO_2/boe, respectively. **[REDACTED SECTION: CERTAIN TEXT HAS BEEN REDACTED.]** In June 2020, TotalEnergies also reviewed its upstream assets that can be qualified as "stranded", meaning with reserves beyond 20 years and high production costs, whose overall reserves may therefore not be produced by 2050. The only projects concerned are the Fort Hills and Surmont oil sands projects in Canada. TotalEnergies has decided to take only proved reserves into account for impairment testing on these two assets – contrary to general practice which considers proved and probable reserves – and to approve no new projects for increasing the capacity of these Canadian oil sand assets.

The Company's strategy of focusing new oil investments on low carbon intensity projects also led it to exit from extra heavy crude oil assets in Venezuela's Orinoco Belt in 2021.

The characteristics of TotalEnergies' portfolio cushion the risk of having stranded assets in the future if a structural decline in demand for hydrocarbons occurs due to stricter global environmental regulations and constraints and a resulting change in consumer preferences.

In addition, TotalEnergies assesses its portfolio's resilience, including for new material investments, on the basis of relevant scenarios and sensitivity tests. Each material investment – including in the exploration, acquisition and development of oil and gas resources, as well as in other energies and technologies – is reviewed in relation to the objectives of the Paris Agreement; each new investment enhances the resilience of the Company's portfolio.

CO_2 price sensitivity

Even if carbon pricing does not currently apply in all of the Company's host countries, TotalEnergies includes a minimum carbon price of $40/ton in its investment criteria (or the current price in a given country, if higher), with the assumption of a linear increase to $100 per ton as from 2030. Beyond 2030, an annual increase of 2% is applied. Assuming a carbon price of $200/ton as from 2020 and an annual increase of 2% thereafter (i.e., a $100/ton increase from the base scenario), TotalEnergies estimates a negative impact of around 9% on the discounted present value of its assets (upstream and downstream).

Sensitivity to oil and gas prices

In relation to the reference scenario used to review investments (Brent at $50/b), application of the IEA's NZE price scenario would lower the discounted present value of the Company's assets (upstream and downstream) by around 17%.

In addition, to ensure robust accounting of its assets in the balance sheet, the Company uses an oil price trajectory that converges in 2040 with the price in the IEA's SDS scenario ($\$_{2022}$50/b) and that converges after 2040 with the price retained for 2050 in the IEA's NZE scenario ($\$_{2022}$25/b) to calculate impairment of its upstream assets. The prices retained for gas stabilize between now and 2025 and until 2040 at lower levels than today and converge with the IEA's NZE scenario in 2050.

5.4.3 Risk management

TCFD correspondence table

THEME	Recommended TCFD disclosures
Risk management	
Disclose how the organization identifies, assesses, and manages climate-related risks	a) Describe the organization's processes for identifying and assessing climate-related risks. b) Describe the organization's processes for managing climate-related risks. c) Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organization's overall risk management.

PROCESSES TO IDENTIFY AND ASSESS RISKS RELATED TO CLIMATE CHANGE

Climate-related risks form part of the risks that are analyzed by the TotalEnergies Risk Management Committee. This committee relies on risk-mapping work. In addition, the Risk Committee (CORISK) assesses investment projects, risks and corresponding climate-related issues before they are presented to the Executive Committee.

Each significant investment project is evaluated in light of the objectives of the Paris Agreement, and on the basis of the following criteria:

- Project cost is analyzed in a hydrocarbon price scenario compatible with the Paris Agreement (Brent at $50/b and Henry Hub at $2.5/Mbtu) and with a carbon price of $$_{2030}$100/t in 2030 and beyond.
- For new oil and gas projects (greenfield and acquisitions), the intensity of Scope 1+2 GHG is compared, depending on their nature, to the intensity of the average GHG emissions of upstream production assets or that of various downstream units (LNG plants, refineries). For additional investments in existing assets (brownfield projects), the investment will have to lower the Scope 1+2 emissions intensity of the asset in question The goal is for each new investment to contribute to lowering the average intensity of the Company's Scope 1+2 GHG emissions in its category.
- For projects related to other energies and technologies, such as biofuels, biogas, CCS, the reduction in GHG emissions reductions is reviewed to assess its contribution to lowering the Company's emissions.

In 2021, 12 significant investments were evaluated on these criteria:

- Oil and gas projects:
  - Greenfield projects: Mero 4 (Brazil) and Block 10 (Oman);
  - Brownfield projects: Tommeliten Alpha (Norway) and Al Shaheen Phase 2 (Qatar);
  - Acquisitions: Atapu (Brazil), Sepia (Brazil), Ratawi (Iraq), Waha (Libya)
- New energy projects: BioBéarn project (France), Del Rio biogas project (United States)
- Carbon sink projects: Batéké natural carbon sink (Republic of Congo), Blue Mountain natural carbon sink (Peru).

Furthermore several renewable electricity projects, which are compatible by nature with these criteria, were approved, such as offshore wind projects Round 4 UK, Scotwind (United Kingdom), Yunlin (Taiwan), five onshore wind projects in France with a total gross capacity of nearly 200 MW, and several solar energy projects in France, Spain, Iraq and the US for approximately 3 GW of gross capacity.

For projects greenlighted in 2021:

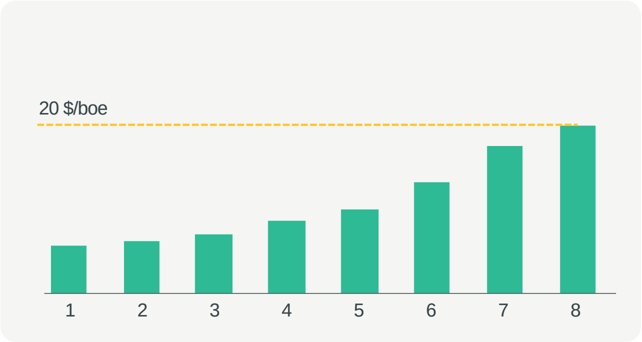
- profitability exceeds the internally defined threshold, in a scenario compatible with the Paris Agreement's objectives, with the exception of natural carbon sink projects, which are evaluated on the basis of the actual cost of a ton of CO_2;
- the Scope 1+2 GHG intensity is below the average intensity of their category for new oil and gas projects and reduced for brownfield projects, keeping in mind that additional measures to control emissions will be needed since the emissions intensity of certain upstream projects increases over time as production declines.

Upstream gives precedence to value creation and cash generation over volume and puts a priority on developing low-cost (typically below $20 per barrel for operating and investment costs) or low-breakeven (typically $30 per barrel including tax) and low-emissions projects (typically less than 20 kg CO_2/b).

In accordance with the Company's new biodiversity ambition (see Chapter 4.2), all new investment projects must also meet the ""zero net deforestation criterion.

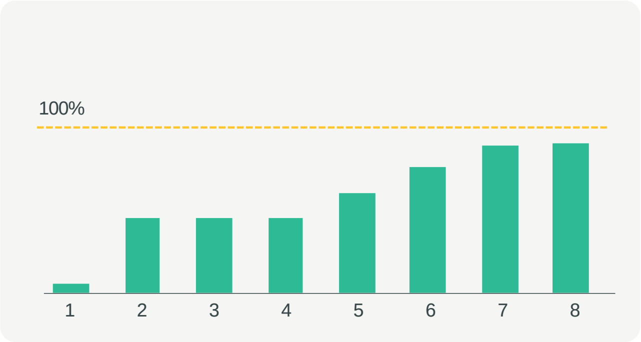
Upstream oil & gas projects

Technical costs



Upstream oil & gas projects

Emissions intensity (% vs. category average)



PROCESSES TO MANAGE RISKS RELATED TO CLIMATE CHANGE

In its decision-making process, the risks and associated climate issues are assessed prior to the presentation of the projects to the Executive Committee. If the level of risk requires it, they are subject to mitigation measures. TotalEnergies, in accordance with its Safety Health Environment Quality Charter, is committed in particular to managing its energy consumption and develops processes to improve its energy performance and that of its customers.

In terms of adaptation to climate change, two types of risks exist: physical risks and transition risks. The physical risks correspond to physical impacts of climate change such as the increase in occurences or severity of extreme weather phenomena. The transition risks are risks related to regulations, laws, technologies or market events linked to the transition (refer to point 5.4.2).The Company takes physical risks into account during the design phase of its new facilities. The climate hazards taken into account include the latest available IPCC data and the facilities TotalEnergies builds are designed to withstand extreme weather events. The analyses include a review by type of hazard (sea level, storms, temperature, permafrost, etc.) and take into account the lifespan of the projects and their ability to adapt gradually. The design of current projects incorporates the data published by the IPCC concerning the increase in climate hazards. For existing facilities, their vulnerability to climate hazards is reassessed re-evaluated in a continuous improvement process according to the evolution of scientific knowledge of the precise impacts of climate change, so that their consequences do not affect either the integrity of the facilities or the safety of people. More generally, natural hazards (climatic hazards, but also seismic hazards, tsunamis, soil conditions, etc.) are taken into account. The internal studies conducted have not identified any facilities that cannot withstand the consequences of climate change known to date.

INTEGRATION OF CLIMATE-RELATED RISKS INTO GLOBAL RISK MANAGEMENT

The risks related to climate issues are fully integrated in TotalEnergies's global risk management processes.

The Audit Committee annually reviews the Statement of Non-Financial Performance, which includes the performance as per the Company's climate and environmental reporting. In addition, these results are audited by an independent third party.

5.4.4 Targets and metrics to measure climate-related risks and opportunities

TCFD correspondence table

THEME	Recommended TCFD disclosures
Metrics & targets	
Disclose the metrics and targets used to assess and manage relevant climate-related risks and opportunities where such information is material.	a) Disclose the metrics used by the organization to assess climate-related risks and opportunities in line with its strategy and risk management process. b) Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas (GHG) emissions, and the related risks. c) Describe the targets used by the organization to manage climate-related risks and opportunities and performance against targets.

In order to support its ambition of carbon neutrality (zero net emission) at a global scale (Scope 1+2+3), together with society, TotalEnergies has set targets and introduced a number of indicators to steer its performance.

Company Climate Targets	In facts
2030 targets for operated facilities worldwide (Scope 1+2)	
– Reduce GHG emissions (**Scope 1+2**) on operated facilities from 46 Mt CO_2e in 2015 to less than 40 Mt CO_2e by 2025. By 2030, the target is a reduction of at least 40% of net emissions(1) compared to 2015 for its operated activities, thus bringing them to between 25 Mt and 30 Mt CO_2e	– A reduction in GHG emissions (Scope 1+2) of operated facilities from 46 Mt CO_2e to **37.0 Mt CO_2e** excluding the COVID-19 effect(2) between 2015 and 2021
– Improve the **energy efficiency** of operated facilities by 1% per year from 2010	– **13%** improvement in energy efficiency between 2010 and 2021
– Reduce **methane emissions** of operated facilities by 50% between 2020 and 2025, and by 80% between 2020 and 2030	– Methane emissions already reduced by **50%** between 2010 and 2020 and by 23% between 2020 and 2021
– Maintain **methane emissions intensity** below 0.1% of commercial gas produced at operated gas facilities	– Methane intensity of Upstream hydrocarbon activities of less than **0.1%** for operated gas facilities
– Reduce **routine flaring**(3) to less than 0.1 Mm^3/d by 2025, with the goal of eliminating it by 2030	– More than **90%** reduction in routine flaring between 2010 and 2021

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(1) The calculation of net emissions takes into account negative emissions from natural sinks like forests, regenerative agriculture and wetlands.

(2) Refer to point 5.11 for the assessment of the COVID-19 effect.

(3) Routine flaring, as defined by the working group of the Global Gas Flaring Reduction program within the framework of the World Bank's Zero Routine Flaring initiative.

2030 worldwide targets (Scope 3)

– Reduce **Scope 3**[1] GHG emissions related to its customers' use of energy products to less than 400 Mt CO_2e which is a level lower than in 2015, despite the growth of its energy production in the coming decade;	– Scope 3 GHG emissions limited to **400 Mt CO_2e** excluding the COVID-19 effect in 2021, below the level of 2015
– Reduce **Scope 3** GHG emissions related to its customers' use of petroleum products sold worldwide by more than 30% compared to 2015;	– A decrease of the Scope 3 GHG emissions from the petroleum products sold of **19%** excluding the COVID-19 effect in 2021 compared to 2015
– Reduce the **average carbon intensity** of the energy products used by customers by more than 20% compared to 2015. By 2025, the target reduction is at least 10% (**Scope 1+2+3**)	– A decrease of the carbon intensity of **10%** excluding the COVID-19 effect between 2015 and 2021

2030 Europe[2] targets

– Reduce GHG emissions from energy products throughout the value chain (from production to use by its customers) (**Scope 1+2+3**) by at least 30% compared to 2015.	– A decrease in GHG emissions (Scope 1+2+3) in Europe of **14%** excluding the COVID-19 effect between 2015 and 2021
– Reduce **Scope 3** GHG emissions relating to customers' use of the energy products in Europe by at least 30% in absolute terms, relative to 2015.	– A decrease in GHG emission (Scope 3) in Europe from 265 Mt CO_2e to **220 Mt CO_2e** excluding the COVID-19 effect between 2015 and 2021.

It should be noted that the decrease in the Company's GHG emissions (Scope 1+2+3) in 2020, and to a lesser extent in 2021, is partly related to the impact of the COVID-19 pandemic on TotalEnergies's activities, hence the references to estimates excluding the COVID-19 effect.

Indicators related to climate[3]

		Operated emissions				Equity emissions			
GHG emissions		2021	2020	2019	2015	2021	2020	2019	2015
SCOPE 1 **Direct GHG emissions**	Mt CO_2e	**34* (33)**	**38* (36)**	**41**	**42**	**49**	**52**	**55**	**50**
BREAKDOWN BY SEGMENT									
Upstream oil & gas activities	Mt CO_2e	14	16	18	19	23	24	26	22
Integrated Gas, Renewables & Power, excluding upstream gas operations	Mt CO_2e	5	3	3	–	6	5	4	–
Refining & Chemicals	Mt CO_2e	15* (14)	17	20	22	19	22	25	27
Marketing & Services	Mt CO_2e	<1	<1	<1	<1	<1	<1	<1	1
BREAKDOWN BY GEOGRAPHY									
Europe: EU 27 + Norway + UK + Switzerland	Mt CO_2e	20* (19)	22* (21)	24	22	18	20	23	22
Eurasia (incl. Russia) / Oceania	Mt CO_2e	1	1	1	5	17	17	18	13
Africa	Mt CO_2e	9	10	11	12	7	7	8	9
Americas	Mt CO_2e	5	4	4	4	7	7	6	5
BREAKDOWN BY TYPE OF GAS									
CO_2	Mt CO_2e	32	34	39	39	47			
CH_4	Mt CO_2e	1	2	2	2	1			
N_2O	Mt CO_2e	<1	<1	<1	<1	<1			
SCOPE 2 **Indirect emissions from energy use**	Mt CO_2e	**2* (2)**	**3* (3)**	**4**	**4**	**5**			
Of which Europe: EU 27+ Norway + UK + Switzerland	Mt CO_2e	1* (1)	2* (2)	2	2	2			
SCOPE 1+2	Mt CO_2e	**37* (35.7)**	**41* (38)**	**44**	**46**	**54**			

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(1) GHG Protocol - Category 11.

(2) Europe refers to the European Union, Norway, the United Kingdom and Switzerland.

(3) Refer to point 5.11 of this chapter for the reporting perimeter.

Methane emissions		Operated emissions 2021	2020	2019	2015	Equity emissions 2021
Methane emissions	kt CH_4	49	64	68	94	51
BREAKDOWN BY SEGMENT						
Upstream oil & gas activities	kt CH_4	48	62	66	92	48
Integrated Gas, Renewables & Power, excluding upstream gas operations	kt CH_4	<1	<1	<1	0	2
Refining & Chemicals	kt CH_4	1	1	1	1	1
Marketing & Services	kt CH_4	0	0	0	0	0
BREAKDOWN BY GEOGRAPHY						
Europe: EU 27 + Norway + UK + Switzerland	kt CH_4	7	12	15	9	5
Eurasia (incl. Russia) / Oceania	kt CH_4	1	3	3	33	16
Africa	kt CH_4	23	31	39	49	18
Americas	kt CH_4	18	18	10	3	12

Other indirect GHG emissions		2021	2020	2019	2015
SCOPE 3(a) **Indirect GHG emissions related to the use by customers of energy products**	**Mt CO_2e**	**400* *(370)***	**400* *(350)***	**410**	**410**
BREAKDOWN BY PRODUCTS					
Petroleum products	Mt CO_2e	285* *(255)*	320* *(270)*	335	350
Gas	Mt CO_2e	115	80	75	60
BREAKDOWN BY GEOGRAPHY					
Europe: EU 27 + Norway + UK + Switzerland	Mt CO_2e	220* *(202)*	215* *(190)*	232	256
Eurasia (incl. Russia) / Oceania	Mt CO_2e	79* *(77)*			
Africa	Mt CO_2e	68* *(59)*			
Americas	Mt CO_2e	33* *(31)*			

Intensity indicators		2021	2020	2019	2015
Lifecycle carbon intensity of energy products used by the customers (71 g CO_2e/MJ in 2015)	Base 100 in 2015	**90* *(89)***	**92* *(90)***	**94**	**100(c)**
Intensity of GHG emissions (Scope 1+2) of operated Upstream oil & gas activities(b)	kg CO_2e/boe	17	18	19	21
Intensity of GHG emissions (Scope 1+2) of Upstream oil & gas activities(b) on equity basis	kg CO_2e/boe	19			
Intensity of methane emissions from operated oil & gas facilities (Upstream)	%	0.13	0.15	0.16	0.23
Intensity of methane emissions from operated gas facilities	%	<0.1	<0.1	<0.1	<0.1

Other indicators		2021	2020	2019	2015
Net primary energy consumption (operated scope)	TWh	148	147	160	153
Global energy efficiency indicator (GEEI)	Base 100 in 2010	87.0	90.2	88.0	90.8
Flared gas (Upstream oil & gas activities operated scope) (including safety flaring, routine flaring and non-routine flaring)	Mm^3/d	3.6	4.2	5.7	7.2
Of which routine flaring	Mm^3/d	0.7	0.6	0.9	2.3(d)

*Valuation of these indicators excluding the COVID-19 effect.

(a) Oil products including bulk refining sales and biofuels ; Natural Gas excluding minority stakes in public companies.

(b) This indicator doesn't include integrated LNG assets in its perimeter.

(c) Indicator developed in 2018, with 2015 as the baseline year.

(d) Volumes estimated upon historical data.

These data as well as the related risks are also reported to the CDP(1) once a year, and TotalEnergies's response to the CDP Climate Change questionnaire is posted on the TotalEnergies website. For its 2021 reporting on 2020 activities, the Company received an A-.

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(1) The CDP is a non-profit organization that offers environmental reporting services for investors, enterprises, city authorities, States and regional authorities.

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5.4.5 TCFD correspondence table

In June 2017, the TCFD(1) of the G20's Financial Stability Board published its final recommendations on information pertaining to climate to be released by companies. These recommendations include additional details for certain sectors, such as energy. TotalEnergies publicly announced its support for the TCFD and its recommendations and has implemented them since its 2017 annual report.

TotalEnergies continued discussions by taking part in the Oil & Gas Preparer Forum, which published, in July 2018, the best practices on the disclosure of climate-related information and on the implementation of TCFD recommendations by the four companies that are members of the Forum(2).

In 2019, TotalEnergies also took part in the first Task Force set up by the EFRAG (European Financial Reporting Advisory Group) Reporting Lab on Climate-related disclosures, which aims to identify the best practices in this area. This Task Force published the results of its work in February 2020.

In accordance with the latest TCFD recommendations published in October 2021(Guidance on Metrics, Targets and Transition Plan), a series of indicators and targets specific to climate risks is also being studied to facilitate reconciliation with financial performance data.

Themes	Recommended TCFD disclosures	Ref. URD	Ref. CDP	Progress	Summary
GOVERNANCE	a) Describe the board's overseeing of climate-related risks and opportunities.	4.1 5.4.1	C1.1	●	The Board of Directors and the Executive Committee are mobilized to transform TotalEnergies into a multi-energy company. At the Annual General Meeting on May 28, 2021, for the first time, the Board of Directors decided to submit to the shareholders of TotalEnergies SE for their opinion the Corporation's ambition in terms of sustainable development and energy transition toward carbon neutrality and its objectives in this area by 2030. This resolution was approved by more than 90% of the votes cast.
	b) Describe management's role in assessing and managing climate-related risks and opportunities.	4.1 5.4.1	C1.2	●	
STRATEGY	a) Describe the climate-related risks and opportunities that the organization has identified over the short, medium, and long term.	3.1.2 5.4.2	C2	●	The identification and the impact of climate-related risks form an integral part of TotalEnergies's global risk management processes. In particular, the Company relies on global energy demand data from the World Energy Outlook published by the IEA since 2016 and its own supply assessments to evaluate the potential impact on its assets and investment projects.
	b) Describe the impact of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning.	5.4.2	C3.3 C3.4	●	
	c) Describe the resilience of the organization's strategy, taking into consideration different climate-related scenarios, including a scenario of 2 °C or less.	5.4.2	C3.2 C3.3	●	
RISK MANAGEMENT	a) Describe the organization's processes for identifying and assessing climate-related risks.	3.3 5.4.3	C2.1 C2.2	●	The risks related to climate issues are fully integrated in TotalEnergies's global risk management processes. The Audit Committee annually reviews the Statement of Non-Financial Performance, which includes the performance as per the Company's climate and environmental reporting. An independent third-party body issues a reasoned opinion giving limited assurance as to the compliance of the Statement with the requirements of Article R. 225-105 of the French Commercial Code and the veracity and fairness of the information provided in accordance with article R. 225 105 I, 3) and II of said Code, namely the results of policies, including key performance indicators, and the actions relating to the main risks.
	b) Describe the organization's processes for managing climate-related risks.	3.3 5.4.3	C2.2	●	
	c) Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organization's overall risk management.	3.3 5.4.3	C3.3 C3.4	●	

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(1) Task Force on Climate-related Financial Disclosures.

(2) Eni, Equinor, Shell and TotalEnergies, with the support of the WBCSD (World Business Council for Sustainable Development).

Themes	Recommended TCFD disclosures	Ref. URD	Ref. CDP	Progress	Summary
METRICS AND OBJECTIVES	a) Disclose the metrics used by the organization to assess climate-related risks and opportunities in line with its strategy and risk management process.	5.4.4	C6 C10	🟢	In order to support its ambition of attaining carbon neutrality worldwide (Scope 1+2+3), together with society, TotalEnergies has set targets and introduced a number of indicators to steer its performance. In accordance with the latest recommendations of the TCFD (Guidance on Metrics, Targets and Transition Plan, October 2021), a series of indicators and targets specific to climate risks is also being studied to facilitate reconciliation with financial performance data.
	b) Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 GHG emissions and the related risks.	5.4.4	C6 C10	🟢	
	c) Describe the targets used by the organization to manage climate-related risks and opportunities and performance against targets.	5.4.4	C4.1 C4.2	🟠	

Progress indicator: green dot for 100% progress, orange dot for partial progress

5.4.6 European Taxonomy

The Taxonomy regulation (EU) 2020/852 (« the Regulation ») establishes a classification system common to the European Union, the objective of which is to identify the economic activities considered as sustainable, with reference to six environmental objectives.

These six environmental objectives defined at article 9 of the Regulation are as follows:

- climate change mitigation;
- climate change adaptation;
- the sustainable use and protection of water and marine resources;
- the transition to a circular economy;
- pollution prevention and control;
- the protection and restoration of biodiversity and ecosystems.

Within the meaning of article 3 of the Regulation, an economic activity shall qualify as environmentally sustainable where that economic activity:

- contributes substantially to one or more of the environmental objectives set out in Article 9,
- does not significantly harm any of the environmental objectives set out in Article 9,
- is carried out in compliance with the minimum safeguards laid down in Article 18 of the Regulation; and
- complies with technical screening criteria that have been established by the Commission.

The delegated regulation (EU) 2021/2139 of 4 June 2021 supplementing regulation (EU) 2020/852 of the European Parliament and of the Council establishes the technical screening criteria for determining the conditions under which an economic activity qualifies as contributing substantially to climate change mitigation or climate change adaptation. It also determines, for each of the environmental objectives listed in article 9 of the Regulation, the technical screening criteria for assessing whether that economic activity causes no significant harm to one or several of those environmental objectives.

The minimum safeguards of article 3 of the Regulation are procedures implemented by an undertaking to ensure the alignment with the OECD Guidelines for Multinational Enterprises and the UN Guiding Principles on Business and Human Rights, including the principles and rights set out in the eight fundamental conventions identified in the Declaration of the International Labour Organisation on Fundamental Principles and Rights at Work and the International Bill of Human Rights.

In order to acknowledge "the role of natural gas as an important technology in reducing greenhouse gas emissions"(1), the delegated regulation (EU) 2021/2139 of 4 June 2021 plans a supplementing delegated regulation on the activities related to natural gas, that is in the process of being approved at the date of publication of this Universal Registration Document 2021.

At the date of publication of this Universal Registration Document 2021, only the technical screening criteria relating to the first two environmental objectives - climate change mitigation and climate change adaptation - have entered into force. The technical screening criteria relating to the other four environmental objectives that will be established through delegated regulations are still being negotiated or drafted.

REPORTING FRAMEWORK

Article 8 of the Regulation requires undertakings(2) to include in their *"consolidated non-financial statement information on how and to what extent the undertaking's activities are associated with economic activities that qualify as environmentally sustainable under Articles 3 and 9 of this Regulation"*.

In particular, the undertakings concerned shall disclose the following:

- the proportion of their turnover derived from products or services associated with economic activities that qualify as environmentally sustainable;
- the proportion of their capital expenditure and the proportion of their operating expenditure related to assets or processes associated with economic activities that qualify as environmentally sustainable.

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(1) Refer to (28) of delegated regulation (EU) 2021/2139 of 4 June 2021.

(2) Undertakings which are subject to the obligation to publish a non-financial statement or a consolidated non-financial statement pursuant to Article 19a or Article 29a of Directive 2013/34/EU.

The delegated regulation (EU) 2021/2178 of 6 July 2021 supplementing Regulation (EU) 2020/852 specifies the content and presentation of information to be disclosed by undertakings concerning environmentally sustainable economic activities and specifying the methodology to comply with that disclosure obligation.

The delegated regulation specifies the following definitions:

- a taxonomy-eligible economic activity ("Eligible Activities") is an economic activity that is described in the delegated regulation (EU) 2021/2139 of 4 June 2021, irrespective of whether that economic activity meets any or all of the technical screening criteria laid down in this delegated act;
- a taxonomy-non-eligible economic activity is any economic activity that is not described in the delegated regulation (EU) 2021/2139 of 4 June 2021;
- a taxonomy-aligned economic activity is an economic activity that complies with the requirements laid down in Article 3 of the Regulation.

The disclosures obligations provided for in the delegated regulation are spread over several stages:

- article 10 of the delegated regulation (EU) 2021/2178 of 6 July 2021 requires non-financial undertakings to disclose in 2022, only the proportion of taxonomy-eligible and taxonomy-non-eligible economic activities in their total turnover, capital and operational expenditure and the qualitative information referred to in the regulation relevant for this disclosure.

  The indicators disclosed (turnover, CapEx, OpEx) in the section 5.4.6.1 of this Statement of Non-Financial Performance only report the proportion of **taxonomy-eligible economic activities**. They only relate to data for the 2021 financial year without comparative information for the 2020 financial year.
- from 1 January 2023, the reporting will be completed with the disclosures of the proportion of the three indicators associated with **taxonomy-aligned economic activities**. The indicators disclosed in 2023 will relate to data for the 2022 financial year without comparative information for the 2021 financial year. However, for information purposes, the section 5.4.6.2 also presents a preliminary assessment of the proportion of taxonomy-aligned activities on the turnover and CapEx indicators.

5.4.6.1 ELIGIBILITY OF TotalEnergies' ACTIVITIES

TotalEnergies has calculated the proportion of its eligible and non-eligible economic activities under the Regulation on the basis of the provisions of the delegated regulation (EU) 2021/2139 of 4 June 2021 and the delegated regulation (EU) 2021/2178 of 6 July 2021.

The table below thus presents the proportion of its eligible and non-eligible economic activities of TotalEnergies on three financial indicators: turnover, capital expenditure ("CapEx") and operating expenditure ("OpEx"), within the meaning of the Regulation, on the scope of entities exclusively controlled and consolidated by TotalEnergies SE.

The table also presents, in a voluntary approach, proposed by the delegated regulation of 6 July 2021, a proportional view of the indicators turnover and CapEx, including the contribution of joint ventures and associates in which TotalEnergies SE has significant influence, accounted for by the equity method (see Note 18 of the Consolidated Financial Statements in chapter 8).

Given the size of the Company and the adopted development model using partnership to develop its strategy in the electricity and sector renewables, the proportional view is more relevant for TotalEnergies than the consolidated view.

These indicators also take into account the draft delegated regulation related to natural gas.

	Controlled scope			Proportional view	
Eligible Activities 2021	Turnover	CapEx	OpEx	Turnover	CapEx
Renewables and electricity	2.4%	8.9%	5.0%	2,6%	21.7%
*including Electricity generation from natural gas**	*1.1%*	*0.9%*	*0.8%*	*1.0%*	*0.6%*
Refining and chemicals	7.4%	2.7%	9.1%	8.5%	4.1%
Other eligible activities	0.1%	1.8%	0.6%	0.1%	1.6%
TOTAL ELIGIBLE	**9.9%**	**13.4%**	**14.7%**	**11.2%**	**27.4%**
TOTAL NON ELIGIBLE	**90.1%**	**86.6%**	**85.3%**	**88.8%**	**72.6%**

*as per the draft delegated regulation (applicable from 1 January 2023).

ELIGIBLE ACTIVITIES OF TotalEnergies

TotalEnergies' eligible activities focus solely on the climate change mitigation objective.

- For the Integrated Gas, Renewables & Power segment, main Eligible Activities are as follows:
  - Renewable energy activities include the electricity generation from renewable sources (wind, solar, bioenergy and hydroelectricity), the manufacture, installation, maintenance and repair of renewable energy technologies, as well as the manufacture of rechargeable batteries, battery packs and accumulators (see sections 2.1.4.2 and 2.1.4.3 in chapter 2).
  - Activities related to the production of biogas by anaerobic digestion of bio-waste (see section 2.1.3.1 in chapter 2).
  - Electricity generation from natural gas, corresponding to the portfolio of combined cycle gas turbine (CCGT) power plants (see section 2.1.4.1 of chapter 2).
- For the Refining & Chemicals segment, main Eligible Activities are as follows:
  - Activities related the production of biofuel for transportation and the production of biogas (see 2.4.1.1 in chapter 2).
  - Activities related to the manufacture of basic organic chemicals and the manufacture of basic plastic materials cover a significant portion of the Company's petrochemical activities. Some of these activities may constitute "transitional activities" within the meaning of the european taxonomy regulation, as long as they meet the technical review criteria of the delegated regulation (EU) 2021/2139 of 4 June 2021, in particular in the fields of biopolymer production and mechanical or chemical recycling of plastics (see section 2.4.1.1 of chapter 2).
- For the Exploration & Production segment, main eligible activities are those related to carbon sinks: CO_2 capture and storage and the development of natural carbon sinks (see points 2.2.2.2 and, 2.2.2.3 in chapter 2).
- For the Marketing & Service segment, main Eligible Activities are those related to new energy mobility infrastructures: construction and operation of infrastructure enabling low-carbon road transport and public transport, such as electric charging stations and hydrogen fueling stations (see section 2.5.1 in chapter 2).

The analysis of the texts has led TotalEnergies to consider that, among its activities, are notably not eligible under the taxonomy regulation:

- Electricity marketing activities, if the electricity is not produced by the Company (see section 2.1.5.1 of chapter 2).
- The construction and operation of infrastructures for the distribution of energy from natural gas, such as NGV stations and marine natural gas supply infrastructures (see point 2.5.1 of chapter 2).
- Activities related to the use of means of transportation (road, sea) if the vessels or vehicles are dedicated to the transport of fossil fuels (see 2.4.2.2 in chapter 2).

DEFINITION OF FINANCIAL INDICATORS AND METHODOLOGY

The proportion of Eligible (non-eligible) Activities in the turnover, the CapEx and the OpEx (the « Eligibility Ratios ») is calculated by dividing respectively the turnover, the CapEx and the OpEx associated with the Eligible (non-eligible) Activities of the Company (the numerator) by the total turnover, CapEx and OpEx of TotalEnergies (the denominator).

The financial indicators, on which the Eligibility Ratios of the controlled scope are founded, are determined from the financial data used for the preparation of the consolidated financial statements of TotalEnergies SE, established in compliance with the IFRS international accounting standards.

- Turnover corresponds to Revenues from sales as presented in the consolidated statement of income (see point 8.2 of chapiter 8), i.e. consolidated external sales excluding excise taxes.
- CapEx corresponds to the additions to tangible and intangible assets, *i.e.* to the cost of construction or acquisition of new properties, plants and equipments and intangible assets recognized in the consolidated balance sheet (see point 8.4 of chapter 8), including in connection with a business combination. These additions are considered before depreciation, amortisation and any re-measurements, including those resulting from revaluations and impairments, and excluding fair value changes. It includes rights of use under new lease agreements but excludes acquisitions of shares in equity affiliates and non-consolidated companies, as well as loans granted to these companies.
- OpEx corresponds only to direct non-capitalized costs that relate to research and development, short-term lease, building renovation measures and maintenance and repair. These costs are included in the Other operating expenses in the consolidated statement of income (see point 8.2 of chapter 8).

The Eligibility Ratios calculated using the proportional view are based on the turnover and CapEx financial indicators but extend the scope of the contributing entities, for the numerator like the denominator, to the joint ventures and associates in which TotalEnergies SE has significant influence, accounted for by the equity method up to the amount of the interest held by TotalEnergies.

The methodology for determining Eligible Activities, the precise definition of financial indicators and all the criteria and assumptions used have been documented in an internal manual. Depending on future changes in regulations and interpretations of definitions, TotalEnergies intends to complete and clarify the calculation of eligibility ratios.

5.4.6.2 ALIGNMENT OF TotalEnergies' ACTIVITIES

For information purposes and early compared to the implementation of the European regulation in the process of being approved, the tables below present the proportion of the eligible activities and a preliminary assessment of the proportion of the aligned activities on the turnover and CapEx indicators, on the scope of the activities controlled by TotalEnergies, as well as a proportional view, proposed by the delegated regulation of 6 July 2021, including the contribution of joint ventures and associates in which TotalEnergies SE has significant influence, accounted for by the equity method. They take into account the draft delegated act on the activities related to natural gas.

These data have been assessed on the basis of year 2021 with a reminder of the estimate for year 2020.

	Eligible activities		Aligned activities	
Controlled scope - 2021	**Turnover**	**CapEx**	**Turnover**	**CapEx**
Renewables and electricity	2.4%	8.9%	1.3%	8,0%
*including Electricity generation from natural gas**	*1.1%*	*0.9%*	*0.0%*	*0.0%*
Refining and chemicals	7.4%	2.7%	0.1%	0.3%
Other eligible activities	0.1%	1.8%	0.1%	1.8%
TOTAL 2021	**9.9%**	**13.4%**	**1.5%**	**10.1%**
TOTAL 2020	***9.4%***	***13.1%***	***2.1%***	***5.1%***

* as per the draft delegated regulation (applicable from 1 January 2023).

	Eligible activities		Aligned activities	
Proportional view - 2021	**Turnover**	**CapEx**	**Turnover**	**CapEx**
Renewables and electricity	2.6%	21,7%	1.6%	21.1%
*including Electricity generation from natural gas**	*1.0%*	*0.6%*	*0.0%*	*0.0%*
Refining and chemicals	8.5%	4.1%	0.2%	0.5%
Other eligible activities	0.1%	1.6%	0.1%	1.6%
TOTAL 2021	**11.2%**	**27.4%**	**1.9%**	**23.2%**
TOTAL 2020	***11.2%***	***16.5%***	***2.4%***	***9.2%***

* as per the draft delegated regulation (applicable from 1 January 2023).

This classification, defined by the Taxonomy, confirms the 2021 growth of the eligible and aligned CapEx of the Company, which represent about a quarter of the total investments.

With regard to the assessment of the regulatory criteria named "Substantial Contribution":

– the majority of the Eligible Activities related to renewables have a substantial contribution to the objective of climate change mitigation as soon as they qualify as eligible.
– the electricity generation from natural gas meets this criteria for plants, the emissions of greenhouse gases (GHG) of which are lower than 100 gCO_{2e}/kWh or in transient configurations, for plants whose permit is granted before 31 December 2030, if:
    – the GHG emissions of the activity are lower than 270 gCO_{2e}/kWh or the average annual GHG emissions over 20 years are lower than 550 kg CO_{2e}/kW
    – a duly documented management commitment is taken for a switch to 100% renewable and decarbonated gas before end 2035,
    – the activity in question replaces a preexisting coal or liquid fuel activity and
    – a comparative assessment will have demonstrated that no 100% renewable alternative was possible.
– the manufacture of biofuels for use in transports complies with that criteria if the process uses a biomass that is not food-and feed crops that complies with the sustainability criteria of the Renewable Energies Directive (RED) and that allows savings in GHG emissions due to the manufacturing of these biofuels of at least 65% compared to fossil fuels.
– the manufacture of basic organic chemicals complies with that criteria if (i) the GHG emissions (manufacture) by product are lower than a threshold, or (ii) those products are manufactured from renewable feedstock and the life-cycle GHG emissions, verified by a third party, are lower than the equivalent chemical manufactured from fossil fuel feedstock.
– the manufacture of plastic in primary form complies with that criteria if it is (i) fully manufactured by mechanical recycling of plastic waste or (ii) where mechanical recycling is not technically feasible or economically viable, fully manufactured by chemical recycling and the life-cycle GHG emissions of the manufactured plastic, verified by a third party, are lower than the life-cycle GHG emissions of the equivalent plastic in primary form manufactured from fossil fuel feedstock or (iii) derived wholly or partially from renewable feedstock if its life-cycle GHG emissions, verified by a third party, are lower than the life-cycle GHG emissions of the equivalent plastics manufactured from fossil fuel feedstock.
– the manufacture of biogas by anaerobic digestion of bio-waste complies with that criteria if the methane leakage and the traceability of the feedstock and digestates are under control and if the share of food-and feed crops is lower than 10%.

The GHG emissions used correspond to the best available estimates at this stage and have not been verified by a third party.

With regard to the regulatory criteria named "Do no significant harm" any of the environmental objectives, TotalEnergies relies on the HSE division and the HSE departments within the Company's entities which seek to ensure that both applicable local regulations and internal requirements of One MAESTRO reference framework and the Company's additional commitments are respected (see 5.5.1 in chapter 5) to analyze if its Eligible Activities comply with this criteria. A census has been performed on the Eligible Activities of TotalEnergies in 2021, establishing, by activity, a preliminary assessment of the risk of non compliance with that criteria. For the activities localized outside Europe, a detailled analysis is necessary and on-going to ensure that the applicable regulations and local practices are compatible with the requirements of the European regulation.

With regard to the regulatory criteria named "Minimum Safeguards", TotalEnergies is committed to respecting internationally recognized human rights and standards, wherever the Company operates, in particular the Universal Declaration of Human Rights, the Fundamental Conventions of the International Labor Organization (ILO), the U.N. Guiding Principles on Business and Human Rights, the OECD guidelines for multinational enterprises and the Voluntary Principles on Security and Human Rights (VPSHR) (see 5.7 in chapter 5). The Company refers to those standards in the analysis of the compliance of its Eligible Activities.

5.5 Environmental challenges

The Company's activities incur risks for the environment, for which TotalEnergies has developed a structured management policy.

In this context, the Company has identified its main environmental risks:

- risk of accidental pollution;
- environmental risks that would arise in the event of a liquid, gas or solid discharge or unsustainable use of natural resources;
- risk of damage to biodiversity and ecosystems during projects and operations, especially those located in sensitive natural environments;
- environmental risks associated with the production of final waste.

The risks and challenges relating to the environment are identified as part of a dynamic process that draws on the Company's expertise and lessons learned, which are incorporated in the HSE reference framework known as One MAESTRO (Management and Expectations Standards Toward Robust Operations).

To address these risks, TotalEnergies relies on the HSE division, which forms part of the Strategy & Sustainability division, whose President is a member of the Executive Committee.

5.5.1 General policy and environmental targets

In keeping with its Safety Health Environment Quality charter, TotalEnergies considers respect for the environment to be a priority. All employees, at every level, must do their utmost to protect the environment as they go about their work. TotalEnergies strives to control its energy consumption, its emissions in natural environments (water, air, soil), its residual waste production, its use of natural resources and its impact on biodiversity. TotalEnergies takes a constructive approach on this topic that is based on transparency and dialogue when communicating with its stakeholders and third parties.

With this aim, the HSE division manages in an integrated manner the environmental, safety, health and societal challenges related to the Company's operations. It coordinates the implementation of the Company's Health, Safety, Environment and Quality Charter by defining and monitoring the implementation of the One MAESTRO internal reference framework. This reference framework and the corresponding audits are described in point 5.3 of this chapter. The HSE division and the HSE departments within the Company's entities seek to ensure that both applicable local regulations and internal requirements of One MAESTRO and the Company's additional commitments are respected. The Company's steering bodies, led by the HSE division, are tasked with:

- monitoring TotalEnergies' environmental performances, which are reviewed annually by the Company, for which multi-annual improvement targets are set;
- handling, in conjunction with the business segments, the various environment-related subjects of which they are in charge;
- promoting the internal standards to be applied by the Company's operational entities.

As a general requirement, the One MAESTRO reference framework states that the environmental management systems of the sites operated by the Company that are important for the environment(1) must be ISO14001 certified within two years of start-up of operations or acquisition: 100% of these 79 sites were compliant in 2021. In addition to this requirement, at year-end 2021, a total of 279 sites operated by the Company were ISO14001 certified. In 2021, 22 new sites received ISO14001 certification. Internal requirements also stipulate that all projects submitted to the Company's Risk Committee must be assessed and reviewed for risk and potential impact, particularly environmental, before the final investment decision is made.

The One MAESTRO reference framework also includes specific requirements covering the Company's various environmental risks (refer to points 5.5.2 to 5.5.5 of this chapter). In January 2022, the Company set itself higher environmental progress targets for 2030.

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(1) Production subsidiaries of the Exploration & Production segment, sites producing more than 250,000 t/y in the Refining & Chemicals and Marketing & Services segments, as well as gas-fired power plants in the Integrated Gas, Renewables and Power segment.

Our environmental targets[a]	**Facts**
Environment Management Systems – have the environment management systems of the sites important for the environment certified according to the ISO14001 standard	– 100% of the sites important for the environment certified according to the ISO14001 standard in 2021
Air - new target – reduce emissions of sulfur dioxide (SO_2) into the air by 75% between 2015 and 2030, a target that amounts to not exceeding 15 kt emitted in 2030	– a 64% reduction of sulfur dioxide (SO_2) emissions into the air, excluding COVID-19 and conjonctural effects
Water - new targets – reduce the freshwater withdrawal in water stress area by 20% between 2021 and 2030 – limit the hydrocarbon content of continuous aqueous discharges to less than 30 mg/l for offshore sites – limit the hydrocarbon content of continuous aqueous discharges to less than 1 mg/l for land and onshore sites by 2030	– a 4% reduction of sites fresh water withdrawal and preparation of water withdrawal optimization studies for sites located in water stress area – 92% of the Company's oil sites met the target for the quality of offshore discharges in 2021 – 80% of the Company's oil sites met the new target for the quality of onshore discharges in 2021
Waste - new target – reuse more than 70% of the waste produced by sites operated by the Company's subsidiaries by 2030	– 61% of the waste produced by sites operated by the Company's subsidiaries was reused in 2021
Biodiversity – implement a zero net deforestation policy in new projects located in new sites starting in 2022 onward – implement the biodiversity ambition in the 4 areas presented in point 5.5.4 of this chapter	– no oil and gas exploration or production activity in the area of natural sites listed on the UNESCO World Heritage List – no exploration activity in oil fields under sea ice in the Arctic – eight biodiversity action plans carried out or in preparation in 2021 for projects located in protected areas[1] – five biodiversity diagnostics carried out on sites important for the environment[2] – more than 1,600 employees sensitised to biodiversity within the framework of the *Action!* programme – more than 4,700 biodiversity data set downloaded from the data base of the international Global Biodiversity Information Facility (GBIF) and some 15 quotations in scientific publications

(a) For targets relating to the climate, refer to point 5.4 of this chapter.

TotalEnergies seeks to ensure that all employees share its environmental protection requirements. Employees receive training in the required skills (refer to point 5.3.2 of this chapter).

TotalEnergies also raises employee awareness through internal communication campaigns (e.g., in-house magazines, intranet, posters).

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[1] IUCN (International Union for Conservation of Nature) Protected areas I to IV or Ramsar areas.

[2] Exploration & Production production sites, refineries, petrochemicals sites, gas-fired power stations.

5.5.2 Preventing risks of accidental pollution

To prevent accidental risks and, in particular, major spills that could reach the environment, TotalEnergies implements appropriate risk management policies. Point 5.3.1 of this chapter describes the management measures covering the design and construction of facilities and any changes to existing facilities, as well as operations. It also describes the measures taken to control the integrity of facilities over time.

For its sea and river shipment requirements, TotalEnergies only charters ships and barges that meet the highest international standards. The internal policy that lays down the process and criteria by which ships and barges are selected, known as vetting. These criteria are based, in particular, on the regulations, the best practices and recommendations of the OCIMF[1] and, in Europe, on the European Barge Inspection Scheme (EBIS). Tankers and barges are vetted by a single centralized Company entity. The average age of the TotalEnergies's time-chartered fleet is approximately seven years.

The Company's operated marine terminals have completed the consolidation of their physical characteristics in the global database that forms part of the OCIMF's Marine Terminal Information System (MTIS), which will make it easier to assess ships' compatibility with ports of call. Additionally, TotalEnergies encourages all operated terminals to use the Marine Terminal Management and Self-Assessment (MTMSA), the framework recommended by the industry to terminal operators to ensure continuous improvement in the safety of their operations. A training course on checking safety conditions of the ship/shore interface (SSSCL – Ship Shore Safety Check List) and cargo transfer operations was made a requirement of the One MAESTRO reference framework in October 2020. At year-end 2021, 100% of the subsidiaries operating terminals had staff who had already undergone this training.

In order to manage a major accidental spill efficiently, TotalEnergies has implemented a global crisis management system that is described in point 5.3.1 of this chapter.

For the sites operated by the Company exposed to the risk of accidental spills that reach the surface water, this system is supplemented by requirements of the One MAESTRO reference framework. These requirements demand that the oil spill contingency plans be regularly reviewed and tested in exercises. These plans are specific to each site and are adapted to their structure, activities and environment while complying with Company recommendations. The TotalEnergies companies can call on in-house human and material resources (Fast Oil Spill Team, FOST) and benefit from assistance agreements with the main third-party organizations specialized in the management of hydrocarbon spills.

For the oil and gas exploration and production activities, since 2014, subsea capping and subsea containment equipment that can be transported by air has been positioned at various points of the world (South Africa, Brazil, Norway and Singapore). This equipment provides access to solutions that are more readily available in the event of oil or gas blowout in deep offshore drilling operations. From these locations, the equipment can benefit TotalEnergies' operations worldwide. This equipment was developed by a group of nine oil companies, including TotalEnergies, and is managed by Oil Spill Response Ltd (OSRL), a cooperative dedicated to the response to marine pollution by hydrocarbons. Since 2018, equipment to facilitate shallow water capping operations, Offset Installation Equipment (OIE), has been positioned in Trieste, Italy. Managed by OSRL, it can be transported by air or boat to anywhere in the world as necessary.

TotalEnergies has also designed and developed its own capping system ("Subsea Emergency Response System") to stop potential blow-out in drilling or production operations as quickly as possible. Since 2015, equipment has been installed in Angola and the Republic of the Congo, covering the entire Gulf of Guinea region. The equipment was successfully deployed in exercise and live conditions in March 2019 off Nigeria.

Oil spill preparedness	2021	2020	2019
Number of sites whose risk analysis identified at least one risk of major accidental pollution to surface water	119	119[(a)]	128
Proportion of those sites with an operational oil spill contingency plan	100%	100%	100%
Proportion of those sites that have performed an oil spill response exercise or whose exercise was prevented following a decision by the authorities	97%	88%	85%[(b)]

(a) The variation in the number of sites is due to changes in scope.

(b) The 2019 value was revised in order to account only for impediments following a decision by the authorities.

In accordance with industry best practices, TotalEnergies monitors accidental liquid hydrocarbon spills of more than one barrel. Spills that exceed a predetermined severity threshold are reviewed on a monthly basis and annual statistics are sent to the Performance Management Committee of the Company. All spills are followed by corrective actions aimed at returning the environment to an acceptable state as quickly as possible.

Accidental liquid hydrocarbon spills of a volume of more than one barrel that affected the environment, excluding sabotage	2021	2020	2019
Number of spills	65	50	57
Total volume of spills *(thousands of m^3)*	2.0	1.0	1.2
Total volume recovered *(thousands of m^3)*	1.7	–	–

The increase in the volume of spills between 2020 and 2021 is mainly related to a leak in a buried pipe at the Port Arthur refinery (United States).

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[1] Oil Companies International Marine Forum (OCIMF): An industry forum including the leading international oil companies. This organization manages the Ship Inspection Report (SIRE) Program, which holds and provides access to tanker and river barge inspection reports (Barge Inspection Questionnaire – BIQ).

5.5.3 Limiting the environmental footprint of the Company activities

TotalEnergies implements a policy of avoiding, reducing and, where necessary, offsetting the environmental footprint of its operations.

PROTECTION OF ENVIRONMENTS

Air and water protection

The Company's operations generate emissions into the atmosphere from combustion plants and the various conversion processes and discharges into wastewater. In addition to complying with applicable legislation, TotalEnergies has drawn up rules and guidelines that the Company's subsidiaries can use to limit the quantities discharged. TotalEnergies has set itself targets for reducing sulfur dioxide (SO_2) emissions and is committed to limiting its hydrocarbon discharges into water. After analysis, the exposed sites can introduce various reduction systems that include organizational measures (such as using predictive models to control peaks in SO_2 emissions based on weather forecast data and the improvement of combustion process management, etc.) and technical measures (wastewater treatment plants, using low NO_X burners and electrostatic scrubbers, etc.). To date, all refineries wholly owned by the Company have this type of system.

For new facilities developed by the Company, the internal rules require impact assessments to be carried out and, if necessary, actions must be taken to limit the impact of these emissions.

In 2015, SO_2 emissions reached 59 kt. TotalEnergies has set itself the target of reducing its emissions by 75% in 2030 (compared to 2015), which entails not exceeding 15 kt.

Chronic emissions into the atmosphere	2021	2020	2019
SO_2 emissions *(in kt)*	16	34	39
NO_X emissions *(in kt)*	59	64	72
NMVOC emissions[(a)] *(in kt)*	58	69	83

(a) Non-methane volatile organic compounds.

SO_2 emissions that are likely to cause acid rain are regularly checked and reduced. In 2021, SO_2 emissions have significantly decreased due to the decrease in refinery activity (shutdowns, COVID-19 pandemic) and perimeter changes. Without conjonctural effects, those emissions would have reached 21 kt.

NO_X emissions mainly concern the hydrocarbon exploration and production activities. They are mostly located offshore, far from the coast.

In January 2022, TotalEnergies set a new target for the quality of onshore discharge water to be achieved before 2030. Compared to the previous objective, it divides by 15 the maximum hydrocarbon content expected for these discharges. To date, 100% of the onshore sites comply with the previous objective of 15 mg/l and 80% with the new objective of 1 mg/l. Studies have been launched to improve the discharges from sites that are still not in compliance.

Discharged water quality	2021	2020	2019
Hydrocarbon content of offshore continuous water discharges *(in mg/l)*	13.7	12.8	13.0
% of sites that meet the target for the quality of offshore discharges *(30 mg/l)*	92%	100%[(a)]	100%[(a)]
Hydrocarbon content of onshore continuous water discharges *(in mg/l)*	2.6	1.9	1.7
% of sites that meet the target for the quality of onshore discharges of:			
goal 2010-2020: 15 mg/l	100%	100%	100%
goal 2030: 1 mg/l	80%	–	–

(a) Alwynn and Gryphon sites (United Kingdom) excluded, as their produced water discharges only occur during the maintenance periods of the water reinjection system and are subject to a specific regulatory declaration.

Soil protection

The risks of soil pollution related to TotalEnergies' operations come mainly from accidental spills (refer to point 5.5.2 of this chapter) and waste storage (refer to point 5.5.5 of this chapter). TotalEnergies has drawn up a guide that the subsidiaries can use to prevent and contain this pollution. The recommended approach is based on four pillars:

- preventing leaks, by implementing, as far as possible, industry best practices in engineering, operations and transport;
- carrying out maintenance at appropriate frequency to minimize the risk of leaks;
- overall monitoring of the environment to identify any soil and groundwater pollution; and
- managing any pollution from previous activities by means of containment and reduction or elimination operations.

In addition, a Company rule defines the following minimum requirements:

- systematic identification of each site's environmental and health impacts related to possible soil and groundwater contamination;
- assessment of soil and groundwater contamination based on various factors (extent of pollution inside or outside the site's boundaries, nature and concentrations of pollutants, presence of a vector that could allow the pollution to migrate, use of the land and groundwater in and around the site); and
- management of health or environmental impacts identified based on the use of the site.

Lastly, decommissioned facilities operated by the Company (i.e., chemical plants, service stations, mud pits or lagoons resulting from hydrocarbon extraction operations, wasteland on the site of decommissioned refinery units, etc.) impact the landscape and may, despite all the precautions taken, be sources of chronic or accidental pollution.

In addition to the appropriate management of waste produced by the dismantling and securing of sites, TotalEnergies has created a soil and groundwater depollution policy based on the assessment and management of the risks that such pollution may incur. For the sites at the end of their activity, the management of pollution is determined in accordance with regulatory obligations with an objective of continuing to control the use of the sites while favoring the possibility of redeveloping Company activities (solar, reforestation, etc.) and protecting biodiversity (priority 3 of the biodiversity ambition presented in point 5.5.4 of this chapter). Remediation operations are carried out by specialized entities created by the Company. At year-end 2021, 104 industrial sites that were no longer in operation (excluding service stations) were in the process of remediation.

The Company's provisions for the protection of the environment and site remediation are detailed in Note 12 to the Consolidated Financial Statements (refer to point 8.7 of chapter 8).

SUSTAINABLE USE OF RESOURCES

Sustainable fresh water use

The Company's activities, mainly those of Refining & Chemicals, and to a lesser extent those of the Exploration & Production and the Integrated Gas, Renewables & Power segments, may potentially have an impact on, as well as be dependent on, water resources, particularly when the activity concerned is located in a water resources sensitive environment.

Fully aware of these challenges, TotalEnergies implements the following water risk management actions:

- monitor water withdrawals to identify priority sensitive sites and then carry out a risk assessment;
- improve water resources management depending on identified needs, by adapting the priority sites' environmental management system.

In order to identify its facilities exposed to the risk of water stress, TotalEnergies records the withdrawal of water on all of its operated sites significant for this indicator and assesses these volumes on the basis of the current and future water stress indicators of the WRI(1) Aqueduct tool. In 2021, the Company's sites withdrew 101 million m^3 of fresh water, with net consumption of 75 million m^3. 54% this volume was withdrawn in areas of water stress according to the WRI definition, i.e. areas where human demand for water exceeds 40% of resources available. These are mainly highly populated urban areas, such as urban areas in Northern Europe. According to the CDP Water definition, these withdrawals represent 10% of the overall Company's water withdrawals (including brackish water and seawater). For priority sites defined as those located in water stress areas and withdrawing more than 500,000 m^3 per year, TotalEnergies assesses water resources risk levels using, in particular, the Local Water Tool (LWT) for Oil & Gas from the Global Environmental Management Initiative (GEMI). This tool also helps guide the actions taken to mitigate the risks and to make optimal use of water resources on the sites when necessary.

This risk assessment establishes that the activities of the sites operated by the Company only expose the other users of the water to a relatively low risk of water shortage. The risk mainly concerns TotalEnergies sites for which the water supply could be cut in order to maintain access to water for priority users.

In 2021, TotalEnergies responded to the CDP Water survey for the 2020 period and was, for the fourth consecutive year, graded A-. The main indicator used in this reporting is freshwater withdrawal. In January 2022, TotalEnergies has set a new target for the freshwater ressource protection for 2030. The ambition of the Company is now to reduce by 20% its freshwater withdrawal in water stress area between 2021 and 2030.

Water-related indicator	2021	2020	2019
Fresh water withdrawals excluding cooling water (*million* m^3)	101	105	115
Fresh water consumption (*million* m^3)[a]	75	75	–
Fresh water withdrawal in water stress area (*million* m^3)	54	52	–

(a) Indicators disclosed for 2020 with no historical data.

Sustainable soil use

TotalEnergies limits the use of land to the areas it needs to safely carry out its operations on its facilities.

All the biofuels incorporated by the Company comply with the sustainability, traceability and certification criteria (ISCC, RSPO, etc.) set by the various national regulations (carbon balance, non-deforestation, good land use). These criteria apply to the entire production and distribution chain of biofuels and biopolymers. In addition, TotalEnergies has committed to no longer using palm oil from 2023 onward.

In addition, to limit the use of inputs from agricultural production, TotalEnergies has undertaken to process more than 25% of raw materials from waste and residues (used cooking oils, animal fats, etc.) in its La Mède biorefinery.

Similarly, as part of the transformation of its Grandpuits refinery into a zero-oil platform by 2024, the biofuel production plant will be supplied mainly by waste and residues supplemented by vegetable oils such as rapeseed – excluding palm oil – favoring local sourcing.

5.5.4 Managing impacts on biodiversity and ecosystems during projects and operations

Aware of the need to preserve biodiversity, TotalEnergies ensures that it is taken into account in all its operations. In 2016, the Company pledged to contribute to the achievement of the United Nations' Sustainable Development Goals (SDGs), including those relating to biodiversity. From 2018, TotalEnergies signed up to the Act4Nature initiative promoted by the French Association of Enterprises for the Environment, now act4nature international alliance.

In 2020, TotalEnergies has set itself a new biodiversity ambition to coincide with the preparation of the United Nations' global biodiversity plan, which aims to protect global biodiversity and updates its public commitments in this field.

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(1) World Resources Institute. The indicators in this paragraph are evaluated from the Project Basic Water Stress 2030.

This ambition is based on four core principles: (1) voluntary exclusion zones, (2) biodiversity management in projects, (3) biodiversity management at existing sites and sites ceasing their activities, (4) promoting biodiversity. This new ambition was incorporated in the One MAESTRO framework of the Company.

A communication plan has been developed and deployed in the Company's various segments and R&D. A series of webinars open to all of the Company's HSE personnel was organized to raise awareness of this ambition. A number of specific meetings to present this Ambition to the Company's partners have been held and allowed their viewpoints and recommendations to be heard.

An overview of the steps already taken under the four main areas of the biodiversity ambition is provided in the table below.

Biodiversity Ambition

1. Voluntary exclusion zones:	**Facts**
– the Company has made a commitment to recognize the universal value of UNESCO's world natural heritage sites, by not conducting oil and gas exploration or production activity in these areas.	– This commitment is respected.
– TotalEnergies has also made a commitment not to conduct any exploration activity in oil fields under sea ice in the Arctic.	– The Company publishes a list of its licenses in the Arctic on its website. In 2021, the Company did not conduct any exploration activity in oil fields under sea ice in the Arctic.
2. New projects: The Company has made a commitment to develop a biodiversity action plan (BAP) for any new site located in an area of interest for biodiversity, that is IUCN (International Union for Conservation of Nature) Protected areas I to IV or Ramsar areas. In addition, for each new project located in an IUCN Protected area I or II or a Ramsar area, the Company commits to implement measures to produce a net positive impact (gain) on biodiversity.	**Facts:** a biodiversity action plan has been put in place for all operated production sites located in the most sensitive protected areas, corresponding to the IUCN I to IV and Ramsar areas, some of which have a target of a net gain. In 2021, this concerned 8 projects, 4Axis of which are aligned with the performance standards of the World Bank's International Finance Corporation (IFC). These are: – The BAP for the existing oil terminal in Djeno (Republic of the Congo), located in a Ramsar area, was developed in 2015 and is continuing to be rolled out. A BAP update is planned for 2022. – The BAP for the existing onshore oil terminal in Tempa Rossa (Italy), for which the concession partly overlaps an IUCN II area, was developed in 2019 and is continuing to be rolled out. – The BAP with net gain for the Tilenga project (oil production, Uganda), partly located in an IUCN II area, is 100% complete and implementation has started. Some measures have already been taken proactively. This BAP is aligned with the performance standards of the IFC. – The BAP with net gain for the EACOP pipeline project (oil transportation, Tanzania), crossing an IUCN II area is under completion and implementation has started. Some measures have already been taken proactively, such as actions relating to protecting chimpanzees. This BAP has a target of a net gain and is aligned with the performance standards of the IFC. – The BAP with net gain of the Mozambique LNG Project (natural gas production, Mozambique) has been completed for the design phase. The implementation of measures related to construction was temporarily suspended due to security problems in the Cabo Del Gado area. This BAP is aligned with the performance standards of the IFC. – The BAP with net gain of the Papua LNG (natural gas production, Papua New Guinea) is currently being designed. The project does not enter any IUCN or Ramsar protected areas. This BAP is aligned with the performance standards of the IFC. – The BAP of the existing Helio La Perrière combined onshore wind/solar site (Reunion Island, France) is continuing as part of the site's redevelopment. – The BAP of the Diyab project in the United Arabic Emirates.
3. Existing sites: A biodiversity action plan will be defined by 2025 at the latest and deployed by 2030 at the latest on every existing environmentally significant site (Exploration & Production production sites, refineries, petrochemicals sites, gas-fired power stations) which is ISO14001 certified. TotalEnergies will report on its deployment to the various stakeholders. When a site stops its operations, TotalEnergies is also committing to considering the development of a dedicated area rich in biodiversity (e.g. rare species habitats, biodiversity sanctuaries, etc.) as one of the options for its rehabilitation.	**Facts:** the deployment of this measure is underway. Two diagnostics were carried out in 2021 (the Pont-sur-Sambre plant in France and the marine exploration and production facilities in the Republic of the Congo). Three diagnostics are under finalisation (the Donges and Grandpuits refineries and the Bayet plant in France). Regarding the creation of biodiversity-rich areas (habitats for rare species, biodiversity sanctuaries, etc.) as a rehabilitation option for sites that have ceased their activity, initial projects include the creation of a habitat for reptiles on the banks of the Garonne River and measures to conserve protected bird and amphibian species in Oberhoffen-sur-Moder, France. Approximately 10 other sites in France are being evaluated, including biodiversity surveys, and the enhancement of biodiversity, which may lead to similar initiatives.

Biodiversity Ambition

4. Promotion of biodiversity:

- As part of the TotalEnergies Foundation's Climate, Coastal and Oceans program, TotalEnergies wishes to support biodiversity-related awareness programs, youth education and research actions.
- TotalEnergies also commits to sharing biodiversity data collected as part of environmental studies on Company projects with the scientific community and the general public.

Facts: The TotalEnergies Foundation program supports the Polar Pod expedition which aims to study the Antarctic circumpolar current to gain a better understanding of air-ocean exchanges, to validate satellite measurements and to observe biodiversity and the impact of human activities in the Southern zone. This knowledge will be disseminated to a young audience through an educational project in collaboration with the IUCN. The TotalEnergies Foundation program also supports the work of the Tour du Valat, a non-profit foundation and research institute that has been working since the 1970s to conserve Mediterranean wetlands on a 2,700-hectare prime natural site in the Camargue.

In order to continue sharing its biodiversity data and tools with the scientific community, the Company has joined the international Global Biodiversity Information Facility (GBIF). In 2021, the loaded data concerned the Company's projects in South Africa, Oman, Uganda, Denmark and Argentina. The data published by TotalEnergies was downloaded more than 4,700 times and quoted about 15 times in scientific publications.

In addition, Oxford University in the United Kingdom (Long Term Ecology Laboratory), TotalEnergies and Equinor launched a collaboration program in 2018 with the aim of developing a tool for screening of marine biodiversity sensitivities. The tool has now been finalized and is available online for industry, the public sector and NGOs(1).

Lastly, the Company has a number of R&D programs relating to biodiversity. These include the development with UNEP WCMC(2) of a biodiversity impact indicators methodology that can be consolidated at Company level, the development of a decision-support tool for actions based on the Avoid-Reduce-Offset approach, an operational catalog for nature-based solutions, biosurveillance and monitoring tools using the environmental DNA, work on mapping areas vulnerable to climate change and opportunities offered by the Company's sites in terms of ecological corridors.

5.5.5 Promoting the circular economy

The Company's progress targets regarding circular economy for 2030:	Facts
– Produce in a sustainable way 5 Mt/year of biofuels in 2030	– 500 kt of production capacity in 2021
– Produce more than 5 TWh/year of biomethane in 2030	– 500 GWh of installed capacity in 2021
– Produce 30% of recycled or biopolymers by 2030, i.e., 1 Mt/year	– 60 kt of recycled and bioplastic produced in 2021
– Recover more than 70% of the waste from the sites operated by the Company's subsidiaries by 2030	– 61% recovery of our waste in 2021

With regard to food waste and food poverty, TotalEnergies' activities pertaining to food distribution are minor and are therefore not directly affected by these issues.

PROMOTING CIRCULAR RESOURCE MANAGEMENT

In March 2022, we joined the Platform for Accelerating the Circular Economy (PACE). This initiative launched by the World Economic Forum and currently hosted by the World Resources Institute (WRI) aims to accelerate the transition to a more circular economy. We are committed to doubling the circularity of our businesses over the next ten years. We contribute to the circular economy at different points of the value chain: through our purchases, our sales of our production and also the management of our own waste.

Biofuels

Biofuels emit over their life cycle less than 50% CO_2e compared to their fossil equivalents (in accordance with European standards) and therefore represent an element of the decarbonization of liquid fuels. Our current production capacity is 500 kt/year, mainly from the Mède refinery in France. Our objective goes well beyond: 2 Mt in 2025 and 5 Mt in 2030 to be produced in a sustainable way.

Today, more than 90% of biofuels on the market are first generation, i.e. produced from (virgin) vegetable oils or sugar. TotalEnergies invests in advanced biofuel projects, based on animal fats or used oils, thus limiting the conflict of use and the impact on arable land. These advanced biofuels will complete the range of first-generation biofuels.

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(1) LEFT Marine (Local Ecological Footprint Tool).

(2) World Conservation and Monitoring Center of the United Nations Environment Program (UNEP).

To meet its ambition to be a leader in the biofuels market, TotalEnergies has transformed its La Mède refinery in France into a world-class biorefinery.

The site now produces HVO (precursor to biodiesel and SAF), bionaphtha (precursor to polymers of renewable origin) and bioLPG (liquefied gas of renewable origin), for mobility or heating uses.

The agricultural raw materials used meet sustainability and traceability requirements: carbon footprint, non-deforestation and good land use. We are committed to stopping palm oil supplies from 2023 and aim to increase the proportion of waste (waste oils, animal fats) to 50% by 2025. Our future zero-oil platform at Grandpuits will also produce biofuels.

Biogas

Biogas, produced from the degradation of organic waste, is a renewable gas, mainly composed of methane. Compatible with existing transport and storage infrastructures, it has a key role to play in decarbonizing gas products, reducing GHG emissions by developing a circular economy. The Company aims to produce 2 TWh/year of biomethane from 2025, and more than 5 TWh/year in 2030 worldwide. In early 2021, TotalEnergies became a major player in biogas in France through the acquisition of Fonroche Biogaz with 500 GWh of installed capacity. At the end of 2021, TotalEnergies and Clean Energy launched the construction of their first biomethane production unit, in Friona, Texas. The biomethane produced will be used as an alternative fuel for mobility, thus contributing to the decarbonization of road transport. The installation will be supplied by livestock effluent from the dairy farm and will produce more than 40 GWh/year of biomethane, avoiding 45 kt CO_2e/year.

In early 2022, TotalEnergies and Veolia joined forces to recover biomethane from Veolia's waste and wastewater treatment facilities in operation in more than 15 countries, with the aim of producing up to 1.5 TWh/ year of biomethane by 2025.

WASTE PREVENTION AND MANAGEMENT

A Company rule lays down a number of minimum waste management requirements. Waste management is carried out in four basic stages: waste identification (technical and regulatory); waste storage (soil protection and discharge management); waste traceability, from production through to disposal (e.g., notes, logs, statements); and waste treatment, with technical and regulatory knowledge of the relevant processes, under the site's responsibility.

TotalEnergies asks its subsidiaries to control the processing of the waste produced by all operated sites, at every stage of their operations. This approach is based on the following four principles, listed in decreasing order of priority:

- reducing waste at source by designing products and processes that generate as little waste as possible, as well as minimizing the quantity of waste produced by the Company's operations;
- reusing products for a similar purpose in order to prevent them from becoming waste;
- recycling residual waste;
- reusing non-recycled products wherever possible.

In 2021, the active sites operated by the TotalEnergies subsidiaries generated 500 kt of waste, including 165 kt of hazardous waste. In January 2020, TotalEnergies has set a new target to reuse waste. The former target was to reuse more than 50% of the waste produced by these sites. in 2030 the targeted performance will be 70%.

Recycled plastics and bioplastics

The circular economy of plastics is based on three axes:

- **Axis 1 – Mechanical recycling,** which is the most mature technology on the market. It deals with raw materials from collective sorting and collection centers and is adapted to the needs of markets such as automotive or construction. Our subsidiary Synova fits in and focuses with its 45 kt production capacity at the end of 2021 and the ambition to produce 100 kt from 2025.
- **Axis 2 – Chemical recycling** makes it possible to process waste that cannot be mechanically recycled and to address other markets, such as those for plastics for food use. We now produce chemically recycled polymers on our Antwerp platform, from the TACoil produced by our partner Plastic Energy, with which we are also associated to build a production unit in Grandpuits. We have also entered into a partnership with Honeywell to promote the chemical recycling of plastics in Europe and the United States.
- **Axis 3 – Bioplastics.** We offer our customers biopolymers resulting partly from the processing of fillers of biological origin (vegetable oils, used cooking oils) today transformed at the La Mède biorefinery, and tomorrow at that of Grandpuits, and partly from PLA(1), a 100% recycled bioplastic based on starch or sugar, recyclable and biocompostable, produced by our joint venture with Corbion today at the PLA plant in Rayong (Thailand) and tomorrow at the one under construction in Grandpuits (France).

In 2021, we produced 60 kt of recycled and bioplastic. Our ambition is to **produce 30% recycled and biopolymers by 2030, i.e. 1 million tonnes**.

The Company's waste balance[a]	2021	2020	2019[c]
Non-hazardous waste *(in kt)*	335	303	375
Reused non-hazardous waste[b] *(in kt)*	206	190	240
Hazardous waste *(in kt)*	165	198	288
Reused hazardous waste[b] *(in kt)*	98	107	190

(a) Excluding drilling cuttings, excluding sites that have ceased operations and are in the process of being remediated.

(b) Reuse includes recycling, material recovery and energy recovery.

(c) The tonnages of waste from 10 Hutchinson sites were estimated in 2019 based on their 2018 reports. Waste from those 10 sites represented around 1% of the Company's total tonnage in 2018.

Waste treatment processes[a]	2021	2020	2019[c]
Reuse[b]	61%	59%	65%
Landfill	16%	12%	15%
Other (incineration without reuse, biotreatment without reuse etc.)	23%	29%	20%

(a) Excluding drilling cuttings, excluding sites that have ceased operations and are in the process of being remediated.

(b) Reuse includes recycling, material recovery and energy recovery.

(c) The tonnages of waste from 10 Hutchinson sites were estimated in 2019 based on their 2018 reports. Waste from those 10 sites represented around 1% of the Company's total tonnage in 2018.

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(1) Poly Lactic.

Since 2015, all the Refining & Chemicals segment's plastic production sites worldwide have taken part in the Operation CleanSweep® program. Operation CleanSweep® is an international program that aims to avoid losses of plastic pellets during handling operations by the players in the plastics industry, to prevent their reaching the aquatic environment (zero pellet loss). Since 2015, the program has been deployed at all polymer sites in the Refining & Chemicals segment.

Additionally, TotalEnergies is a founding member of the Alliance to End Plastic Waste, launched in 2019 and consisting of 80 companies in the plastics and consumer goods value chain. The Alliance's objective is to finance, to the extent of $1.5 billion over 5 years, the development of solutions for the reduction and processing (reuse, recycling and recovery) of used plastics in the environment, particularly in the oceans. At end of 2021, 17 partnerships have already been established.

5.6 A Company committed to its employees

Insofar as a company is first and foremost a people-driven adventure, the ambition of the Company depends primarily on the women and men who work at TotalEnergies, both now and in the future.

TotalEnergies has identified its main risks and challenges concerning human resources development:

- attracting and retaining talent based on the key skills sought by the Company, while abiding by the principle of non-discrimination and equal opportunity;
- maintaining employees' long-term employability by helping them acquire skills in order to keep up with changing careers and technology to achieve a just transition;
- ensuring a high level of commitment based on respect for each other, an inclusive corporate culture and improved quality of life at work.

To meet the expectations of new generations and employees in the face of the energy transition and the challenges of climate change, the Company is committed to a just transition, by offering its employees opportunities for development, professional fulfillment, participation in a common ambition to supply responsible energy and taking up unprecedented technological challenges in multicultural teams.

A new Transforming with our people program was announced at the end of 2021 to support TotalEnergies employees in the Company's transformation. This program includes not only the implementation of listening, informing and training measures, but also an upskilling and reskilling initiative, and the implementation of a skills map in order to build bridges between current jobs and the jobs of renewables and electricity, and to target key skills.

TotalEnergies aims to be a benchmark as a responsible employer. The Company promotes a working environment that combines performance and conviviality. In 2019, the Company's Executive Committee launched *Better Together*, a key component of the corporate plan that spearheads TotalEnergies' people-focused ambitions, designed to ensure that each employee's development reflects the Company's business goals and lives up to the employee's expectations. This project is built on three main ambitions that involve all of the Company's subsidiaries(1): attracting and developing talent all over the world, promoting a management style that can make the most of knowledge and expertise of the Company and pass on its values, and making the Company a good place to work together.

To meet its social challenges, TotalEnergies relies on People & Social Engagement division. Its mission is to define the Company's human resources strategy and policies, in line with the business challenges and the *TotalEnergies One Company* corporate project. It coordinates the promotion and rollout of new policies to support the various human resources departments in the Company's business segments, guided by actual conditions in the field.

5.6.1 Attracting and retaining talent

Attracting and retaining the talent the Company needs is a key factor in carrying out the company project. To succeed in that task, TotalEnergies carefully manages its hires and departures, provides individualized support for its employees, maintains a responsible employee compensation policy and works to expand employee shareholding.

5.6.1.1 RESPONSIBLE MANAGEMENT OF THE COMPANY'S WORKFORCE

COMPANY WORKFORCE

As of December 31, 2021, the Company had 101,309 employees belonging to 316 employing companies located in 95 countries. At year-end 2021, the countries with the most employees were, in descending order, France, the United States, Poland, Mexico, Germany, Belgium and China.

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(1) Excluding Hutchinson and SunPower.

Within the scope of the Company excluding Hutchinson, the Company had 63,630 employees belonging to 256 employing companies located in 92 countries. The most representative countries in terms of workforce are France, the United States, Belgium, Germany, the Netherlands, the United Kingdom and Nigeria.

The tables below present the breakdown of employees by business segment, region, type of employment contract and age group, as well as a breakdown of managers or the equivalent (≥ 300 Hay points(1)). The breakdown by gender and nationality is given in point 5.6.3.1 of this chapter.(2)

The tables below present the data by distinguishing between the "Company excluding Hutchinson" scope and the "Hutchinson" scope in order to better reflect the specific characteristics of each scope in terms of workforce changes.

Employees at the Company excluding Hutchinson

Company registered headcount excluding Hutchinson as of December 31	2021	2020	2019
Total number of employees	**63,630**	**65,614**	**69,309**
Breakdown by business segment			
Integrated Gas, Renewables & Power segment	17.5%	14.6%	21.4%
Exploration & Production segment	18.8%	19.4%	19.1%
Refining & Chemicals segment	19.6%	19.9%	18.6%
Refining & Chemicals	18.4%	18.8%	17.5%
Trading & Shipping	1.2%	1.1%	1.1%
Marketing & Services segment	39.7%	41.9%	36.6%
Corporate	4.4%	4.2%	4.3%
Breakdown by region			
Europe	65.1%	64.0%	61.4%
France	42.7%	42.1%	40.6%
Rest of Europe	22.4%	21.9%	20.8%
Africa	14.0%	13.6%	12.9%
North America	7.7%	6.7%	6.8%
Latin America	4.4%	4.2%	6.7%
Asia-Pacific	7.7%	7.0%	10.9%
Middle East	1.1%	4.5%	1.3%
Breakdown by type of employment contract(3)			
Permanent (CDI)	92.8%	93.2%	93.5%
Fixed-term (CDD)	7.2%	6.8%	6.5%
Breakdown by age group			
< 30 years	14.2%	13.8%	15.9%
30 to 49 years	55.7%	56.8%	56.0%
> 49 years	30.1%	29.4%	28.1%

Managers or the equivalent of the Company excluding Hutchinson as of December 31	2021	2020	2019
Total number of managers	**28,417**	**28,356**	**28,226**

Breakdown of managers / non-managers of the Company excluding Hutchinson by age group as of December 31, 2021	< 30 years	30 to 49 years	> 49 years
Managers (JL ≥ 10)(4)	6.4%	61.3%	32.3%
Non-managers (JL < 10)	20.4%	51.3%	28.3%

The table below shows the breakdown of employees on permanent contracts by function and by geographical area.

Registered employees of the Company excluding Hutchinson on permanent contracts as of December 31, 2021	Technical	Business	Support
Breakdown of functions by region	**55.9%**	**24.0%**	**20.1%**
Europe	55.8%	25.2%	19.0%
France	55.0%	24.5%	20.5%
Rest of Europe	57.2%	26.8%	16.0%
Africa	52.2%	19.7%	28.1%
North America	70.4%	14.0%	15.6%
Latin America	34.5%	46.5%	19.0%
Asia-Pacific	59.1%	20.5%	20.4%
Middle East	69.8%	12.7%	17.5%

The table below shows the breakdown of Company employees present(5) by business segment, excluding Hutchinson.

Company employees present excluding Hutchinson by business segment as of December 31	2021	2020	2019
Integrated Gas, Renewables & Power segment	10,999	9,455	14,696
Exploration & Production segment	11,338	11,991	12,295
Refining & Chemicals segment	11,952	12,599	12,285
Refining & Chemicals	11,771	11,863	11,567
Trading & Shipping	781	736	718
Marketing & Services segment	24,711	27,008	24,858
Corporate	2,667	2,623	2,876

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(1) The Hay method is a reference methodology used for job classification and evaluation.

(2) Types of contract, as defined in point 5.11.4 of this chapter.

(3) The types of contract are defined in point 5.11.4 of this chapter.

(4) Job level of the position according to the Hay method. JL10 corresponds to the first level of junior manager (cadre débutant) (≥ 300 Hay points).

(5) Employees present as defined in point 5.11.4 of this chapter.

Hutchinson workforce

Hutchinson registered headcount as of December 31	2021	2020	2019
Total number of employees	**37,679**	**39,862**	**38,467**
Breakdown by region			
Europe	59.8%	61.1%	61.5%
France	21.1%	20.8%	22.2%
Rest of Europe	38.7%	40.3%	39.3%
Africa	2.8%	2.8%	3.1%
North America	7.1%	7.1%	7.1%
Latin America	23.9%	23.0%	22.5%
Asia-Pacific	6.4%	6.0%	5.8%
Breakdown by type of employment contract[1]			
Permanent (CDI)	92.8%	89.8%	88.3%
Fixed-term (CDD)	7.2%	10.2%	11.7%
Breakdown by age group			
< 30 years	21.6%	23.6%	25.0%
30 to 49 years	56.9%	56.3%	55.7%
> 49 years	21.5%	20.1%	19.3%

Managers or the equivalent as of December 31	2021	2020	2019
Total number of managers	**2,832**	**2,762**	**2,443**

Breakdown of managers / non-managers by age group as of December 31, 2021	< 30 years	30 to 49 years	> 49 years
Managers (JL ≥ 10)[2]	5.5%	61.0%	33.5%
Non-managers (JL < 10)	23.0%	56.5%	20.5%

The table below shows the breakdown of Hutchinson employees on permanent contracts by function and by geographical area.

Registered employees of Hutchinson on permanent contracts as of December 31, 2021	Technical	Business	Support
Breakdown of functions by region	**91.2%**	**2.8%**	**6.0%**
Europe	88.9%	3.4%	7.7%
France	82.5%	5.0%	12.5%
Rest of Europe	92.7%	2.6%	4.7%
Africa	96.0%	0.0%	4.0%
North America	89.2%	4.2%	6.6%
Latin America	96.7%	0.7%	2.6%
Asia-Pacific	91.1%	4.4%	4.5%

CHANGES IN THE COMPANY'S HEADCOUNT

On the Company's scope excluding Hutchinson, the number of employees fell by 3% (1,984 employees) between 2020 and 2021. This decrease is mainly due to changes in the consolidation scope, particularly with the sale of the Lindsey refinery (400 employees) and the removal from the consolidation scope of a Marketing & Services subsidiary in Saudi Arabia representing more than 2,000 employees.

Excluding consolidation scope effect, headcount was up by 0.5%. The increase in SunPower's workforce in the United States and the Philippines (more than 800 employees) was offset by a decrease in the workforce of the subsidiaries of the "socle social commun" scope in France (more than 500 employees), mainly due to the redundancy plan negotiated in 2021.

At Hutchinson, the workforce fell by 5.5% (2,183 employees) between 2020 and 2021, particularly in Poland and Mexico, with an increase in voluntary departures in line with changes in the local job offer in the context of the pandemic and fluctuations in the automotive market.

Hiring within the Company, excluding Hutchinson

In 2021, 5,273 employees were hired on permanent contract within the consolidation scope excluding Hutchinson, an increase of 42.9% compared to 2020. Recruitment has targeted the sectors that are driving the Company's transformation, such as renewables and electricity (47.3% in the Integrated Gas, Renewables & Power business segment). TotalEnergies hires young people (44.3% under 30 years old) but also experienced candidates for positions requiring key skills, offering them career prospects within the Company.

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(1) The types of contract are defined in point 5.11.4 of this chapter.

(2) Job level of the position according to the Hay method. JL10 corresponds to the first level of junior manager (cadre débutant) (≥ 300 Hay points).

As of December 31	2021	2020	2019
Total number of hires by the Company excluding Hutchinson on permanent contracts (CDI)	**5,273**	**3,690**	**7,719**
Women	34.1%	34.7%	41.7%
Men	65.9%	65.3%	58.3%
French	20.2%	28.7%	22.4%
Other nationalities	79.8%	71.3%	77.6%
Managers (JL ≥ 10)(1)	29.0%	35.3%	24.0%
Non-managers (JL < 10)	71.0%	64.7%	76.0%
Breakdown by age group			
< 30 years	44.3%	38.4%	52.4%
30 to 49 years	48.5%	55.9%	42.2%
> 49 years	7.2%	5.7%	5.4%
Breakdown by region			
France	21.6%	31.0%	23.4%
Rest of Europe	15.7%	15.5%	10.4%
Africa	7.4%	7.6%	5.0%
North America	27.5%	15.4%	8.6%
Latin America	8.0%	7.8%	34.5%
Asia-Pacific	18.4%	13.6%	17.4%
Middle East	1.4%	9.1%	0.7%
Breakdown by business segment			
Integrated Gas, Renewables & Power segment	47.3%	28.3%	56.0%
Exploration & Production segment	4.1%	3.8%	3.0%
Refining & Chemicals segment	7.5%	9.6%	6.7%
Refining & Chemicals	5.9%	7.9%	5.4%
Trading & Shipping	1.6%	1.7%	1.3%
Marketing & Services segment	38.4%	51.3%	29.0%
Corporate	2.7%	7.0%	5.3%

In 2021, TotalEnergies companies, excluding Hutchinson hired 3,765 employees on fixed-term contracts, compared to 5,424 in 2020, mainly in France directly linked to the proactive policy of hiring work-study candidates.

Hiring at Hutchinson

In 2021, 7,655 employees were hired on permanent contracts at Hutchinson, an increase of 35.2% compared to 2020, mainly in Mexico, the United States and Brazil.

As of December 31	2021	2020	2019
Total number of hires by Hutchinson on permanent contracts (CDI)	**7,655**	**5,664**	**6,887**
Women	44.6%	45.5%	40.5%
Men	55.4%	54.5%	59.5%
French	3.1%	2.9%	5.0%
Other nationalities	96.9%	97.1%	95.0%
Managers (JL ≥ 10)(2)	2.3%	2.9%	3.2%
Non-managers (JL < 10)	97.7%	97.1%	96.8%
Breakdown by age group			
< 30 years	53.2%	55.4%	51.9%
30 to 49 years	40.5%	39.2%	41.6%
> 49 years	6.3%	5.4%	6.5%
Breakdown by region			
France	3.4%	3.0%	5.5%
Rest of Europe	3.5%	8.0%	21.6%
Africa	2.2%	2.8%	3.3%
North America	18.5%	17.0%	9.5%
Latin America	67.8%	64.2%	56.7%
Asia-Pacific	4.6%	5.0%	3.4%

In 2021, Hutchinson hired 1,795 employees on fixed-term contracts, compared to 3,233 in 2020, given the fluctuations in the automotive market.

Departures from the Company excluding Hutchinson

As of December 31	2021	2020	2019
Total number of departures[a] excluding Hutchinson	**4,429**	**3,682**	**6,102**
Deaths	78	96	56
Dismissals	866	854	1,953
Total involuntary departures	**944**	**950**	**2,009**
Resignations	2,872	2,193	3,582
Contract termination by mutual agreement[b]	613	539	511
Total voluntary departures	**3,485**	**2,732**	**4,093**

(a) Excluding retirements and transfers.

(b) Including “ruptures conventionnelles” in France.

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(1) Job level of the position according to the Hay method. JL10 corresponds to the first level of junior manager (cadre débutant) (≥ 300 Hay points).

(2) Job level of the position according to the Hay method. JL10 corresponds to the first level of junior manager (cadre débutant) (≥ 300 Hay points).

The departure rate of the Company excluding Hutchinson is 7%, up from 5.6% in 2020 with an increase in the resignation rate which remains lower than in 2019 before the health crisis. The voluntary departure rate thus stands at 5.5% in 2021 compared to 4.2% in 2020.

As of December 31	2021	2020	2019
Total departures[a]/ total employees excluding Hutchinson	**7.0%**	**5.6%**	**8.8%**
Women	2.5%	1.8%	3.7%
Men	4.5%	3.8%	5.1%
Breakdown by region			
France	23.8%	18.5%	14.6%
Rest of Europe	23.4%	22.3%	17.4%
Africa	6.8%	7.5%	4.9%
North America	19.1%	15.9%	10.1%
Latin America	8.5%	9.4%	35.7%
Asia-Pacific	15.6%	15.8%	16.0%
Middle East	2.8%	10.6%	1.3%

(a) Excluding retirements and transfers.

Departures from Hutchinson

As of December 31	2021	2020	2019
Total number of departures[a] from Hutchinson	**10,439**	**8,091**	**6,984**
Deaths	31	41	33
Dismissals	1,116	2,034	1,618
Total involuntary departures	**1,147**	**2,075**	**1,651**
Resignations	5,084	3,324	4,430
Contract termination by mutual agreement[b]	4,208	2,692	867
Total voluntary departures	**9,292**	**6,016**	**5,297**

(a) Excluding retirements and transfers.
(b) Including "ruptures conventionnelles" in France.

The departure rate for Hutchinson is 27.7%, up from 20.3% in 2020, with a voluntary departure rate of 24.7% in 2021 compared to 15.1% in 2020.

As of December 31	2021	2020	2019
Total departures[a]/ total employees from Hutchinson	**27.7%**	**20.3%**	**18.0%**
Women	12.4%	7.3%	7.0%
Men	15.3%	13.0%	11.0%
Breakdown by region			
France	4.0%	3.9%	6.4%
Rest of Europe	21.8%	32.7%	28.6%
Africa	1.0%	2.6%	4.2%
North America	14.5%	11.5%	9.4%
Latin America	54.7%	46.1%	44.1%
Asia-Pacific	4.0%	3.2%	7.3%

(a) Excluding retirements and transfers.

5.6.1.2 A RESPONSIBLE COMPENSATION POLICY

The Company's compensation policy applies to all companies in which TotalEnergies SE holds the majority of voting rights. That policy has several aims: to ensure external competitiveness and internal fairness, reinforce the link to individual performance, increase employee share ownership and implement the Company's corporate social responsibility commitments.

It consists of providing levels of compensation that are higher than the minimum level observed locally, through regular benchmarks, in countries where legislation guaranteeing a minimum wage is lacking.

The Company's compensation policy is designed to offer competitive, fair and responsible compensation. In particular, it stipulates that compensation levels must be equivalent internally for positions with the same level of responsibility in a given environment (activity, country). Fair treatment is ensured within the Company through the widespread use of weighting for management positions (JL ≥ 10) via the Hay method. Performance reviews for Company employees, covering actual versus targeted results, skills assessment and overall job performance, are conducted during an annual individual review and formally issued in accordance with the same principles and guidelines across the entire Company.

The compensation structure for the Company's employees is based on the following components, depending on the country:

- **a base salary**, which is subject to individual and/or general salary-raise campaigns each year. The merit-based salary-raise campaigns are intended to compensate employees' individual performance according to the targets set during the annual individual review, including *at least* one HSE target; and
- **an individual variable compensation** starting at a certain level of responsibility. This is intended to compensate individual performance (quantitative and qualitative attainment of previously set targets), managerial practices, if applicable, and the employee's contribution to collective performance evaluated on the basis of HSE targets set for each business segment, which represents up to 10% of the variable portion. In 2021, 90.4% of the Company's entities (WHRS scope) included HSE criteria in the variable compensation. In particular, HSE criteria include greenhouse gas reduction targets.

Supplemental collective variable compensation programs are implemented in some countries, such as France, via incentives and profit sharing. In France, under the agreement signed for 2021-2023, applicable to the companies that signed the agreement(1) (encompassing approximately 17,200 employees in 2021), the amount available for employee profit-sharing is based in particular on environmental and social criteria, and is determined on the basis of:

- financial parameters (the Company's return on equity as an absolute value and compared to four peers(2));
- the attainment of safety targets (injury rate and accidental deaths in the establishments in France of the companies party to the agreement);
- the attainment of energy transition targets (reduction of greenhouse gas emissions from the establishments in France of the companies party to the agreement);
- criteria assessed for the entity to which the employees belong, relating to employee commitment to priority areas identified by the *Action!* program, which is mainly led by TotalEnergies' corporate foundation (Fondation d'entreprise) in France;
- criteria relating to the performance of the entity in question (production, sales volumes, gross margins, operating costs, etc.).

The Company provides **pension and employee benefit programs** (health and death) that meet the needs of the subsidiaries, as well as the Company's standards, designed to ensure that each employee can:

- in case of illness, receive coverage that is at least equal to the median amount for the national industrial market;
- participate in a savings or supplementary retirement plan;
- organize the protection of the family in the event of the death of the employee.

To this end, TotalEnergies is deploying a number of commitments and mechanisms worldwide:

- Where appropriate, each entity sets up a pension and health insurance plan, in addition to the legal plans in force, with the assistance of Human Resources department of the business segment;
- A health check-up at least every two years is offered by each entity to all its employees, subject to the local regulations and context;
- Each entity sets up a death benefit plan, whatever the cause, at least equivalent to two years' gross reference salary. At the end of 2021, nearly 90% of the Company's permanent employees were covered worldwide.

TotalEnergies has also set up a global mental health prevention program to take care of employees, wherever they are in the world.

These programs, which are regularly reviewed and, if necessary, adjusted, are administered by the subsidiaries and supplement any programs provided under local law.

In 2021, TotalEnergies initiated a process to assess any discrepancies between the direct salary and the **living wage**(3) in all its subsidiaries(4). The result of the studies carried out show that by the end of 2021, 98% of employees received a direct salary that exceeds the living wage in the country or region in which they work. The Company intends to perpetuate this approach to ensure that 100% of its employees receive a direct salary that exceeds the living wage by the end of 2022.

A living wage is defined as an income that allows employees:

- to provide a decent life for their family;
- for standard working hours;
- to cover their essential expenses (food, water, electricity, housing, education, health, clothing, etc.);
- the ability to cope with some of life's uncertainties.

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(1) Covers TotalEnergies EP France and the entities covered by the "socle social commun" scope, as defined in point 5.11 of this chapter.

(2) ExxonMobil, Shell, BP and Chevron.

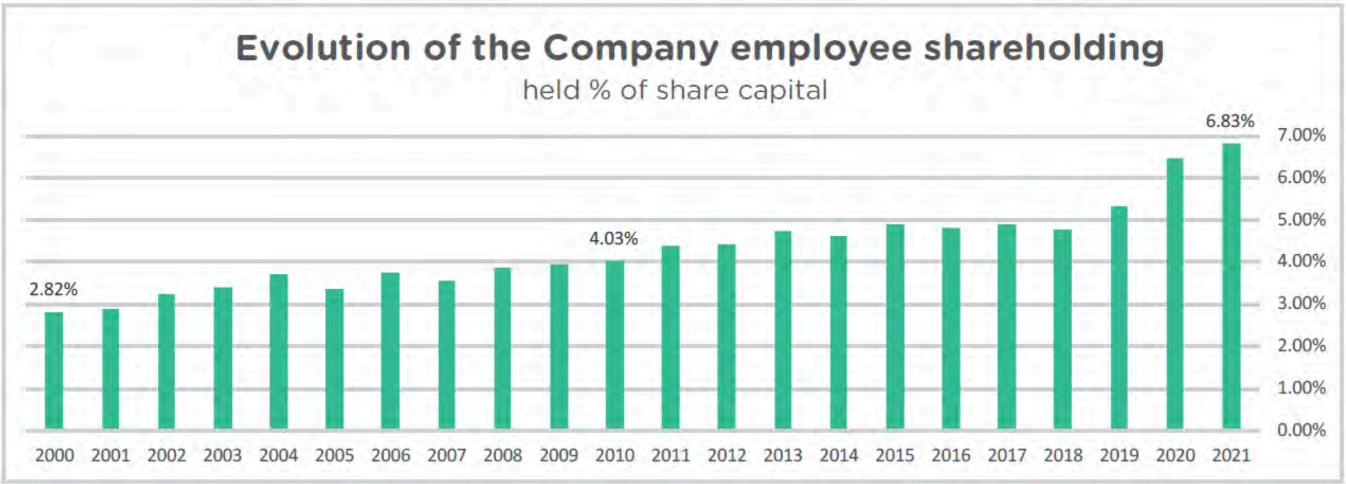
(3) TotalEnergies relies on the global database provided by the Fairwage Network, which assesses the living wage for a given country or region, based on the typical family size (number of children) and the average number of workers (between one and two).

(4) It applies to the so called "périmètre de gestion" i.e., all subsidiaries controlled at more than 50%.

5.6.1.3 A PROACTIVE POLICY TO INCREASE EMPLOYEE SHAREHOLDING AND EMPLOYEE SAVINGS

Employee shareholding, one of the cornerstones of the Company's human resources policy, is offered through three main programs: the grant of performance shares, share capital increases reserved for employees, and employee savings. In this way, TotalEnergies hopes to encourage employee shareholding, strengthen employees' sense of belonging to the Company and give them a stake in the Company's performance by allowing them to reap benefits from their commitment.

As a result, more than 65% of the Company's employees are TotalEnergies shareholders and employee shareholding(1) represents 6.83% of the Corporation's share capital as of December 31, 2021, steadily increasing since 2018 (refer to point 6.4.1 of chapter 6).



Each year since 2005, TotalEnergies has granted performance shares to many of its employees (approximately 10,000 each year since 2009). Those shares are granted definitively only upon the fulfillment of performance conditions assessed at the end of a vesting period of 3 years. Two of the performance conditions have applied in particular to trends in GHG emissions (see section 4.3.4 of chapter 4). Under the 2021 plan approved by the Board of Directors in March 2021, the total volume of performance shares granted was comparable to the 2020 plan. More than 40% of 2021 plan beneficiaries had not received performance shares the previous year. More than 11,000 employees participated in this plan, over 97% of whom are non executives.

TotalEnergies also invites employees of companies in which it holds more than 50% of voting rights, and that subscribe to the Shareholder Group Savings Plan (PEG-A) created in 1999 for this purpose, to subscribe to share capital increases reserved for employees. Share capital increases reserved for employees take place annually. Depending on the employees' location, these campaigns are completed either through Employee Mutual Funds(2) (FCPE) or by subscribing TotalEnergies shares or American Depositary Receipts (ADRs) in the United States.

Pursuant to the authorization given by the Annual Shareholders' Meeting on May 28, 2021, the Board of Directors decided, at its meeting on September 15, 2021, to proceed with a share capital increase reserved for employees to be carried out in 2022 with a 20% discount. This operation is expected to involve more than 100 countries. Employees will benefit from a matching contribution of one free share for each share subscribed, up to a limit of five. The shares subscribed will give holders current dividend rights. The previous share capital increase reserved for employees was carried out in June 2021. Over 46,500 current and former employees in 102 countries took part in this share capital increase, which resulted in the subscription of 10,376,190 shares at a price of €30.50 per share. Excluding subscriptions by former employees, the total amount subscribed internationally represents 55% of the total amount, and exceeds that of France in the last two operations.

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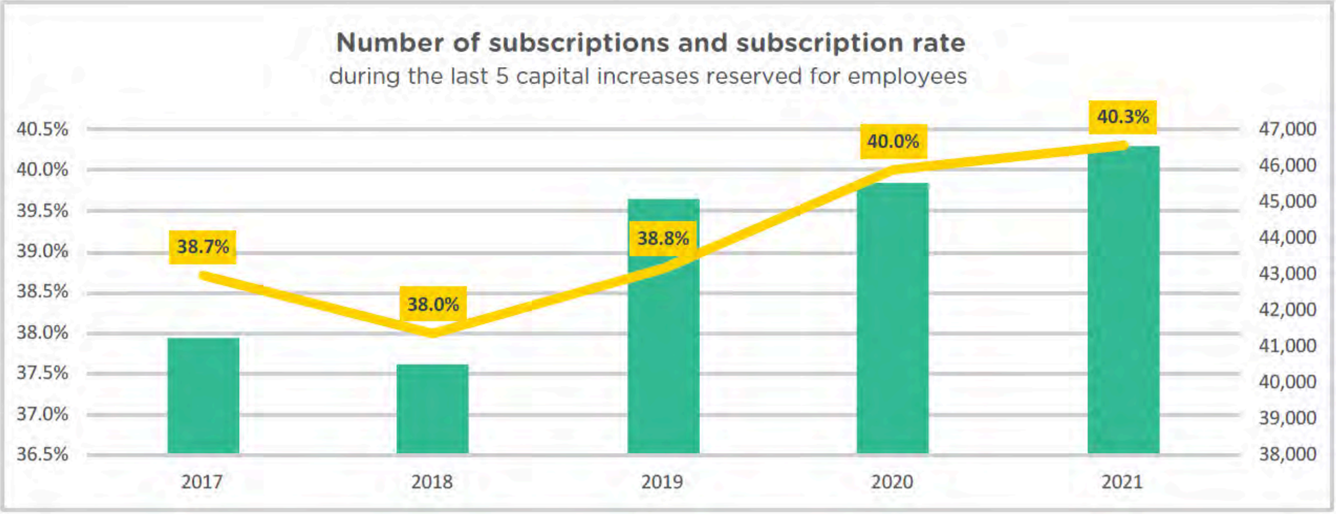
(1) As defined in Article L. 225- 102 of the French Commercial Code and Article 11 paragraph 6 of the Articles of Incorporation of the Corporation.

(2) TotalEnergies Actionnariat France, TotalEnergies France Capital+, TotalEnergies Actionnariat International Capitalisation and TotalEnergies Intl Capital.



Employee savings are also encouraged by the TotalEnergies Group Savings Plan (PEGT) (in which the Supplemental Company Savings Plan (PEC) was merged on January 1, 2022), open to employees of the Company's French subsidiaries that have subscribed to the agreements and their subsequent amendments. This plan allows investments in a wide range of mutual funds, including the TotalEnergies Actionnariat France fund that is invested in TotalEnergies shares.

In France, a new agreement relating to retirement savings was signed on April 22, 2021, within the limits of the "socle social commun"(1). This agreement, which came into effect on January 1, 2022, introduces an optional Collective Retirement Savings Plan (PERCOL), which is the successor of the PERCO, previously introduced by the 2004 Group agreement on retirement savings schemes. Other saving plans are open in some Company subsidiaries in France covered by specific agreements. Company employees can make discretionary contributions as part of those various plans, which their employer may supplement under certain conditions through a matching contribution. The Company's subsidiaries in France made gross matching contributions totaling €69.7 million in 2021.

5.6.2 Maintaining long-term employability in the workforce

The Company's international reach creates a rich multicultural environment and a diverse choice of professional fields. Maintaining employees' long-term employability is one of the key social challenges of the Company, and one of the key factors in ensuring the success of the company project. In order to manage that risk and to allow for a just transition, the Company has decided to invest in employee development through personalized support and a customized training policy designed with two objectives in mind: make it easier for employees to acquire new skills to stay abreast of changing careers and technology, and help maintain each employee's long-term employability.

With those challenges in mind, the Company launched the *Better Together* project in a bid to develop each employee's talents. In 2019, the Company launched *Better Together*, the human component of the corporate project, which supports the ambition to develop the talents of each individual. More than 400 talent developers, trained since 2019, have been mobilized to support employees individually in their professional development and to provide them with dedicated support. In 2021, nearly 4,000 individual career reviews were carried out to help employees make informed decision in planning their careers effectively.

The technical and business know-how of employees and their ability to manage large projects underpin the Company's operational excellence and are essential assets for the Company's development. TotalEnergies is convinced that relying on its employees and their commitment is the key factor of the achievement of its ambition to become a major player in the energy transition. TotalEnergies is profoundly convinced that the Company's people constitute the energy that drives it forward.

To promote a just transition and support TotalEnergies' employees in the Company's transformation, a new Transforming with our people program was announced at the end of 2021, focused on three actions: listening, informing and training. "Listening" means deploying tools to measure knowledge, understanding and support for TotalEnergies' new ambition, as well as the feelings and state of mind of the Company's teams in the field. "Informing" will enable everyone to understand the shift towards a multi-energy Company and to project themselves into the future of TotalEnergies by sharing its major projects. Finally, "training" will offer five days of training in 2022 and 2023 on the fundamentals of TotalEnergies' ambition and electricity in order to build the Company's new common multi-energy culture. An upskilling and reskilling approach is also underway to support the development of skills and activities. This approach is based on the mapping of typical roles and transposable macro-skills, and on the construction of pathways that include training, on-the-job training and mentoring. In addition, 300 young people from the Company will be invited for two days in the first half of 2022 to express themselves and contribute to building the TotalEnergies of tomorrow.

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(1) Covers the "socle social commun", as defined in point 5.11 of this chapter.

In 2020, TotalEnergies announced the launch of its OneTech project to address the climate challenge and changing energy markets. This new organization, which has been in place since September 1, 2021, brings together all the technical and scientific teams within a single entity, in order to strengthen the Company's capacity for innovation and its skills in designing and managing major industrial projects across all energies, while leveraging operational excellence. OneTech is built on five key objectives:

- adapt to the Company's new industrial activities;
- better develop, retain and attract talent;
- encourage and accelerate innovation;
- mobilize technical resources on the most strategic and highest value-added subjects;
- provide solutions to reduce the carbon footprint.

OneTech is, therefore a new organization to support the new businesses, and to manage the Company’s current and future talents, in order to develop the skills required by the transformation. The upskilling and reskilling approach is piloted within this structure and the OneTech teams are already involved in projects directly related to the Company's ambition, such as ARAMIS and Northern Lights, major global CO_2 storage initiatives and the deployment of multi-energy solutions in Iraq.

To support its ambition to become carbon neutral (net zero emissions) by 2050, TotalEnergies is also implementing projects to convert industrial sites, while paying close attention to potential social impacts. In particular, TotalEnergies is transforming the Grandpuits refinery into a zero-oil platform focused on the production of biofuels and bioplastics, the recycling of plastic waste by pyrolysis and the construction of solar farms, drawing on the know-how and skills of local teams. In order to carry out this industrial redeployment without any redundancies, in-depth career development interviews were conducted individually to provide each employee with a suitable solution and personalized support for mobility or a training plan, involving, if necessary, process and safety reviews or visits to similar facilities. This conversion model, based on the adaptation of existing skills, was initiated in 2015 with the La Mède refinery transformation project, which was completed in 2019 with the start-up of the biorefinery.

These projects, which contribute to a just transition, have been the subject of dialogue with trade unions and employee representatives in the TotalEnergies European Works Council and locally. The prior consultation of civil society on the Grandpuits transformation project is a significant example of the integration of stakeholders that extends beyond employees and their representatives. TotalEnergies is restating its responsibility to the areas of employment where the Company operates, as well as its commitment to maintaining a strong and lasting industrial presence. In its new configuration, the Grandpuits platform will continue to give priority to its partner companies, representing the equivalent of 200 full-time jobs. During the transformation of the activities at the La Mède site, more than 20 companies were supported and the number of permanent contracts with subcontractors increased by 6% between 2015 and 2019, without any layoffs.

The flexibility provided by these programs makes it possible to adapt to the pace and planning of the Company's multi-energy strategy and to find the right balance between pooling engineering teams and developing new types of specialists, while at the same time providing appropriate support for each employee, based, at each stage of the transformation, on the guiding principles of the Human Resources policies, particularly with regard to social dialogue, diversity and inclusion, decent employment, social protection and well-being.

In addition to these projects, TotalEnergies is developing the skills of its employees through three levers:

- on-the-job training, reinforced by an internal mobility policy that allows each employee to change jobs regularly and to acquire new skills in their work on a daily basis;
- the pooling of know-how within different communities of professions or experts, which allows for the development of skills in a collaborative spirit between peers;
- training, by offering adapted further education programs aimed at developing the skills and employability of employees.

Professional mobility is now an internal recruitment process that allows employees to become involved in their career development and to apply for vacancies(1) in complete transparency. Consequently, nearly 10,000 vacancies were published on the internal mobility platform in 2021, including in digital technology or renewables energy. Internal recruitment accounts for more than 75%(2) of the Company's hires. The average time spent in the same job was overall 6.5 years, and 4.9 years for managers in 2021.

The Company's policy is to build with its employees, when they start a new position, an individual training plan that identifies their training needs for the next three years, so they can gain the resources they need to be successful in their new job and upgrade their skills. The Company’s training catalog offers nearly 5,300 training content (onsite and remote training) covering all technical, business and cross-functional fields, including behavioral softskills. In particular, a training program on digital transformation and innovation is helping develop know-how in these areas, which are part of the Company's strategic development priorities.

In addition, the Company runs a training program for managers that allows them to develop their skills from the moment they take up a management position and throughout their subsequent career. The program revolves around a common core of learning and is an integral part of each key stage of the manager’s career, designed to support managers in their role as manager-coaches. In 2021, more than 500 co-development workshops were also conducted to encourage managers to put their heads together to solve problems while also strengthening ties with their teams.

Every employee is supported by his or her manager in their day-to-day professional development, particularly during the Annual Individual Reviews (AIRs), which provide an opportunity to review the past year and discuss the employee’s career plans and skills.

% of employees who had an AIR during the year	**2021 WHRS**	**2020 WHRS**	**2019 WHRS**
All employees	92.3%	87.4%	92.0%
Managers (JL ≥ 10)(3)	96.6%	95.1%	94.2%
Non-managers (JL < 10)	90.4%	84.0%	91.1%

In addition, 85.8% of subsidiaries carry out information and experience-sharing actions with their employees to promote the development of their skills.

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(1) Publication of all vacancies representing 90% of positions, except for senior management positions whose mobility remains driven by succession plans.

(2) Excluding Hutchinson and SunPower.

(3) Job level of the position according to the Hay method. JL10 corresponds to the first level of junior manager (cadre débutant) (≥ 300 Hay points).

The Company's training policy is structured around five major areas:

- sharing TotalEnergies' basic corporate values, particularly with respect to HSE, ethics, leadership, innovation and digital technology;
- supporting the development of existing activities and creating new ones in order to achieve the Company's ambitions;
- strengthening key skills in all the Company's business areas to maintain a high level of operating performance in the workforce;
- promoting employees' integration and career development through training designed to teach employees about the Company, management skills and personal development;
- supporting the policy of mobility and diversity within TotalEnergies through language and intercultural training.

The digitization process already underway accelerated during the COVID-19 pandemic, to allow the continuation of the Company employees' skills development in this context. In particular, the Company has established a series of virtual classes offering technical presentations (HSE, general operations, refining processes, petrochemicals and other technical disciplines), led by in-house instructors.

The Company's training effort remained strong in 2021, 93% of employees have attended at least one training course during the year, compared to 84.6% in 2020. The average number of training days per employee stood at 4.2 including on-the-job training, one of the skills development levers. Excluding on-the-job training, the average number of training days per employee stood at 3 in 2021, a significant increase compared to 2020 but comparable to the average number of 2019, before the health crisis. The adaptation of the training offer is reflected in the sharp increase in the number of remote training days, which rose from 0.4 in 2019 to 1.2 in 2021. In 2021, training expenses represent around €132 million, compared to €163 million in 2019, for a comparable average number of days. This decrease is notably linked to the reduction of logistics costs and e-learning training.

Average training cost per employee	**2021 WHRS**	**2020 WHRS**	**2019 WHRS**
In € thousands	1.4	1.1	1.8

After each training session, participants, or their manager if the case may be, receive a satisfaction survey designed to assess the quality of the training and its results in the light of the stated objectives. In 2021, the satisfaction rate was 84.2%(1).

Average number of training days/ year per employee[a]	**2021 WHRS**	**2020 WHRS**	**2019 WHRS**
Onsite training	1.8	1.6	2.7
Remote training	1.2	0.8	0.4
On-the-job training	1.2	–	–
Company average	**4.2**	**2.4**[b]	**3.1**[b]

(a) This number is calculated using the number of training hours, where 7.6 hours equal one day.

(b) Excluding on-the-job training. 2019 and 2020 data not available.

Average number of training days/ year per employee[a] *(onsite and remote training, excluding on-the-job training)*	**2021 WHRS**	**2020 WHRS**	**2019 WHRS**
Women	2.8	2.2	2.6
Men	3.1	2.5	3.4
By segment			
Integrated Gas, Renewables & Power segment	1.5	1.4	1.7
Exploration & Production segment	4.5	3.9	5.5
Refining & Chemicals segment	2.9	2.2	2.8
Refining & Chemicals	2.9	2.2	2.8
Trading & Shipping	2.3	1.6	1.8
Marketing & Services segment	2.8	2.3	3.2
Corporate	5.0	3.8	3.7
By region			
France	2.7	2.2	3.0
Rest of Europe	2.0	1.7	2.2
Africa	4.5	2.6	5.1
North America	3.3	3.8	3.8
Latin America	5.1	3.3	3.8
Asia-Pacific	2.5	3.5	3.1
Middle East	1.1	0.9	1.9

Breakdown by type of training *(onsite and remote training, excluding on-the-job training)*	**2021 WHRS**	**2020 WHRS**	**2019 WHRS**
Technical	31%	30%	31%
Health, Safety, Environment, Quality (HSEQ)	25%	25%	26%
Language	8%	10%	9%
Support function technical training	16%	15%	16%
Management	6%	7%	7%
Personal development	4%	4%	4%
Sales	2%	2%	3%
Cross-functional training	8%	7%	4%

(a) This number is calculated using the number of training hours, where 7.6 hours equal one day.

TotalEnergies maintains a technological training center, Oléum, that combines technological expertise with more than 30 specialized, certified instructors and full-scale technical complexes for instructional purposes. The center operates on two sites in France (Dunkerque and La Mède), offering trainees a full-scale Seveso environment and providing technical career training in operations, maintenance, inspection, safety and other fields. Certified as a corporate Apprentice Training Center (CFA) via TotalEnergies Learning Solutions, Oléum trains apprentices both for inside and outside the Company. The Center also offers internationally recognized qualifications, such as the Basic Offshore Safety Induction and Emergency Training program, approved by the Offshore Petroleum Industry Training Organization, and training in wind power that is certified by the Global Wind Organization. In addition, Oléum issues professional qualification certificates and technical accreditation in areas such as electricity, explosion hazards (ATEX standard), transportation of hazardous materials (CSTMD), S3C and more. Oléum welcomes trainees from all the Company's segments worldwide as well as from its partners and external customers.

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(1) Within the scope of TotalEnergies Learning Solution representing nearly half of the training days.

5.6.3 Ensuring a high level of engagement based on respect for each other and enhancements to workplace quality of life

To ensure a high level of engagement from its employees, the Company promotes human resource development based on respect for each other and enhancements to quality of life on the job. TotalEnergies takes action in a variety of ways to fulfill that goal. Beyond its efforts in the realm of the workplace and employee relations, TotalEnergies intends on promoting diversity, equal opportunity and an inclusive corporate culture. It aims to exclude all discrimination related to origin, gender, sexual orientation or identity, disability, age or affiliation with a political, labor or religious organization, or membership in a minority group.

5.6.3.1 PROMOTING EQUAL TREATMENT OF EMPLOYEES AND EXCLUDING DISCRIMINATION

Throughout its activities, diversity is integral to TotalEnergies' identity and key to its success. The Company has long been committed to promoting equal opportunity and diversity, and strives to promote an inclusive corporate culture and an environment that allows every employee to express and develop his or her potential.

The diversity of its employees and management is crucial to the Company's competitiveness, appeal, acceptability and capacity for innovation. TotalEnergies aims to develop its employees' skills and careers by implementing an inclusive Human Resources policy, while excluding any discrimination related to origin, gender, sexual orientation or gender identity, disability, age or affiliation with a political, labor or religious organization, or membership in a minority group.

This policy is supported at the highest levels and promoted by the Diversity Council, which is chaired by a member of the Company's Executive Committee. The Diversity Council is also charged with making specific recommendations on issues identified each year by the Executive Committee.

Recruitment teams are trained in non-discrimination and unconscious bias. An internal guide entitled *Eliminating Discrimination from the Recruitment Process* has also been put in place and widely distributed. Diversity awareness actions are regularly organized with employees and managers.

Each entity is responsible for creating a suitable working environment to offer all employees the same career opportunities and to allow them to benefit from all the skills and diversity of approaches. During the *2021 Diversity & Inclusion Week*, 3,000 employees in 180 subsidiaries participated in discussion sessions on the themes of gender diversity, intergenerational and intercultural relations, disability, sexual orientation and gender identity.

Promoting equal opportunities, diversity and inclusion is a long-standing policy and practice for the Company. TotalEnergies was a corporate forerunner in the matter of diversity. The new Diversity Road map has set new objectives for 2025 on gender balance and the internationalization of management bodies, executive committees and senior management, to continue this momentum.

In addition to gender and international diversity, disability forms an integral part of the Company's diversity policy. Initially deployed and coordinated in France, the disability policy was introduced worldwide in October 2018 through the signing of the International Labor Organization (ILO) Global Business and Disability Network Charter.

TotalEnergies has renewed its commitment to diversity, equal opportunities and economic and social performance by participating in the first French Economic Inclusion Summit in November 2021.

GENDER EQUALITY IN THE WORKPLACE

TotalEnergies is committed to upholding and promoting the principle of gender equality in the workplace, and ensuring and monitoring its proper application. Gender equality is fostered Company-wide through a global policy of gender diversity, quantitative targets set by the Company's executive management, human resources procedures that take gender concerns into consideration, agreements aimed at promoting a better work-life balance and actions to raise awareness and train the workforce.

TotalEnergies' commitment to gender equality in the workplace begins at the recruitment stage and continues throughout the employee's career, particularly in the processes to identify high-potential employees and to appoint managers.

To ensure a better gender balance in its senior management, the Company has set itself the following targets for improvement in its highest managerial positions to be achieved by 2025, in which women comprise:

- 30% of the members of the Executive Committee (women represented 25% in 2021);
- 30% of the G70[1] (women represented 32% in 2021).

The Company has set the same target for its other governing bodies and leadership positions, with women comprising:

- 30% of Management Committee members in the business segments and large functional divisions (31.7% were women in 2021);
- 30% of senior executives (26.5% were women in 2021, compared to approximately 5% in 2004);
- 30% of Management Committee members at headquarters and in subsidiaries (25.4% were women in 2021);
- 30% of senior managers (19.9% were women in 2021, compared to approximately 8% in 2004).

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[1] Senior executives with the most important responsibilities. Together with the Executive Committee, they form part of the Company's management bodies within the meaning of point 7.1 of the AFEP-MEDEF Code.

In addition, TotalEnergies builds talent pools and regularly organizes campaigns to identify high-potential employees within the Company, in order to offer them a specific development program. At year-end 2021, women made up 33.4% of high-potential employees (versus 15% in 2004) and 32.8% of Company high-potential employees. This program targets potentials for leadership positions in the Company (women represented 24% in 2014).

The Company manages skills mobility with a particular focus on attracting more women to technical and business careers (at the end of 2021, 22.8% of managers on permanent contracts in technical or sales positions were women[1]).

At TotalEnergies SE, the Company's commitment has been materialized by two women who have joined the Executive Committee (eight people) since 2016. In terms of gender diversity in the 10% of the highest management positions of the Company[2], the proportion of women equals 19.3%. At Company level, which is the most relevant scope given TotalEnergies' activities, the proportion is 23.9%[3].

TotalEnergies aims to recruit women in proportions that reflect, *at a minimum*, the percentage of women graduates at schools and universities in its business sectors. The Company strives to promote at least the same proportion of men and women within the overall group of people eligible for the promotion under consideration. The mobility process implemented as part of the Better Together initiative ensures greater transparency and offers new prospects for career growth for both men and women in the Company's various professions.

To encourage young women to opt for careers in technical fields, TotalEnergies has partnered with France's *Elles Bougent (Women on the Move)* organization since 2011. Some 220 female engineers regularly meet with high-school girls to talk about careers in science. Throughout the Company, female engineers and technicians from all backgrounds are encouraged to serve as role models for female high school and university students to illustrate women's contributions to the fields of science and technology.

Promoting diversity also involves changing mentalities: awareness-raising, training and communication actions, such as the *Diversity and Inclusion Week* are regularly carried out for managers and employees. Internal training courses for women such as *Young Female Talents and How to Market Yourself* or *How extraordinary women communicate* are offered.

Through its *mentoring* activities and development workshops, the TWICE (*TotalEnergies Women's Initiative for Communication and Exchange*) network also helps to expand the gender diversity policy. Its goal is to promote the development of women within the Company, particularly towards management roles, and assist them in their career development. Established in 2006, it is now present in France and abroad (with 62 local networks) and has nearly 4,000 members. A *mentoring* program operates in France and internationally to help women gain insight into key phases of their career. In 2021, senior executives represent 8% of mentors. More than 2,000 women have taken part in the program since 2010. In 2018, TWICE launched the TWICE@Digital initiative to encourage networking among women working in digital technology in the Company and, more broadly, help women become more digital-savvy, so they can learn about the changes underway and the impact of those changes on their work.

The Company has signed international charters and agreements and joined initiatives about diversity to demonstrate its commitment at the highest levels of decision-making.

In 2010, for example, TotalEnergies signed the *Women's Empowerment Principles: Equality Means Business* as set out in the United Nations Global Compact, and the Company regularly shows its commitment to equal opportunity and gender equality in the workplace by signing agreements that address diversity and other topics.

TotalEnergies pledged within the World Economic Forum by signing the *Closing the gender gap – a call to action*. This joint declaration is based on seven guiding principles (leadership; aspiration and goal setting; the Science, Technology, Engineering and Mathematics (STEM) pipeline; clear responsibility; recruitment, retention and promotion policies; inclusive corporate culture; and work environment and work-life balance) and two decisive objectives: more diverse recruitment, and greater access among women to technical and management roles.

% of women	2021	2020	2019
Among permanent contract hires	40.3%	41.2%	41.2%
Among manager hires (JL ≥ 10)[4]	35.1%	35.6%	35.5%
Among all employees	35.8%	34.8%	35.8%
Among employees with permanent contracts (CDI)	35.0%	33.8%	34.7%
Among managers (JL ≥ 10)	30.2%	29.3%	28.5%
Among first levels of managers[a]	31.8%	31.0%	30.6%
Among middle management	26.1%	25.6%	24.8%
Among senior management	19.9%	18.2%	17.4%
Among senior executives	26.5%	25.7%	23.0%

(a) Defined on the basis of job levels for junior manager.

% of men	2021	2020	2019
Among all employees	64.2%	65.2%	64.2%
Among employees with permanent contracts (CDI)	65.0%	66.2%	65.3%
Among permanent contract hires	59.7%	58.8%	58.8%

Breakdown of workforce by gender and age group as of December 31, 2021	< 30 years	30 to 49 years	> 49 years
Women	19.2%	57.3%	23.5%
Men	15.7%	55.5%	28.8%

The French Rixain Law aimed at accelerating economic and professional equality

In France, the law of December 24, 2021, introduced a minimum representation of each gender (30% in 2026, 40% in 2029) within two distinct groups made up of senior executives on the one hand, members of governing bodies on the other, for companies with more than 1,000 employees.

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[1] Technical and sales functions, excluding support functions (e.g., human resources, legal affairs, purchasing, etc.).

[2] TotalEnergies SE, the parent company, has more than 5,000 employees (full-time-equivalent employees present on December 31 of each fiscal year for the period in question).

[3] Percentage calculated on the basis of 97,448 employees.

[4] Job level of the position according to the Hay method. JL10 corresponds to the first level of junior manager (cadre débutant) (≥ 300 Hay points).

The percentage of women among Company's senior executives is 26.5% at the end of 2021. Senior executives of the Company are a category of senior managers capable of directing and managing activities at the level of the Company as a whole. This population is managed by a specific department independently of standard Human Resources processes and under the direct supervision of the General Management of the Company.

The table below presents the percentage of women among senior executives and the governing body identified at the end of 2021 for the main French subsidiary concerned.

French subsidiary	Headcount[(a)]	% of women among senior executives	% of women among the governing body[(b)]	Governing body identified
TotalEnergies SE	6,048	26.9%	25.0%	Executive Committee
TotalEnergies Marketing Services	1,711	32.4%	37.5%	Marketing & Services Management Committee
TotalEnergies Raffinage Chimie	1,038	27.6%	37.5%	Refining & Chemicals Management Committee
TotalEnergies Marketing France	1,324	n/a[(c)]	40.0%	Subsidiary Management Committee
TotalEnergies Raffinage France	4,024	n/a[(c)]	37.5%	Refining & Chemicals Management Committee[(d)]

(a) Registered headcount as of December 31, 2021, including permanent and fixed-term contracts (CDI and CDD).
(b) Calculated for all members of the body regardless of their employment contract.
(c) No Company "senior executives".
(d) No management committee within the subsidiary. TotalEnergies Raffinage France is a legal entity supporting refinery personnel without a "governing body", within the meaning of the law of December 24, 2021, other than its legal representative. The activity of TotalEnergies Raffinage is supervised by TotalEnergies Raffinage Chimie.

In terms of compensation, TotalEnergies has been adopting specific measures to prevent and compensate for discriminatory wage differentials in several countries. Regular checks are carried out during salary-raise campaigns to ensure equal pay among men and women holding positions with the same level of responsibility.

Since 2019, consistent with French Act 2018-771 of September 5, 2018, on the freedom to choose one's professional future, the Company has published an index in France for its three units of economic and employee interest (UESs) on wage differentials and the steps taken to eliminate them. That index, based on a score of 100, reflects five indicators: wage differentials, pay raise differentials excluding promotions, promotion rate differentials, percentage of female employees who received a pay raise in the year they returned from maternity leave, number of employees of the under-represented gender among the ten employees who received the highest compensation.

Index[(a)]	2020-2021	2019-2020	2018-2019
Upstream/Global Services/Holding UES (AGSH)	91/100	91/100	90/100
Refining-Petrochemicals (RP) UES	94/100	94/100	94/100
Marketing & Services (MS) UES	87/100	87/100	87/100

(a) Reference period N-1/N: from September 30, N-1 to September 30, N.

The detailed result for 2021 is presented in the table below.

Details of the 2020-2021 index	AGSH UES	RP UES	MS UES
Wage differential	36/40	39/40	37/40
Difference in the distribution of individual increases	20/20	20/20	20/20
Difference in the distribution of promotions	15/15	15/15	15/15
% of employees with a raise after returning from maternity leave	15/15	15/15	15/15
Number of women in the 10 highest earners	5/10	5/10	0/10

These results have been published on the internet site of TotalEnergies.

At the global level, a verification of compliance with the minimum wage guaranteed by local legislation is also carried out on the base salary.

Ratio of the lowest base salary by gender to the minimum salary guaranteed by local legislation, aggregated by geographical area[(a)]	Women	Men
France	132.9%	135.3%
Rest of Europe	181.5%	173.9%
Africa	1,170.2%	942.2%
North America	224.4%	240.3%
Latin America	314.0%	328.7%
Asia-Pacific and Middle East	383.0%	332.2%

(a) Unweighted average, within the scope of the Compensation survey.

At the global level, in order to ensure equal pay for men and women, the Company plans to implement an annual review in all countries and a corrective action plan if necessary.

In France, an agreement on equal opportunity in the workplace was negotiated in June 2019 with employee representatives for the entities in the "socle social commun" scope. Specifically, the new agreement extends paternity leave to three consecutive calendar weeks, makes the eligibility criteria for permanent or occasional remote working more flexible and establishes a right to *coaching* for women returning from maternity leave.

As part of its policy in favor of parenthood, the Company decided in 2020 to guarantee its employees maternity leave of a minimum of 14 weeks with 100% of their basic salary, worldwide. By the end of 2021, 82.1% of subsidiaries were already applying paid maternity leave of 14 weeks or more and 69.4% with the guarantee of 100% salary maintenance (an increase of 9.6 points compared to 2020). The deployment will continue and be extended to all the Company's female employees. This measure complements the maternity guarantee that has been applicable worldwide since 2015, which aims to grant female employees returning from maternity leave an increase equal to the average of the individual increases they have received over the last three years.

TotalEnergies intends to go further in its parenthood policy and plans to adopt a neutral conception of the family and in case of birth or adoption to grant 14 weeks of leave for the first parent (biological mother, male or female adoptive parent) and two weeks of leave for the second parent (biological father, second adopter, male or female partner).

TotalEnergies' success as a responsible company is played out all along its value chain, and the Company is convinced of the importance of working with suppliers that respect human rights and take care of their employees. The Company expects its suppliers to adhere to the Fundamental Principles of Purchasing set out in its own Code of Conduct. In this context, they must ensure that adequate parental leave is granted.

MAKING MANAGEMENT MORE INTERNATIONAL

With nearly 160 nationalities in its workforce, TotalEnergies benefits from a great cultural diversity and considers it important to promote that diversity at all levels of the company. In 2021, 89.9% of the Company's hires and 65.3% of manager hires concerned people of a nationality other than French.

The Company has set targets for progress by year-end 2025 in which:

- non-French nationals comprise 45% of senior executives (36.6% were non-French nationals in 2021, compared to approximately 19% in 2004);
- local managers make up 55% to 75% of Management Committee members in the subsidiaries (59.1% of committee members were local managers in 2021);
- non-French nationals comprise 40% of senior managers (33.8% were non-French nationals in 2021).

In addition, non-French employees account for 49.4% of high-potential employees and 37.9% of high-potential Company employees.

Several measures have been adopted to create a more international management pool, including career paths designed to create more international careers, expatriate assignments for employees of all nationalities (more than 3,000 employees representing approximately 100 nationalities are posted in more than 100 countries), and orientation and personal development training organized by large regional hubs such as Houston, Johannesburg and Singapore.

% of employees of non-French nationality	2021	2020	2019
Among permanent contract hires	89.9%	86.9%	85.8%
Among manager hires (JL ≥ 10)(1)	65.3%	57.7%	55.0%
Among all employees	66.5%	67.1%	67.2%
Among managers (JL ≥ 10)	56.7%	56.1%	56.1%
Among senior executives	36.6%	36.3%	34.1%

% of employees of French nationality	2021	2020	2019
Among all employees	33.5%	32.9%	32.8%
Among permanent contract hires	10.1%	13.1%	14.2%

MEASURES TO PROMOTE HIRING AND INTEGRATION OF PEOPLE WITH DISABILITIES

The Company's diversity policy includes specific measures to promote the integration and retention of people with disabilities. TotalEnergies' Mission Handicap structure, housed within the Diversity & Inclusion department of the Company's People & Social Engagement division, is responsible for leading the disability policy with help from disability coordinators within the business segments and a network of liaisons in each entity.

In **France**, TotalEnergies has given concrete proof of its commitment to hiring people with disabilities for more than 20 years by signing agreements with employee representatives.

TotalEnergies promotes employment for people with disabilities both directly, through its own hires, and indirectly through its purchases from the sheltered employment sector as part of its responsible procurement policy. The Company acts on various fronts simultaneously:

- internally, through efforts to integrate people with disabilities into the workforce, professional training, support and job retention, communication, awareness-raising actions and sessions organized for managers and the entire workforce as well as mandatory training for human resources personnel. In addition, Management Committee members are required to attend awareness-raising sessions. In 2021, a new *Deconstructing Disability* training course was put online for all the Company's managers. In addition, the training program initially designed for future managers from France's leading universities has been deployed internally. 50 of the Company's managers have received the *handimanager* label, by participating in this experience to change their perspective, to understand the fundamentals of a management attentive to all and to value all talents.
- externally, through information and communications campaigns aimed at students, collaborations with recruitment agencies, participation in specialized forums, partnerships with schools and universities. Since the signing in 2019 of a partnership agreement with the "Ecole du Sens au Travail" to finance training modules, several tens of students from the Compiègne University of Technology, Centrale Lyon and the École Polytechnique, who will become future managers, have received the *handimanager* label. In addition, the "Duo Café" initiative, launched in 2020 to organize meetings between students from the Company's target schools and alumni employees, so that they can learn about TotalEnergies' businesses, continued in 2021.

The Disability agreement signed in 2019 within the scope of the "socle social commun", excluding expatriates, (almost 14,000 people), which has been approved by the DIRECCTE(2) for a period of 4 years (2019-2022), is based on three main priorities:

- recruitment, integration and professional support throughout the employee's career;
- job retention, the adaptation of workstations and measures to compensate for the employee's disability;
- the development of agreements and partnerships with the sheltered and supported employment sector (ESAT and EA).

Since 2019, 28 permanent contract hires have been made, out of the 40 envisaged in the agreement, supplemented by a proactive recruiting policy for work/study programs, internships, permanent and fixed-term contracts and temporary employment. The reform of the regulatory framework on the obligation to employ disabled workers introduced a change to the methods of calculating the employment rate applicable on January 1, 2021 based on 2020 data. The rate used is now the single direct employment rate, which in 2020 was 5.16% (up on 2019, when the recalculated rate was 4.24%). TotalEnergies aims to reach the legal rate of 6% of disabled employees by the end of 2022, and is continuing its efforts to promote the indirect employment of disabled people. The use of the adapted and protected employment sector for supplies and services is now included in the sustainable procurement road map.

The four disability coordinator positions in the Company's various business segments and the dedicated recruiter position provided for under the 2019 agreement have been filled. They are now the levers for applying the Company's disability policy in the field, while helping coordinate the network of disability liaisons from each site. In the context of the COVID-19 pandemic, many workstation adaptations have been made at the homes of disabled employees working from home to facilitate their continued employment, in particular within the framework of the ergonomic services contract signed with the adapted company Ergosanté.

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(1) Job level of the position according to the Hay method. JL10 corresponds to the first level of junior manager (cadre débutant) (≥ 300 Hay points).

(2) "Direction régionale des entreprises, de la concurrence, de la consommation, du travail et de l'emploi" (replaced by the DREETS "Direction régionale de l'économie, de l'emploi, du travail et des solidarités" in April 2021), the French regional office of the economy, employment, labor and solidarity.

The Disability agreement signed in 2019 also lets employees voice their support for organizations that work on behalf of people with disabilities. In 2021, a specific budget of €450,000 was allocated to study some 50 projects promoted by disability support organizations.

TotalEnergies took an active part in the launch of the French Employment & Disability Barometer and published data on its disability policy within the "socle social commun" scope in March 2022.

In 2021, as part of the *Manifesto for the inclusion of the disabled in the world of work*, signed in 2018, TotalEnergies supervised a task force to provide resources and volunteers to help small and medium-sized enterprises (SMEs) take actions in favor of the disabled.

In addition, TotalEnergies supports the *Association TotalEnergies Solidarité Handicap (ATSH)*, an organization formed in 1975 by employees who have children with disabilities. ATSH provides psychological and financial support to current and retired employees of the Company and their dependents in France who are affected by disability. It currently has about 300 members.

Internationally, the Company aims to support employees with disabilities by going beyond the legal obligations in each country. This ambition is reflected in the signing of the International Labor Organization's (ILO) *Global Business and Disability Network Charter* in October 2018. To date, 41 subsidiaries have voluntarily signed up to the policy and set themselves goals based on the five principles identified as priorities by the Company: respect and promotion of rights, non-discriminatory policies and practices, accessibility, job retention and confidentiality. This new dynamic is reflected in the regular exchange of best practices and the supply of awareness-raising tools.

On December 3, 2021, on the *International Day of Persons with Disabilities*, the managers of the 41 subsidiaries involved were invited to take the new online training module *Deconstructing Disability*.

A COMMITMENT TO HELP YOUNG PEOPLE ENTER THE WORKFORCE

TotalEnergies is committed to contributing to the professional integration of young people and thus strengthening their employability. Considering it essential to address this issue as early as possible in the educational process to maximize its impact, targeted actions are put in place and adapted to the specificity of the country contexts where they are deployed.

From 2018 in France, the Company has dedicated 50% of its last-year middle-school internships to young people from priority neighborhoods. Over the 2020-2021 school year, TotalEnergies has expanded its system allowing more than 700 young people to discover the business world, including 589 middle school students from priority neighborhoods.

In addition, through the "5,000 work-study trainees" plan launched in 2016, TotalEnergies has committed to increasing its contribution to the employment of work-study students and has consequently recruited more than 8,000 young people. The commitment, which is renewed each year, to recruiting work-study students representing 5% of the French workforce is now part of the Company's human resources policy. In 2021, the Company made 1,909 new hires during the year, compared with its initial target of 1,608. Fully aware of the difficult situation of young people during this complex period, the Company has strengthened its recruitment system to ensure greater equality of opportunity. The partnership with the Mozaïk Foundation (a major player in the economic inclusion of talent from diverse backgrounds) makes all of TotalEnergies' job offers accessible to young people in the regions on its *DiversifiezVosTalents* platform. In addition, the Company has actively contributed to the initiative set up by the French government, by posting more than 1,100 offers on the *1Jeune1Solution* platform in 2021. Lastly, TotalEnergies took part in the *Jeunes d'Avenir* forum, aimed at 16 to 30-year-olds, that is attended by many young people from priority neighborhoods. TotalEnergies hired 41 young people in 2021 within the scope of the "socle social commun" in line with the French Disability agreement.

Every year since 2017, the Company has participated in and obtained the *HappyTrainees* label, which measures the recommendation rate given by its interns and work-study students. Six themes are addressed: career progression, stimulating environment, management, motivation, pride and fun. This year, for the first time, the Company was in the Top 5 in its category. TotalEnergies achieved an overall rating of 4.15 out of 5 and a 91.2% recommendation rate. For this label, 1,711 young people were invited to respond.

In the Africa Marketing & Services Department, the *Young graduate* program has been in existence since 2014 and offers about 80 young African graduates aged up to 26 an 18-month professional placement each year. The program is divided into two phases: a 6-month work experience at the subsidiary in the participant's home country, followed by a 12-month assignment abroad. Since 2014, more than 490 young people have taken this opportunity to improve their employability. The health crisis has slowed down the program, but the milestone of 500 young people joining the program was reached at the start of 2022.

"Volontariat International en Entreprise" (VIE) is a system that promotes the export of the know-how of French companies abroad. This program completes the curriculum for young French people and nationals of the European Economic Area, aged 18 to 28, by allowing them to acquire international experience for a maximum of 24 months. The system, in force in the Company since 2002, has enabled more than 2,100 young graduates to benefit from this program.

The Company's international scholarship programs help promote French higher education worldwide. In all, 1,500 scholars have received grants since 2004, and in 2021 TotalEnergies provided financial support to 192 students from 29 countries. In addition, TotalEnergies is sponsoring a Master's degree in Energy at the three engineering schools of Paris Science et Lettres University *(Ecole Nationale Supérieure des Mines de Paris*, *Ecole Nationale Supérieure de Chimie de Paris* and *Ecole Supérieure de Physique et de Chimie Industrielles de la Ville de Paris*). The aim of this program is to provide a pool of young people expert command of the energy sector and the challenges of decarbonization.

OTHER MEASURES TO PROMOTE INCLUSION

The Company promotes an inclusive corporate culture that allows everyone to develop their potential. It excludes all forms of discrimination related to origin, gender, sexual orientation or identity, disability, age or affiliation with a political, labor or religious organization, or membership in a minority group.

In France, TotalEnergies has been a signatory to the LGBT (lesbian, gay, bisexual and transgender) commitment charter since 2014. Developed by the association *L'Autre Cercle*, it sets a framework for combating discrimination related to sexual orientation or gender identity in the workforce in France. Awareness-raising actions on the themes of sexual orientation and gender identity were carried out with employees during *2021 Diversity and Inclusion Week* and testimonials were shared on the subject at the event organized at the Holding.

At the global level, TotalEnergies plans to commit to the inclusion of LGBT+ people in its Diversity Directive by reiterating that the Company respects all people, regardless of their sexual orientation, gender identity and gender expression, and encourages employees and managers to foster an inclusive work environment.

To provide clear answers to questions employees may have about matters relating to religion at work, and to encourage tolerance for the beliefs of others within a framework of respect for differences, TotalEnergies has developed The Practical Guide to Dealing with Religious Questions in the Company. The guide, which has been available on the Company's intranet site since March 2017, offers keys to understanding different beliefs so that employees can more readily acknowledge those beliefs in their day-to-day activities. Initially published in French and in English, the guide has since been translated into eight other languages. It is routinely provided to participants at training sessions on human rights conducted within the Company. It is also distributed on *Business Ethics Day*, which is marked each year on December 10 in all of the Company's entities. In addition, in December 2020, the Company launched a lecture series on religion that continued throughout 2021.

In addition, TotalEnergies plans to step up its commitment to the following two issues: combating racism by including it in Business Ethics Day in 2022, and combating violence against women by making its commitment more visible and raising awareness among medical professionals and managers.

5.6.3.2 CREATING PROGRAMS TO ADDRESS SPECIAL WORK SCHEDULING NEEDS

The Company's wide-ranging operations often require specific work arrangements, such as shift schedules(1) and rotating schedules(2), depending on the segment. Most shift workers are employed in Refining & Chemicals, Marketing & Services and Integrated Gas, Renewables & Power, while rotating workers are mainly in Exploration & Production.

The average work week is determined in accordance with applicable local laws and limits set by International Labor Organization (ILO) conventions. Excluding specific regimes, it is less than 40 hours in most subsidiaries located in Europe, Israel, Mayotte and Qatar. It is 40 hours in most subsidiaries located in Africa, North America and Asia. It is more than 40 hours, without exceeding 48 hours, in subsidiaries located in Latin America (as in Mexico, Brazil and Dominican Republic), a few countries in Asia (as in India and in Vietnam) and Africa (as in Angola, Tunisia and South Africa).

The challenges of work organization are manifold, depending on the regions of the world where the Company operates, and according to the local legislation in force. The TotalEnergies entities set up programs designed to meet the specific needs of work organization and ensure, as far as possible, that a work-life balance is promoted.

In keeping with the Fundamental Principles of Purchasing, TotalEnergies expects its suppliers to respect, and ensure that their own suppliers and subcontractors respect, a maximum number of working hours and rest time.

Over the past few years, regular remote working has been gradually introduced within the Company. As part of the *Better Together* project, the Company is encouraging home-based remote working and flexible hours worldwide.

In 2021, the TotalEnergies subsidiaries continued remote working when possible, reaching 100% remote working in some cases, taking into account governmental recommendations.

	2021 WHRS	2020 WHRS	2019 WHRS
% of companies offering the option of regular remote working	49.3%	44.9%	29.1%
% of employees choosing remote working when given the option	17.3%	13.3%	7.9%

In addition, as of December 31, 2021, 84.3% of companies offer occasional remote working.

Among other programs designed to foster a better work-life balance, employees are also choosing voluntary part-time work.

	2021 WHRS	2020 WHRS	2019 WHRS
% of companies offering voluntary part-time work	53.0%	55.1%	56.7%

France, the Netherlands and Belgium have the largest number of voluntary part-time workers.

In France, within the scope of the "Socle social commun", an agreement on the right to disconnect was signed in October 2019. It provides that each employee can assert an individual right to disconnect in order to better reconcile their professional and personal lives. TotalEnergies plans to extend this right to disconnect globally to all employees.

In 2021, against the backdrop of the continuing COVID-19 pandemic, the Company maintained its resources worldwide for preventing mental health risks by giving employees access to a support service staffed by psychologists trained in crisis response, who can offer advice tailored to each employee's concerns.

TotalEnergies is studying new forms of organizing work post-COVID by experimenting with different remote work formulas in pilots (occasional home-working days by month, by week, etc.). At TotalEnergies Global Services, a *New Way of Working* initiative has been launched with the aim of building a hybrid collaboration framework that combines flexibility and responsibility, benevolent demands, collective performance and personal fulfillment, while preserving social ties.

The Company is also committed to the well-being of its employees and favors a work environment where life is good. Among the initiatives launched in 2021, a week dedicated to the quality of life at work was organized around three themes: health, well-being and the work environment. Nearly 19,000 employees in several countries were able to register via a dedicated platform for workshops, conferences, sports sessions and live cooking classes and to participate remotely. In 2021, 85.8% of subsidiaries conducted information campaigns or organized events relating to the well-being of employees and 71.6%, actions to raise awareness of the balance between professional and private life.

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(1) In which employees maintain continuous operations, with relays between teams to keep production going (in two or three 8-hour shifts), e.g., in plants or refineries.

(2) In which employees conduct their work at a location (town or worksite) far from their place of residence and alternate between extended periods of work (at their assigned worksite) and rest periods at home.

In addition, as part of a global initiative to prevent and manage employee absenteeism, the medical absenteeism rate is an indicator monitored as part of the WHRS:

	2021 WHRS	2020 WHRS	2019 WHRS
Absences for medical reasons	4.3%	4.1%	3.4%

The change in the rate of medical absenteeism rate is mainly attributable to the pandemic, in particular with the imposed quarantine periods

5.6.3.3 PROMOTING WORKPLACE DIALOGUE

Workplace dialogue is one of the pillars of the company project. It includes all types of negotiations, consultations or exchanges of information among the TotalEnergies entities, employees and their representatives about economic and workplace issues and concerns relating to company life. The topics addressed in this workplace dialogue may vary according to each subsidiary, but some are shared concerns across the Company such as health and safety, work hours, compensation, training and equal opportunity.

The Company is careful to conduct this dialogue at both the local level and at headquarters or centrally, as well as through its participation on company bodies and its signing of agreements.

Among the numerous stakeholders with which TotalEnergies maintains a regular dialogue, the Company's employees and their representatives have a special position and role, particularly in discussions with management teams. In countries where employee representation is not required by law, the TotalEnergies companies strive to establish such representation. As a result, majority elected employee representatives are present in most TotalEnergies companies.

	2021 WHRS	2020 WHRS	2019 WHRS
Percentage of employees with labor union representation and/or employee representation	90.8%	91.7%	88.2%
Percentage of companies with labor union representation	73.1%	71.7%	71.7%
Percentage of companies with employee representation	81.3%	80.3%	80.3%
Percentage of employees covered by a collective bargaining agreement	72.6%	71.9%	71.2%
Number of active agreements signed with employee representatives worldwide	347	281	312
including, in France[(a)]	*202*	*147*	*201*

(a) Some agreements cover several companies (e.g., the agreements in the units of economic and employee interest (UESs) and agreements for groups of companies).

Moreover, where local laws provide few protections for freedom of organization and the right to collective bargaining, the subsidiary's management is reminded that it must provide alternatives. These may include allowing employees to designate representatives, organizing regular meetings between those representatives and management, providing meeting rooms where employees can gather and altering work schedules accordingly. Those best practices are reviewed in an e-learning course on human rights in the workplace, offered within the Company since 2019.

Freedom of association and collective bargaining are two of the subjects studied in its analysis of the risks of human rights abuses, and in particular human rights in the workplace.

TotalEnergies' worldwide agreement on the Fundamental Principles of Purchasing also requires its suppliers to respect freedom of expression, association and collective bargaining and to ensure that, in countries where this right is restricted, employees have the right to participate in a dialogue concerning their collective working situation. As part of the evaluation of its service providers and suppliers, compliance with these commitments is monitored.

The TotalEnergies European Works Council serves, on a European scale, as a forum for providing information and exchanging views about the Company's strategy, its workplace, economic and financial situation, as well as on matters relating to sustainable development, environmental and social responsibility and safety. It is consulted for significant proposed organizational changes concerning at least two companies in two European countries, to express its opinion, in addition to the procedures initiated before the national representative bodies. Innovative measures have been introduced to improve dialogue with the members of the TotalEnergies European Works Council, such as field safety visits and *learning expeditions* to discuss the Company's strategy directly on site.

In 2021, social dialogue at European level was sustained. Members had the opportunity to meet almost 25 times on a variety of key topics. The energy transition implemented by the Company, and its impacts on the business, were the subject of several discussions during the year, both in plenary meetings and during the meetings of the business segments strategy commissions. The Sustainable Development Commission meeting was an opportunity to take stock of the Company's environmental approach (biodiversity, *nature-based solutions*) and to inform the members about the creation of value and jobs in the regions where the Company has a strong presence, or in the countries where it is reorganizing (France, Spain, Italy, Belgium). In July 2021, the Refining-Chemicals Strategy Commission also held a meeting entirely dedicated to a review of the conversion of La Mède and all ongoing projects.

Social dialogue in Europe and in France also saw the involvement of employee representatives in a number of major projects that are structuring the transition of the Company. In particular, members were informed and consulted at numerous meetings on:

- the *OneTech* project, which aims to create a central organizational structure that concentrates skills and technical expertise (3,400 employees), in support of innovation and new growing energies;
- the project for a new organization in support of the transformation of the Company, that will unify the information systems *(One SI*), the communication organization *(One Com*) and adapt the organization of the Corporate and business segments in accordance with the commitments of the negotiated redundancy plan within the scope of the "socle social commun". As the business lines at TotalEnergies change, new opportunities are arising to acquire new skills and welcome new talents. In parallel with more than 1,200 departures, approximately 700 new hires are being made or are planned by the end of 2022 in all business segments, consisting mainly of young people, primarily in new job positions, in order to contribute to the renewal of the skills required to meet the challenges of the Company's transformation.

The TotalEnergies European Works Council and the Social and Economic Committees were also informed of the *Transforming with our People* project, which aims to achieve a just transition for the Company's employees, and of the process to build a skills map defining the bridges between the current job positions and those on the renewables and electricity.

Social dialogue within the scope of the “socle social commun” in France was marked by the negotiation of an agreement on collective mutually agreed severance and the conclusion of several collective agreements, in particular in order to integrate *OneTech* into the “socle social commun” and the Upstream Global Services Holding Economic and Social Unit. An amendment to the *Social & Economic Dialogue* agreement was also signed at the end of 2021 that is intended to facilitate the working of the various employee representative bodies (replacement of absentees, training and engagement of elected deputies and liaisons in the fight against sexual harassment and sexist abuse, etc.).

The Company’s commitment to employee dialogue is also reflected in the international agreements it has signed and mirrors the convictions held by the highest decision-making bodies of the Company. In 2015, TotalEnergies signed a four-year global agreement with IndustriALL Global Union(1) to promote human rights at work, diversity, employee and employee representative participation in social dialogue and the recognition of health and safety in the workplace. TotalEnergies continues to honor the commitments made in this global agreement.

As a responsible employer, TotalEnergies manages organizational changes in a responsible manner. Among the commitments in this agreement, the Company is attached to social support for organizational changes that consists of informing employee representatives as far in advance as possible of planned changes, as well as making sure that subsidiaries take social measures when organizational changes occur, which must be among the best practices of companies in the business sector of the country concerned.

In line with the commitments made in this global agreement, TotalEnergies' approach consists of involving all the stakeholders.

For example, the conversion of the Grandpuits refinery into a zero-oil platform for biofuels and bioplastics will reduce the workforce from 400 to 250 people, without any layoffs or forced mobility. At the end of 2021, just over 100 people have expressed their desire to relocate, and 60 transfers have already been completed. In addition, 79 early retirements are expected between 2021 and 2027. Finally, 15 additional jobs will be created on Grandpuits site in a packaging unit for the bioplastics unit.

In addition to internal jobs, TotalEnergies is also concerned about external jobs. The projects launched as part of this industrial investment of more than €500 million are expected to create up to 1,000 jobs during the three-year construction of the new units.

Partner companies and their employees are supported by the TotalEnergies Développement Régional subsidiary, with the assistance of the regional Chamber of Commerce and Industry. A voluntary agreement for economic and social development is planned to be signed in the first half of 2022.

As part of the conversion project, an agreement was signed providing for quality supporting measures. Since then, management, the unions and personnel representatives have been implementing the project in a constructive atmosphere.

The unions and personnel representatives are regularly informed through two specific commissions:

- One is dedicated to keeping track of the project (every month).
- The other is dedicated to the actions/projects launched with TotalEnergies Développement Régional together with the contractors.

In addition to these specific commissions, the personnel representatives are informed of the progress of the project at the monthly works council meetings.

Finally, the transformation is being implemented in a responsible manner by involving all the stakeholders. Public consultations were held in 2021 on the transformation projects of the Grandpuits site.

In addition to this example, in 2021, 48 subsidiaries worldwide underwent organizational changes that could have an impact on employees, and 40 (83.3%) of them took measures to support employees.

They include:

- 27 subsidiaries that have taken supporting measures for retirement or early retirement. This represents 67.5% of the subsidiaries concerned.
- 39 subsidiaries resorted to redeployment or mobility as supporting measures. This represents 97.5% of the subsidiaries concerned.
- 23 subsidiaries introduced an outplacement program. This represents 57.5% of the subsidiaries concerned.
- 30 subsidiaries offered assistance for training. This represents 75% of the subsidiaries concerned.

In December 2017, TotalEnergies also joined the worldwide Global Deal initiative, a multiparty partnership that aims to encourage governments, businesses, unions and other organizations to make concrete commitments to promoting employee relations on all levels and to proposing concrete solutions that reconcile economic performance and social progress. The Global Deal promotes the idea that effective workplace dialogue can contribute to decent work and quality jobs and, as a consequence, greater equality and inclusive growth, from which workers, companies and civil society benefit. In 2021, TotalEnergies continued to share its best practices with member companies of Global Deal by co-leading a working group on social dialogue during the crisis and the recovery.

As a company that listens to its employees, TotalEnergies involves them in participatory processes. For example, in 2021, a survey was conducted among more than 11,000 employees in France to collect their feedback on home-working and on the methods to be adopted in order to define the model best suited to the professional context and the expectations of each individual. More specific *Pulse* surveys were conducted in parallel in the different sectors of activity.

As part of the new *Transforming with our people* program, regular surveys will also be conducted to measure employees' awareness, understanding and support for the Company's new ambition, as well as their feelings and state of mind.

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(1) An international union federation that represents more than 50 million employees in the energy, mining, manufacturing and industrial sectors in 140 countries.

In addition, a Company-wide participatory initiative was launched in early 2022, in the form of workshops and a collaborative platform, to involve all employees in the achievement of TotalEnergies' ambitions in terms of sustainable development. On the basis of the activities of each entity, this initiative aims to identify the SDGs on which a positive impact or progress can be made, in order to meet stakeholder expectations of the Company.

In addition, every 2 years, TotalEnergies conducts an internal opinion poll (*The TotalEnergies Survey*) amongst its employees to gather their views and expectations with regard to their working situation and their perceptions of the Company, both at the local level and Company-wide. The results of the latest survey, conducted in 2019 amongst 83,000 employees in 126 countries, revealed a 79% commitment rate, and 86% of employees who are proud to work for TotalEnergies. A new *TotalEnergies Survey* is planned for 2022.

5.7 Actions to respect human rights

The main challenges associated with the effects of the Company's activities in terms of respect for human rights have been identified using the methodology set out in the United Nations Guiding Principles on business and human rights (UNGP) Reporting Framework relating to the "salient issues", that is to say, the human rights at risk of the most severe negative impact through the Company's activities or business relationships.

On this basis, the Company identified six salient risks subdivided across three key areas:

- **human rights in the workplace** of TotalEnergies' employees as well as of the employees of its suppliers and other business partners:
  - forced labor and child labor;
  - discrimination;
  - just and favorable conditions of work and safety.
- **human rights and local communities**:
  - access to land;
  - the right to health and an adequate standard of living.
- respect for **human rights in security-related activities:**
  - the risk of misuse of force.

STRONG COMMITMENTS

TotalEnergies' human rights approach is based on strong and formalized commitments. It is supported by a dedicated organization, and embedded in an awareness-raising and training program, as well as evaluation and follow-up mechanisms aiming at measuring the effectiveness of the Company's actions.

TotalEnergies is committed in particular to respecting internationally recognized human rights and standards, wherever the Company operates, in particular the Universal Declaration of Human Rights, the Fundamental Conventions of the International Labor Organization (ILO), the U.N. Guiding Principles on Business and Human Rights, the OECD guidelines for multinational enterprises and the Voluntary Principles on Security and Human Rights (VPSHR).

In 2016, the Company published a Human Rights Briefing Pape in accordance with the recommendations of the United Nations Guiding Principles Reporting Framework, which is available on its website. TotalEnergies was then the first company in the oil and gas industry to do this.

A DEDICATED ORGANIZATION

The human rights road map, developed with the various concerned business segments and divisions of the Company, is regularly presented to the Executive Committee in order to support the ongoing efforts to implement the Code of Conduct and to respect human rights.

The Human Rights Steering Committee monitors the implementation of this road map. It is chaired by the Company's President, Sustainability & Climate. The committee includes representatives of each business segment and of the main functional divisions that have a role related to human rights. It meets four times a year and coordinates the actions taken internally and externally by the various Company entities.

The Human Rights department in the Sustainability & Climate Division coordinates the analysis of the Company's human rights risks, supports operational teams and supervises the actions to promote respect for human rights, in close collaboration with the Ethics Committee and in accordance with the Company's Code of Conduct.

The Ethics Committee is where representatives of all TotalEnergies' business segments sit. Its key role is one of listening and support. Employees, but also people from outside the Company, can contact the committee at the address ethics@total.com. The Committee protects the confidentiality of the complaints, which can only be lifted with the agreement of the complainant. The Chairwoman of the Ethics Committee presents an annual report on the Committee's ethics-related activities to the Governance and Ethics Committee of the Board of Directors. In 2021, the Ethics Committee received close to 140 reports (internal, external, anonymous) regarding compliance with the Code of Conduct, close to 60% of those reports were about questions related to human resources. All received reports are addressed and, when necessary, recommendations are made in order to lead to the implementation of corrective actions.

The Human Rights Department and the Ethics Committee rely on the network of more than 100 Ethics officers across the countries in which the Company operates. They are in charge of promoting the values set out in the Code of Conduct among employees working at subsidiaries and ensuring that the Company's commitments are correctly implemented at a local level.

AWARENESS-RAISING AND TRAINING

In order to disseminate the Company's commitments, TotalEnergies raises its employees' awareness via internal communication channels such as intranet sites or events such as Business Ethics Day, which is held each year (headquarters and subsidiaries). In 2021, *Business Ethics Day* was held on December 9. *Train to Speak Up* was the theme chosen in 2021 to reinforce the culture of dialogue within the Company. A live chat accessible to employees was organized with the President of Gas, Renewables & Power, the Chair of the Ethics Committee, the Chief Compliance Officer and the President of Sustainability & Climate.

In addition to the Code of Conduct, the Company also publishes a Human Rights Guide that is made available to its employees and the stakeholders. This guide specifies the behaviors to be adopted in the activities and relationships with stakeholders. The Company also has a practical guide to dealing with religious questions within the Company. These guides are available on the dedicated human rights intranet site and are distributed at the various training courses and during the *Business Ethics Day*.

A Human Rights training plan, developed in 2020, aims to promote the development of a culture of respect for human rights within the Company, to better manage the associated risks, and to upskill all employees, so that they become agents of change in the long term. This plan has been rolled out as a priority among categories of employees who are most exposed to human rights risks and the decision-makers within the Company.

As part of this plan, several training sessions were organized in 2021:

For all employees:

- An online module on human rights in the workplace with a focus on respecting the ILO's core conventions has been accessible to all employees since 2019 in all countries in which TotalEnergies operates. It is available so far in five languages. More than 35,000 management-level employees (job level 10 or higher) had taken this module at year-end 2021;
- the deployment of the series of conferences on non-discrimination in the workplace, which started in 2020, continued with a focus on the management of religious issues in the workplace. A second awareness-raising session was organized in partnership with Convivencia Conseil, a consulting firm specialized in religious issues.

For target groups:

Other specific training programs tailored to issues encountered on the ground were held throughout 2021, in particular:

- Annual training in ethics and human rights for newly appointed senior executives;
- A second session to raise awareness about crisis communications and management in relation to human rights, organized in partnership with the NGO SHIFT, for functions that are regularly involved in managing crises at headquarters (Communications, Public Affairs, Legal and Sustainability);
- A webinar on the respect for human rights in the context of joint-ventures was held for employees in charge of managing participations in the Exploration & Production segment. It brought together 90 participants from around the world;
- An online training course on the salient risks and human rights issues in the Marketing & Services segment. Several online sessions were conducted in French and English and 60 employees (zone managers, network managers, network inspectors, etc.) representing some 60 countries attended.

In addition, representatives of the Human Rights department regularly participate in external events with other companies and institutional players to share experiences and best practices in this area.

ASSESSMENTS

In addition to the audits and assistance missions carried out by the Audit and Internal Control Division, which cover certain human rights-related issues, the ethics and human rights-related practices of TotalEnergies' entities are regularly assessed by independent third parties and qualified experts.

The British company GoodCorporation has assessed more than 140 entities since 2002 with regard to the principles and values enshrined in the Code of Conduct.

The entities are identified in particular according to the level of the risk of human rights violations in each country, the number of alerts received the previous year and the date of the subsidiary's last assessment. These assessments help identify best practices, share them in the Company and identify areas for improvement. Knowledge and appropriation of the Code of Conduct are tested and reinforced by ethics and human rights awareness-raising sessions. Employees are encouraged to voice their ethical concerns in a confidential manner and report behaviors potentially contrary to the Code of Conduct. These assessments confirmed that the Code of Conduct has been taken on board by employees.

The ethics and human rights assessments are systematically followed up by action plans within 12 months.

In the context of the COVID-19 pandemic, **Ethics and human rights assessments** were conducted in 2020 in Madagascar and in Pau (France), and, in 2021, in Kenya and Poland (covering 517 employees for those two entities).

Action plans implemented following the assessments carried out in 2019 and 2020 in subsidiaries in Brazil, Cameroon, Egypt, Nigeria, Madagascar and Russia (Vostok) were followed up in 2020 and 2021. It is planned to follow up the action plan at Pau's site in 2022.

In addition, TotalEnergies Global Procurement (TGP) rolls out a **supplier qualification** process (described in point 5.10 of this chapter), which includes an ethics and human rights dimension. A system for the assessment of suppliers by a third-party expert has also been set up on the basis of criteria that measure respect for human rights.

Standalone human rights impact assessments may also be conducted in addition to the environmental and societal impact assessments in high-risk areas or conflict zones with the support of independent experts. For example, regarding the Tilenga and EACOP projects, in order to address the potential impact of the projects on human rights, TotalEnergies launched in 2016 a human rights risk and impact assessment through societal and environmental studies. Those studies were approved by the authorities in 2019 for Tilenga and the Tanzanian part of EACOP, and in 2021 for its Ugandan part. Based on the recommendations of these reports, TotalEnergies decided to carry out specific human rights impact assessments in parallel with the approval process for societal and environmental impact assessments. This specific human rights impact assessments of the EACOP project was published in September 2018. The specific human rights impact assessment on the Tilenga project was carried out in 2021 and will be published in 2022.

5.7.1 Respect for human rights in the workplace

The prohibition of forced and child labor, non-discrimination, just and favorable conditions of work, as well as safety, all form part of the principles set out in the Code of Conduct and are developed in TotalEnergies' Human Rights Guide and in the Human Rights Briefing Paper.

TotalEnergies' commitment to human rights in the workplace was demonstrated, in particular, by the signature of various agreements, as the one concluded in 2015 with IndustriALL Global Union(1) for 4 years, which covers the promotion of human rights in the workplace, diversity and parenthood, working conditions, health, the participation of employees and their representatives in social dialogue and the recognition of health and safety at work as absolute priorities in the Company's activities and global supply chain.

TotalEnergies has set itself the goal that, by the end of 2022, no employees will have a direct salary that is lower than the decent living wage in the country or region, in which they work (refer to point 5.6.1.2 of this chapter).

The respect for human rights has guided the Company's efforts during the COVID-19 pandemic and is reflected by the adoption of a number of measures aiming to protect the health and safety of all employees in general and the most vulnerable in particular (refer to point 5.3.4 of this chapter).

The "human rights in the workplace" e-learning course also raises employee awareness about upholding these rights and the Company's zero-tolerance policy concerning forced labor and child labor.

IN ITS ACTIVITIES

TotalEnergies cares about the working conditions of its employees which are governed by the Company's Human Resources policy (refer to point 5.6 of this chapter).

TotalEnergies promotes an inclusive corporate culture that allows everyone to develop their potential. It rejects all forms of discrimination related to origin, gender, sexual orientation or identity, disability, age or affiliation with a political, labor or religious organization, or membership in a minority group (refer to point 5.6 of this chapter, in particular for the targets set by the Company in terms of gender diversity and internationalization).

For many years, TotalEnergies has developed a non-discrimination policy with regard to people with disabilities that focuses on issues related to integration into working life. This policy has resulted in dedicated hiring practices and the promotion of diversity and the advantages it offers for the Company. These issues are coordinated for the entire Company by a "Disability Program" in the People & Social Engagement department (refer to point 5.6.3.1 of this chapter).

TotalEnergies signed in 2014 the LGBT (lesbian, gay, bisexual and transgender) commitment charter. Created by an organization called *L'Autre Cercle*, the charter provides a framework for combating workplace discrimination in France based on an individual's sexual orientation or gender identity. At the global level, TotalEnergies plans to commit to the inclusion of LGBT+ people in its Diversity Directive by reiterating that the Company respects all people, regardless of their sexual orientation, gender identity and gender expression, and encourages employees and managers to foster an inclusive work environment. Awareness-raising activities on the themes of sexual orientation and gender identity were taken amongst the employees during the 2021 Diversity and Inclusion Week and testimonials were shared on the subject at the event organized by the Company. In addition, TotalEnergies plans to step up its commitment to the following two issues: combating racism by including it in Business Ethics Day in 2022, and combating violence against women by making its commitment more visible and raising awareness among medical professionals and managers.

In 2017, TotalEnergies published a Practical guide to dealing with religious questions within the Company in order to provide practical solutions to the questions raised by the Company's employees and managers worldwide. It draws on the experiences of the business segments in various countries and encourages dialogue, respect and listening as a way to find solutions suited to the local context. Many internal and external experts helped draft this document, including representatives of various religious communities. This guide is available in 10 languages. It is available on the intranet and is also distributed at training courses.

TotalEnergies also implements occupational health and safety standards that aim to promote safe and fair working conditions (refer to point 5.3 of this chapter).

In addition to the Company's reporting and internal control system, the working conditions of TotalEnergies' employees are assessed by GoodCorporation, an independent third party.

The Company also conducts an internal opinion survey every two years (the TotalEnergies Survey) amongst its employees in order to gather employees' views and expectations with regard to their working situation and their perceptions of the Company, both at the local level and Company-wide. The results of the latest survey, conducted in 2019 amongst 83,000 employees in 126 countries, revealed a 79% commitment rate, and 86% of participants who are proud to work for TotalEnergies. The next *TotalEnergies Survey* is planned for 2022.

IN THE SUPPLY CHAIN

The Fundamental Principles of Purchasing (FPP) set out the commitments expected from suppliers in various domains, including human rights in the workplace and safety. A Company directive reaffirms the obligation to annex the FPP or to transpose them in the selection process as well as in the contracts concluded with suppliers of goods or services.

The prevention of risks relating to working conditions, especially forced and child labor in the supply chain, is a major area of concern and one of the Company's commitments. The supplier selection methodology was therefore strengthened in 2018 to take better account of the risks of human rights violations.

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(1) International union federation representing more than 50 million employees in the energy, mining, manufacturing and industrial sectors in 140 countries.

In addition, the partnership formed in 2016 between TotalEnergies and a third-party service provider to assess suppliers' practices in terms of fundamental rights in the workplace remains in effect (refer to point 5.10 of this chapter). For all its activities, the Company has set itself the target of auditing 100% of its at-risk suppliers and 100% of its strategic suppliers by 2024. These at-risk suppliers are identified on the basis of the mapping of country-related risks and the mapping of CSR-related risks. The audits are carried out on site and include interviews with employees. Suppliers with non-conformities must present an action plan, the implementation of which is monitored with internal teams.

By way of illustration, the working conditions of the employees of Company-branded service station dealers are also assessed by GoodCorporation. Between 2016 and 2017, a baseline study on a group of 22 subsidiaries in the Marketing & Services segment across different continents was also conducted. On the basis of the recommendations identified to improve service station managers' awareness of the Code of Conduct principles and of the fundamental Conventions of the ILO, Marketing & Services has adapted its online training in relation to human rights in the workplace and observance of the ILO's core conventions to managers' specific needs in particular. By the end of 2021, more than 20,000 people in the Marketing & Services segment had taken the e-learning course dedicated to Human rights and the Network sector managers had been trained. The awareness of the directors, managers and trainers in the network has also been raised. In addition, in 2021, Marketing & Services continued to implement the clauses related to respecting human rights in contracts with service station managers when renewing and negotiating contracts, in particular in Africa, America and Asia-Middle East.

5.7.2 Respect for human rights of local communities

TotalEnergies' operational activities may have impacts on the human rights of local communities, in particular when TotalEnergies obtains temporary or permanent access to their land for projects that may involve the relocation of places of residence and/or economic activities and the resettlement of these populations. In addition, noise and dust emissions and other potential impacts may also have consequences for the livelihood of neighboring communities. Consequently, the access to land of local communities and their right to health and an adequate standard of living are two salient issues for TotalEnergies.

In accordance with internationally recognized human rights standards, TotalEnergies expects from its entities to have a regular dialogue with their stakeholders and make sure that their activities either have no negative consequences on local communities or, if these cannot be avoided, that they limit, mitigate and remedy them.

The solutions proposed in response to the expectations of local communities are coordinated by the societal teams that work in close collaboration with the Human rights department and the legal, safety and environmental teams.

As part of its activities, TotalEnergies promotes dialogue and discussions with human rights defenders, as defined by the United Nations Declaration on Human Rights Defenders.

The Company decided to reinforce the network of people in charge of monitoring human rights issues. As an illustration, a security advisor was created in 2020 as well as a human rights coordinator in Uganda in charge of relations with the local communities in the Mozambique LNG project have strengthened dialogue with the internal and external stakeholders concerned.

In 2021, TotalEnergies also faced several sensitive human rights situations in countries where the Company operates. This is the case in Myanmar.

TotalEnergies withdraws from Myanmar

In Myanmar, following the coup d'état of February 1, 2021, TotalEnergies has firmly condemned the violence and human rights abuses perpetuated in the country. In order to maintain a source of electricity to the people of Yangon and western Thailand, and to protect the Company's employees from forced labor, TotalEnergies decided to continue gas production while halting ongoing projects. But, the impossibility - despite the Company's efforts - to meet the expectations of stakeholders regarding the cessation of payments linked to gas sales, and the deterioration of the human rights situation and the rule of law in Myanmar, led TotalEnergies to reassess the situation, which no longer allows the Company to make a sufficiently positive contribution in this country and to decide on January 21, 2022 to initiate the process of withdrawing from contracts, effective July 2022.

5.7.3 Respect for human rights in security-related activities

In certain situations, intervention by government security forces or private security companies may be necessary to protect TotalEnergies' staff and assets. In order to prevent any misuse of force, TotalEnergies is committed to implementing the Voluntary Principles on Security and Human Rights (VPSHR) issued by States, NGOs and extractive companies.

TotalEnergies has been a member of this initiative since 2012. Within this framework, the Company publishes an annual report setting out the challenges, lessons learned and good practices in relation to security and human rights and, if applicable, reports any incidents associated with the Company's activities. This report is available on the VPSHR Initiative website and on the TotalEnergies website.

A new Company rule came into effect in 2019 to define the Company's requirements for implementing the VPSHR. This rule is accompanied by a VPSHR implementation guide published in late 2020, which aims to provide practical advice for operating entities. In 2020, the self-assessment and risk analysis tools in this field were updated and made available on a secure digital platform. In 2021, these tools were rolled out to subsidiaries in 101 countries with a response rate of 87%. This evolution allowed the completion of their rolling out within the countries in which the Company operates, as well as the strengthening of monitoring and increased traceability of results.

When government security forces are deployed to ensure the protection of the Company's staff and assets, ongoing dialogue is maintained with the representatives of national or regional authorities in order to raise their awareness of the need to respect the VPSHR and encourage them to sign memoranda of understanding that comply with these principles.

The Company promotes these principles and the VPSHR requirements to the private security companies it hires in connection with its activities. These companies incorporate them, for example, through the training provided to security staff on the VPSHR.

TotalEnergies regularly organizes VPSHR training sessions and awareness-raising initiatives for its employees, in particular to encourage them to report any incidents related to these principles. Specific awareness-raising work on compliance and deployment in the entities considered to be most at risk is carried out annually. The contribution of the subsidiaries to the annual "ADRA Campaign" *(Auto-Diagnostic and Risk-Assessment*) enables the VPSHR teams of the Security division to assist them with improvement actions throughout the year.

In 2021, this awareness-raising work led the VPSHR liaisons to revise the content of the training courses in order to make them more accessible and better adapted to changes and issues related to human rights and security. This improvement was made mainly by developing a new online training module for the Country Security Officers, who support Country Chairs in their role of being responsible for the Company's security at country level and who are the representatives of the Company Security division in charge, among other things, of implementing the VPSHR.

For example, taking into account the security situation and its development projects, the subsidiary TotalEnergies EP Mozambique Area 1 has adopted a specific human rights policy and action plan. Regarding security, Mozambique LNG project has included VPSHR clauses in the Memoradum of understanding with the government security forces to deploy a Joint Task Force (JTF) to protect its operations. These clauses continued to apply, despite the suspension of the project activities in April 2021.

The project continued to conduct human rights training sessions for all Army and police officers when deployed in the JTF. In 2021, 1,027 officers were trained by qualified personnel from the project's security team. To improve the sustainability and the ownership of the training courses, an intensive Train-the-Trainers session was also delivered by an accredited international expert to 16 of the JTF commanders in June 2021. The commanders left the course with a practical kit to be used in an operational context, which has since enabled 716 members of the JTF to be trained. Consequently, the members of the JTF can now be trained directly by their superiors. A new Train-the-Trainers session is planned for 2022.

In parallel, since June 2021 and in close cooperation with the project, the JTF commander has appointed 6 officers in charge of relations with the local communities, involved in humanitarian and social activities. These efforts aim to build trust between local communities and the JTF, thereby contributing to a better resolution of any potential disputes.

In addition, a community grievance mechanism is available to the local communities supported by a toll-free telephone line to resolve any incidents. When incidents are reported, they are immediately referred to the Joint Task Force Commander for investigation and, according to the severity of the incident, they are escalated to national authorities for further investigation.

Finally, the subsidiary is also involved in the promotion of VPSHR at national level. The project contributed to the initiative to create an In-Country Working Group on the VPSHRs and also organized an awareness-raising day for 35 representatives from civil society and the government in June 2021.

5.8 Fighting corruption and tax evasion

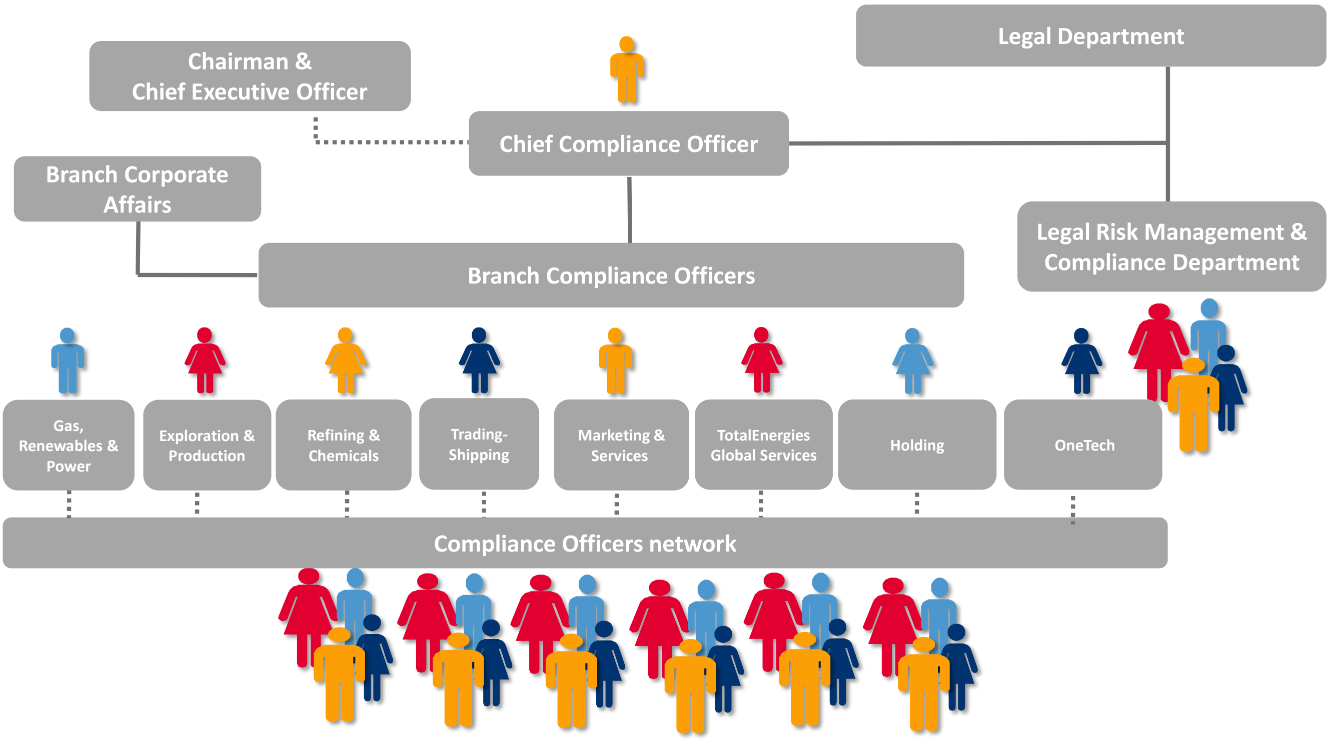
5.8.1 Fighting corruption

TotalEnergies is a major player in the energy sector, where public authorities regularly play a role and where the amounts invested may be very high. In addition, the Company is present in more than 130 countries, some of which have a high perceived level of corruption according to the index drawn up by Transparency International. Aware that it is highly exposed to the risk of corruption, TotalEnergies applies a principle of zero tolerance.

To prevent risks of corruption, TotalEnergies has implemented a robust and regularly updated anti-corruption compliance program. The aim of this program is to promote a culture of compliance and transparency, which is key in ensuring the sustainability of the Company's activities. Failure to comply with such legislation such as the U.S. Foreign Corrupt Practices Act and the French law on transparency, the fight against corruption and the modernization of the economy, is likely to expose the Company to a high criminal, financial and reputation risk, as well as the enforcement of measures such as the review and reinforcement of the compliance program under the supervision of an independent third party.

The commitment of the entire Company and the efforts undertaken are unrelenting in order to ensure the sustainability and continuous improvement of the anti-corruption compliance program, which the U.S. authorities deemed to be appropriate in 2016, thus putting an end to the monitorship that was introduced in 2013.

This program is drawn up by a dedicated organization acting at the Company and business segment levels, namely the Compliance and Legal Risk Management Department, headed by the Chief Compliance Officer, and the Branch Compliance Officers. They coordinate a network of more than 360 Compliance Officers in charge of rolling out and running the program at the subsidiary level. This structured organization lies in close proximity to operational activities while having its own dedicated reporting line.



TotalEnergies' anti-corruption compliance program is based primarily on the following seven pillars: management commitment or "tone at the top", risk assessment, adoption of internal standards, awareness raising and training of employees, feedback of information, including the whistle-blowing system, mechanisms for assessing and monitoring implementation of the program, and imposition of disciplinary sanctions in the event of misconduct.

5.8.1.1 MANAGEMENT COMMITMENT

The constant high level of commitment by the General Management is reflected by the principle of zero tolerance for corruption that is clearly set out in the Company's Code of Conduct. Managers have a duty to lead by example and are responsible for promoting a culture of integrity and dialogue. This commitment is also expressed in regular statements made by the Chairman and Chief Executive Officer on this subject, as well as through large-scale communication actions, such as the annual Business Ethics Day organized on the occasion of the U.N.'s International Anti-Corruption Day and Human Rights Day. The seventh event, which took place in December 2021, was devoted to training: an online discussion was organized with the President of the Integrated Gas, Renewables & Power segment, and then with the Compliance, Ethics and Human rights Officers, to enable employees to ask their questions on these topics. The event was preceded by a poster campaign. In addition, its launch was ensured by the Chairman and CEO of TotalEnergies SE in a video in which the Chairman & CEO notably reminded the importance of the training in the fight against corruption.

The commitment of the management bodies is also expressed externally by TotalEnergies' joining anti-corruption initiatives and supporting collaborative and multi-party approaches. TotalEnergies joined the Partnering Against Corruption Initiative (PACI)(1) in 2016, thereby adhering to the PACI Principles for Countering Corruption. The Chairman and Chief Executive Officer of TotalEnergies SE became a member of the PACI Board in 2018 and subsequently Co-Chairman of the initiative at year-end 2019. TotalEnergies is also a member of other initiatives that contribute to the global effort against corruption, such as the U.N. Global Compact since 2002 and the Extractive Industries Transparency Initiative (EITI)(2) since its launch in 2002.

5.8.1.2 RISK ASSESSMENT

To regularly adapt the compliance program to the risks to which TotalEnergies is exposed, these must first be identified and assessed. In addition to the Company's risk mapping, which includes the risk of corruption, specific corruption risk mapping is produced on the basis of a methodology formalized in a rule adopted in early 2020.

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(1) Launched in 2004 within the World Economic Forum, PACI now numbers approximately 90 major corporations and forms a platform for discussion for business leaders and governmental and non-governmental organizations, allowing them to share their experiences and ideas and develop best practices.

(2) The EITI brings together representatives of the governments of the member countries as well as representatives of civil society and business in order to strengthen transparency and governance with regard to income from oil, gas and mineral resources.

This rule provides for two-tier mapping: that of entities coordinated by the Compliance Officer and that of business segments coordinated by the Branch Compliance Officers. At the business segment level, the assessment needs to examine the main types of risk (purchasing, sales, conflicts of interest, gifts and hospitality, human resources, representatives dealing with public officials, mergers and acquisitions, joint-ventures, donations and sponsoring, and influence peddling). This two-tier analysis is aimed at establishing action plans that are appropriate to the risks identified and the realities on the ground. In accordance with the rules in place, the Chief Compliance Officer presented a summary of the maps of the various business segments to the TotalEnergies Risk Management Committee for the first time in 2021. The same presentation was provided by the Chief Compliance Officer to the Executive Committee in October 2021. In addition, particularly when assessing corruption risks, employees are provided with tools that help them identify the risk of corruption, e.g. the Typological guide of corruption risks.

Measures are taken to manage the identified risks. Specific rules are regularly adopted and incorporated in the Company's reference framework.

5.8.1.3 INTERNAL STANDARDS

As an essential element of the Company’s reference framework, the Code of Conduct sets out the behavior to be adopted, in particular with regard to the question of integrity. It prohibits corruption, including influence peddling, and advocates zero tolerance in this area.

The Code of Conduct is complemented by a regularly updated set of anti-corruption standards. This set applies to all companies controlled by the Company in accordance with their respective decision-making rules and subject to the legal and regulatory provisions applicable locally. The Anti-Corruption Compliance Directive recaps the main principles and organizes the roll-out of the anti-corruption program. It deals, among others, with commitment, training and awareness raising, accounting and bookkeeping, the assessment system and whistle-blowing mechanisms. This directive is complemented by rules that deal with more specific subjects in order to prevent the various risks identified.

In terms of anti-corruption due diligence, the deployment of the computerized supplier qualification tool, which includes the due diligence process resulting from the single rule adopted in 2020, is continuing. Due diligence involves collecting information, identifying any risks of corruption and taking the appropriate mitigation measures. This process is performed by the relevant business people with support from their Compliance Officer, who may call on the Branch Compliance Officer. Particular attention is paid to representatives (agents or others) dealing with public officials for whom the applicable internal rule specifically provides for mandatory due diligence and monitoring by operational staff of contractual relationship with such third parties, which may include the verification of invoices, the control of activity reports or the organisation of audits.

Following the adoption in 2020 of a rule to address the recording and accounting of expenses covered by anti-corruption compliance rules, two guides were published in the summer of 2021 for the accounting and compliance functions.

Other standards deal with high-risk areas, such as gifts and hospitality, which have to be registered and approved by the line manager above given thresholds; conflicts of interest, which must be reported to the line manager and addressed; anti-corruption measures implemented within joint-ventures; and human resources-related processes such as recruitment.

5.8.1.4 AWARENESS RAISING AND TRAINING

Awareness raising actions are carried out toward all employees. The TotalEnergies intranet contains a section on the fight against corruption which provides employees with various media, e.g. the internal standards and guides such as the booklet entitled "Prevention and fight against corruption". Poster campaigns conveying key messages in at-risk areas are regularly organized. An initial online anti-corruption course was rolled out in 2011 and a more in-depth online module in 2015. This module is accessible to all employees and mandatory for the targeted personal (almost 43,000 employees) and new hires. At the end of 2021, season 1 of the anti-corruption online course had been followed by approximately 42,000 employees, and season 2 by approximately 40,000 employees in the various regions where the Company operates its activities. A season 3 online course is planned to be launched during 2022 and replace the two previous seasons. In December 2021, the seventh annual Business Ethics Day, organized on the occasion of the United Nations International Anti-Corruption and Human Rights Days, was dedicated to training (refer to point 5.8.1.1 above for further details).

More targeted training courses are also provided for the functions viewed as highly exposed (such as procurement and human resources), whether by the corporate or segment Compliance teams or by the Compliance Officers. Several online and face-to-face training sessions are held every year for the Compliance Officers. The Branch Compliance Officers also benefit from annual training days on specific topics. Despite the health crisis, these various sessions continued and most were held remotely.

5.8.1.5 FEEDBACK OF INFORMATION

The feedback of information is ensured primarily through an annual reporting process. This is performed by the Compliance Officers, reviewed by their Branch Compliance Officer and sent to the Chief Compliance Officer. This reporting helps monitor the roll-out and implementation of the anti-corruption program, through quantitative indicators on key elements of the program, such as the number of training courses or due diligences performed.

The consolidated data resulting from this reporting, which reflects the results of the implemented policies, is presented once a year to the Executive Committee and the Board of Directors via the Governance and Ethics Committee. This presentation provides an opportunity to report the results of the actions undertaken at the very highest level and to review the road map aligned with the identified areas of improvement.

In addition, TotalEnergies takes actions in order to develop a speak-up culture and asks its employees to report any situations that they consider to be contrary to the Code of Conduct. This culture is encouraged by regular communication on the rule adopted in late 2020, which formalized the procedure for collecting integrity alerts (corruption, fraud and influence peddling). This rule expressly provides that no disciplinary sanction, nor any direct or indirect discriminatory retaliatory measure, may be taken against the whistleblower, as long as it is made in good faith, and this even in the facts subsequently turn out to be inaccurate or unfounded, and/or not to give rise to any proceedings or sanctions. This rule, combined with the one also adopted in 2020 by the Ethics Committee concerning the collection and processing of reports, covers all situations or behaviors likely to be contrary to the Company's Code of Conduct.

In this respect, echoing this Code, the rule adopted at the end of 2020 by the Anti-Corruption Compliance recalls the various existing alert channels: each employee can therefore contact any manager, Human Resources, the Compliance Officers or Ethics Officers, or the Ethics Committee, depending on what seems most appropriate. The Ethics Committee is responsible for ensuring compliance with the Code of Conduct. Its Chairperson, who reports to the Chairman and Chief Executive Officer of TotalEnergies SE, presents an annual Ethics Report to the Governance and Ethics Committee of the Board of Directors.

Both employees and third parties can refer to this Committee by writing to ethics@total.com. TotalEnergies does not tolerate any retaliation measures or discrimination toward anyone submitting a report in good faith and undertakes to respect confidentiality.

5.8.1.6 ASSESSMENT AND MONITORING

The anti-corruption program is monitored at the first level by business people, as well as their line managers and the Compliance Officers who are in charge of ensuring the day-to-day implementation of the rules. At the second level, controls are performed by the Compliance function, in particular through assessment missions (referred to as compliance reviews) that are undertaken by a dedicated team within the TotalEnergies Compliance and Legal Risk Management Department. These second-level assessment missions are carried out by an internal team reporting to the Chief Compliance Officer, accompanied by lawyers and external service providers specialising in financial and accounting data analysis. Each year, around twenty of these missions are carried out on the subsidiaries deemed to be most exposed to the risk of corruption on a multi-criteria basis (Transparency International index, date of the last assessment mission, possible incidents in particular). In addition, the Audit and Internal Control Division performs an annual off-site inspection to verify the quality of the reporting performed by the Compliance Officers, as well as missions to check the self-assessment by the entities subject to the Sarbanes-Oxley regulations of their internal control framework. At the third level, this division also helps monitor the anti-corruption program through audits called “assurance audits” performed according to a framework that includes compliance topics. The controls performed in this context by the Audit and Internal Control division are selected on the basis of the results of the risk analysis it carries out prior to each assignment. The controls carried out may relate in particular to the assessment of third parties, the mapping of corruption risks or the disciplinary system. This system is described in full in a guide on control of implementation of the anti-corruption program published in late 2020, which requires the adoption of an “Anti-Corruption Control Plan” within each business segment.

5.8.1.7 DISCIPLINARY ACTION

In line with the principle of zero tolerance and in application of the Code of Conduct and the Anti-Corruption Directive, any infringement of the anti-corruption standards must give rise to disciplinary action, up to dismissal. TotalEnergies’ resolve in this matter is repeated in communication media intended for employees as well as on the intranet. This resolve, which results from management commitment, contributes, with the other pillars described above, to the robustness of the anti-corruption compliance program. In 2021, the Company recorded just over 350 integrity incidents (covering fraud, corruption or influence peddling) which led -where established and one or more Company employees were involved- to more than 110 sanctions, up to and including dismissal.

5.8.2 Fighting tax evasion

10 REDUCED INEQUALITIES

16 PEACE, JUSTICE AND STRONG INSTITUTIONS

With a presence in more than 130 countries through 1,140 consolidated entities, TotalEnergies carries out its operations in a constantly changing environment and is subject to an increasingly complex set of tax regulations, which may be in conflict when combined or subject to varying interpretations, thus giving rise to potential tax risk.

In this context, TotalEnergies has developed a responsible tax approach based on clear principles of action and rigorous governance rules as set out in its tax policy statement, which was released in 2014 and is available to the public on the website of TotalEnergies.

Tax Policy of the Company

Tax payments of TotalEnergies represent a substantial part of its economic contribution to the countries in which it operates.

Mindful of its responsibility, the Company is committed to paying its fair share of taxes to the host countries of its operations, in compliance with applicable laws and conventions and in accordance with its Code of Conduct.

The structuring of our investments worldwide is driven by our business operations and the regulatory framework.

Our tax policy's prime focus is certainty and sustainability in the long term. We thus believe that artificial or aggressive tax planning mostly derives short term tax benefits and is not compatible with a sustainable approach.

We apply the arm's length principle for the determination of our intercompany transfer prices and we pay our income taxes in the countries where we create value, in compliance with applicable laws and regulations.

It is the Company's long-term commitment not to create affiliates in countries generally acknowledged as tax havens and to repatriate or liquidate existing affiliates, where feasible.

Government authorities may offer tax incentives to support business sectors, create employment or foster their economic development. The Company may only claim incentives that are aligned with its business strategy, relate to investments with genuine economic substance and meet the requirements set by host countries.

The Company takes a responsible approach to the management and control of taxation issues, relying on well-documented and controlled processes.

The management of tax risks is fully integrated in the Company's global risk governance process. As part of this process, the VP Tax, under the authority of the Chief Financial Officer, oversees the implementation of the tax policy and reports on a regular basis to the Board's Audit Committee on TotalEnergies' tax position. The tax function is made up of a network of qualified and regularly trained in-house tax experts at the corporate level, in the business segments and in the affiliates.

Transparency is an essential factor in building a trust-based relationship with our stakeholders. As a permanent member of the Extractive Industries Transparency Initiative (EITI) since its formation in 2003, TotalEnergies fully supports initiatives for greater transparency and accountability. We encourage governments to ensure that the tax reporting obligations they will impose upon multinational groups are consistent, coordinated and proportionate.

We engage with a broad range of stakeholders, and especially with tax authorities, in a timely, transparent and professional manner which is the basis of a constructive and long-term relationship. In France, the country of its headquarters, TotalEnergies has been part of the cooperative compliance program upon its inception in 2019, thus pursuing greater transparency, dialogue and trust in its relationship with the French tax administration.

As regards advocacy relating to tax matters, TotalEnergies follows the rules set forth under its Code of Conduct and its Advocacy Directive, both available to the public on the Company's website. The Company is committed to fighting any form of corruption and does not intervene in the functioning or financing of the political life in its host regions. It undertakes to convey messages to the authorities that are consistent with its stated positions and strategies and to be transparent about such messages, whether they are positive or defensive, notably with regard to the Company's support for the objectives of the Paris Agreement relating to the fight against climate change.

The Company publishes in its Universal Registration Document an annual report covering the payments made by its extractive affiliates to governments and the full list of its consolidated entities, together with their countries of incorporation and of operations. The Company also issues a tax transparency report, which provides additional information on the taxes paid in its main countries of operations on a country-by-country basis. This report aims to offer more detailed information on the Company's tax position.

In compliance with its goal to foster a global responsible tax environment and encourage best practices, the Company endorsed the Responsible Tax Principles developed by the B Team, a non-profit organization bringing together business leaders and representatives of civil society with the aim of promoting a sustainable form of economic and social development.

The present tax policy is included in the Company's Universal Registration Document. It is reviewed by the Audit Committee and approved by the Board of Directors.

5.9 Value creation for host regions

Based on the values and principles formally set out in its Code of Conduct and Safety Health Environment Quality Charter, TotalEnergies strives to be an agent of positive change for society, and to contribute to its development through its societal actions.

At a national level, the Company's activities generate value for the countries where it operates, and TotalEnergies intends to contribute to the development of economic opportunities for its host regions and communities. At a local level, the Company's activities can be a source of opportunities for the people, but may also have an impact on the living conditions of local communities and residents. Furthermore, in order to address society's global challenges, the Company is committed to the public interest.

Within this context, the Company has identified its main risks and opportunities with regards to creating and sharing value:

- fostering the economic development of the host regions;
- managing societal challenges related to the Company's activities;
- engaging in citizenship initiatives.

5.9.1 Fostering the economic development of host regions

RECRUITING LOCAL PEOPLE AND SUPPORTING THE DEVELOPMENT AND CREATION OF LOCAL BUSINESSES

In addition to contributing directly to job creation in the countries where the Company operates (refer to point 5.6 of this chapter),TotalEnergies is committed to recruiting local people and subcontractors, if its operational imperatives so permit.

For each industrial project presented to the Company's Executive Committee, TotalEnergies' set itself as a target to maximise local employment and value creation for the host country through procurement, manufacturing and the development of local capacity and skills. In order to achieve this, TotalEnergies carries out an analysis of the local context in terms of regulations, stakeholder expectations and local economic and industrial capacities. Based on this analysis, depending on the needs of the project and future operations, existing local capacities, those requiring development support and those not available are determined. The analysis is complemented by working sessions with key suppliers to gather their views on how to mobilise and develop local content.

This approach enables to define a strategy for developing local content during the construction phase of the project and in operation. During the construction phase, the strategy incorporates objectives and actions relating to vocational training and support for local businesses. During the construction phase and in operation, key suppliers and their subcontractors are selected if they meet or exceed the local content targets set in the tenders. In order to monitor the achievement of the targets, suppliers and their subcontractors are required to submit a detailed report on their achievements (employment, use of local subcontractors, investments and initiatives in skills development and support to local businesses). This forms the basis for calculating impact: jobs and local value created. This approach has been deployed in recent years for two major projects: Tilenga in Uganda and EACOP in Tanzania. New renewable energy projects, in particular offshore wind projects, are gradually integrating this methodology in order to contribute to the development of new industrial sectors and local employment.

As an illustration, on the Tilenga project, the local content development approach should make it possibe to:

- create approximately 6,000 direct local jobs(1) during the construction phase, of which 60% technicians and 15% managers, and then approximately 3,000 during the operation phase;
- create approximately 14,000 indirect local jobs(2) during the construction phase, then approximately 5,000 during the operation phase. A significant portion of these indirect jobs will be created in the project area (Buliisa);
- spend approximately 700 million dollars with local suppliers during the construction phase, which is expected to generate up to 1.2 billion dollars in additional national economic wealth(3). During the operation phase, the site is expected to spend approximately 60 million dollars per year with its suppliers, which is expected to generate approximately 100 million dollars in national economic wealth(3).

In addition, TotalEnergies is reaffirming its commitment to supporting the socio-economic development of the countries in which the Company operates through an entrepreneurial challenge program, the Startup Challenge of the Year. TotalEnergies thus contributes locally to the reinforcement of the social fabric, through the support brought to the most innovative entrepreneurs, in the realization of their project. Following the success of the first edition launched in 2015-2016 in 34 countries in Africa, the 2018-2019 edition was expanded to 55 countries worldwide. The third edition was launched in November 2021 and should run through to June 2022.

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(1) At TotalEnergies, suppliers and their subcontractors involved in the construction of the project.

(2) At subcontractors of suppliers involved in off-site activities other than construction, such as transportation, catering or accommodation activities dedicated to the project suppliers or the supply of materials to these suppliers.

(3) TotalEnergies study.

ANCHORING OUR TRANSFORMATION WITH THE ACTORS OF TERRITORIES AND WITH A WILL OF JUST TRANSITION

In France, TotalEnergies is supporting the conversion of its industrial sites and intends to share its transformation ambition with its stakeholders.

In September 2021, TotalEnergies set up a division to forge ties with its local public and private stakeholders and to foster a dialogue focused on the regions. The extended missions of this division are to represent the Company in the regions, to dialogue with stakeholders, to establish partnerships, for example through collaborations with regions and cities, to integrate into the territories by participating in certain regional bodies in close proximity to regional decision-makers, to communicate on the transformation of the Company, by involving the Company's segments and the Corporate Foundation. As an example, end of September 2021, a declaration of Green Growth cooperation was signed between the Company and the Nice Côte d'Azur Metropolis, focusing on three areas: the energy transition towards carbon neutrality, territorial solidarity and economic development.

This division is also in charge of supporting the conversion of the Company's industrial sites with a view to a just transition and supporting the energy transition. Thus, the subcontractors of its sites are supported in setting up training and repositioning the skills of their employees in particular toward the new professions of the energy transition. Support can be offered to employees in their personal business creation projects. Projects led by other industrialists can be supported and subsidized in order to facilitate the establishment of new industrial units. Each project takes into account an analysis of the evolution of the markets in order to restore the competitiveness of the industrial sites over the long term. A Voluntary Agreement for Economic and Social Development (CVDES) is implemented to support the site and its ecosystem (subcontractors, stakeholders, etc.) during this period of change. In this way, TotalEnergies reaffirms its responsibility toward the employment basins in which the Company operates as well as its commitment to maintaining a strong and lasting industrial presence.

At the Carling industrial platform in France, following the shutdown of the second steam cracker in 2015, TotalEnergies led a forward-looking project. The CVDES relating to the Carling site was ended in 2018 with a final commitment of €12 million in grants from TotalEnergies for four industrial projects representing €125 million of investment and 143 jobs planned. TotalEnergies also committed to support these industrial projects until the effective start-up of the production units. Metabolic Explorer's industrial unit was inaugurated in September 2021, while construction of the Afyren Neoxy unit began in late 2020 for a planned start-up in 2022. The grants awarded by TotalEnergies and the support provided to these startups have helped create jobs with a future in the biochemistry field.

The conversion of the La Mède refinery in France, which involved an initial investment of more than €275 million, has been completed, with the start-up of an 8 MW solar power plant in 2018 and the first French biorefinery in July 2019. The CVDES signed for La Mède for the period 2016-2019, extended for 2020, was closed in March 2021. TotalEnergies has supported subcontractors and 8 industrial projects and 3 industrial demonstrators, with the planned creation of nearly 300 jobs.

At the Lacq platform, also in France), a specific unit of TotalEnergies researches and examines third-party industrial projects that could join the platform in partnership with the Nouvelle-Aquitaine region, the Pau-Béarn Chamber of Commerce and Industry (CCI), the Chemparc public interest group, the Lacq-Orthez district authority and Sobegi. In October 2021, the groundbreaking ceremony for the green chemicals project led by Alpha Chitin was held (€14 million investment and 20 jobs created for the first phase). At the end of 2021, the Caremag magnet recycling project announced its decision to locate in the Lacq basin (€42 million investment and 50 to 70 jobs created). The coordinated efforts of local stakeholders, including TotalEnergies, have helped launch the creation of new, forward-looking industries on the site in the fields of biochemistry and biotechnology for the energy transition.

At the Grandpuits platform, in France, TotalEnergies is supporting the project to convert the site into a “zero-oil” platform as announced in September 2020 and representing a planned investment of €500 million. The Grandpuits platform will include four major activities: the transformation of biomass into biofuels, the production of bioplastics, the recycling of plastic waste and the production of solar energy. The CVDES between the public authorities and TotalEnergies sets a budget of nearly €5 million dedicated to supporting the Grandpuits and Gargenville employment areas and, in particular, subcontractors and the reception of new industrial jobs, with a view to a fair transition.

Finally, TotalEnergies supports the creation or maintenance of sustainable jobs in France by granting loans to SMEs, particularly those with projects that contribute to the ecological and energy transition. Between 2019 and 2021, loans were granted to 423 SME projects, amounting to a total of €16 million, and nearly 11,000 jobs were supported.

5.9.2 Managing societal challenges related to the Company’s activities

5.9.2.1 A STRUCTURED OPERATIONAL SOCIETAL APPROACH

The Company integrates societal issues into the conduct of its operations through its One MAESTRO reference framework (see point 5.3 of this chapter). Guides, manuals, video tutorials and a community of practices, available online to all TotalEnergies' subsidiaries, help them implement their operational societal approach, which is adapted to the specific local requirements of the regions and communities. The main steps in this process are:

- dialogue and involvement of local stakeholders;
- the analysis of the challenges and local societal context;
- the development of a societal strategy integrated with operations;
- the implementation and the monitoring of societal actions and projects.
- the implementation of a complaints management system.

DIALOGUE AND LOCAL STAKEHOLDER INVOLVEMENT

TotalEnergies promotes dialogue with stakeholders to develop constructive and transparent relationships with them. To this end, TotalEnergies' One MAESTRO framework requires subsidiaries to engage in a structured, regular dialogue with their stakeholders to inform them, listen to them and take their concerns and expectations into account. It also requires subsidiaries to report on actions to avoid, reduce or offset negative impacts, and to measure stakeholder satisfaction and identify areas for improvement. TotalEnergies acknowledges the specificities of the rights of indigenous and tribal peoples (International Labor Organization Convention No. 169) and has developed a framework which defines principles to be followed with these communities. It encourages the use of experts in order to identify and understand these peoples' expectations and specificities, to consult them and to contribute to their socio-economic development. This initiative is also consistent with the United Nations Guiding Principles on Business and Human Rights.

In the Refining & Chemicals segment, refineries and petrochemical sites put consultation with stakeholders at the heart of their ongoing improvement strategy and are all ISO 14001 certified. Local structures for dialogue have been set up, such as Community Advisory Panels in the United States and specific local committees for certain European platforms (e.g. Feyzin neighbors' conference and Donges residential committee).

Marketing & Services has developed stakeholder engagement tools which are adapted to the diversity of its businesses (oil terminals, filling sites, lubricant plants, road transportation and service stations) which can be easily adapted in a wide variety of contexts and regions.

For Exploration & Production projects, dialogue is initiated from the exploration phase, even when TotalEnergies does not have permanent teams on site. Each subsidiary or project develops an engagement plan with stakeholders describing a process for transparent dialogue, as well as the timetable and means of ensuring its implementation. A network of Community Liaison Officers (CLOs) has been rolled out on the ground covering most of the projects to provide information to and consult with neighboring communities, authorities and other local stakeholders, with a particular focus on vulnerable groups. Employed by TotalEnergies, they speak the local languages and understand local customs. Their role is crucial for establishing good relations between TotalEnergies and its stakeholders.

For example, in 2021:

- In Denmark, an analysis of the perception of the Exploration &Production segment's activities by external stakeholders was carried out using the internal Stakeholder Relationship Management (SRM+) methodology. In particular, it allowed to assess the impact of the acquisition of Maersk in 2018.
- In Tanzania and Uganda, as part of the Tilenga and EACOP projects in the Exploration & Production segment, TotalEnergies has made public the societal reports that have been completed, such as the Environmental and Societal Impact Assessment (ESIA), the Human Rights Impact Assessment for the Uganda project, and reports from independent NGOs. In addition, the subsidiary has appointed a person specifically in charge of relations with NGOs, particularly on the subject of human rights of the populations living near its operations.
- In South Africa, for the Exploration & Production segment, a person was hired to help establish a transparent dialogue with stakeholders and to address their concerns. Specific meetings have been organized with civil society, local authorities, NGOs and fishing associations in order to ensure that these parties are involved in the impact assessment process.
- In Papua New Guinea subsidiary, the local subsidiary of the Exploration & Production segment has set up a toll-free number so that local communities can easily contact it. In 2021, over 200 calls were received, mostly related to job training awards and business and employment opportunities with regards to the Papua LNG project.
- in France, as part of the project to transform the Grandpuits refinery into a zero oil platform, a public consultation on the recycling project was held from April 5 to 30, 2021. The objective was to present its main characteristics and effects on the territory as well as to answer questions and collect observations in order to draw lessons for the continuation of the project.

  The Donges refinery opened the Maison du Projet in June. This reception point for the general public and schoolchildren provides information about TotalEnergies, the refinery and the project through a touch table, fun quizzes, business films and a virtual immersion in the production units. This place of exchange is the materialization of a wish expressed by local residents to the refinery teams during the voluntary consultation meetings conducted in early 2018 as part of the project.

  On the Lacq platform, SOBEGI and all the industrials present on the platform have created an action plan to identify and remedy to gas emissions, generating notably odours.

ANALYSIS OF CHALLENGES AND SOCIETAL CONTEXT

The assessment of societal risks and issues is a key element in the evaluation of the feasibility of a project. An assessment of the societal risks and challenges is thus one of the criteria for making investment, acquisition and divestment decisions concerning projects presented to the Company's Risk Committee.

When the decision is taken to develop a project, this assessment is complemented by a **detailed baseline study** to identify in advance the stakeholders potentially affected, describe the local context and assess the main socio-economic and cultural stakes (risks and opportunities) in the affected area. A **societal impact study** is then conducted to assess and analyze the opportunities and the direct, indirect or cumulative risks of the project in the short, medium and long term. In 2021, 103 of these studies were launched or carried out in the Integrated Gas, Renewables & Power segment (compared to 50 in 2020) and 13 in Exploration & Production (as in 2020).

In the operations phase, the One MAESTRO standard requires that a regular assessment of HSE context and issues be carried out by the subsidiaries and updated at least every five years.

In the development and operational phases of the project, context analysis is based largely on mapping and consultation with stakeholders such as authorities, neighboring communities, economic operators and civil society. The analysis of societal risks takes into account the sensitivity of the socio-economic environment and the severity of societal impacts related to the activities, including on human rights.

In 2021, a new digital tool, SOCRAT (Societal Risk Assessment Tool), enabled operating subsidiaries to assess their societal context, risks and impacts with their stakeholders. This tool facilitates the definition of an action plan to reduce such risks and impacts. It also makes it possible to assess the effectiveness of actions and thus of the societal performance. After being tested in five Exploration & Production subsidiaries, the tool has begun to be deployed in the Exploration & Production and Marketing & Services segments and should be rolled out throughout the Company in 2022.

In 2021, a new mobile app, SIMBA, for continuously recording and tracking of the opinions, concerns and expectations of stakeholders was developed. The app helps identify and understand the local context and facilitates ongoing analysis. After being deployed in Mozambique, the application is now used on several sites in the Refining & Chemicals segment, including the Port Arthur site in Texas.

DEVELOPMENT OF A SOCIETAL STRATEGY INTEGRATED INTO OPERATIONS

Every subsidiary pays close attention to local issues by establishing its societal strategy, defining it in terms of targets and priority fields of action that take account of:

- the regulatory and contractual framework and applicable international standards;
- the analysis of the challenges and the societal context;
- the Company's ambitions and voluntary commitments vis-à-vis civil society.

To structure this approach, TotalEnergies relies on the Stakeholder Relationship Management (SRM+) in-house methodology, which helps subsidiaries define their societal strategy and associated action plans.

Each societal strategy is specific since it depends on a context. In general however, they are structured around three pillars:

- dialogue and involvement of local stakeholders;
- avoiding, reducing and offsetting the societal impacts linked to the Company's activities;
- developing initiatives to create a positive impact on neighboring local communities.

IMPLEMENTING AND MONITORING SOCIETAL ACTIONS AND PROJECTS

TotalEnergies' subsidiaries implement and monitor the corporate strategy. The societal teams reporting to the HSE division of TotalEnergies contribute their expertise to the operational subsidiaries to implement the One MAESTRO framework. Societal aspects are included within the scope of the One MAESTRO audits that produce recommendations to reinforce control of operations. Moreover, the subsidiaries must conduct a self-assessment of their societal initiative and an annual internal report to list the societal actions taken locally.

In terms of training, a societal module has been integrated into the *HSE for Managers* training program, 8 sessions of which were delivered in 2021 with a total of 167 participants (see point 5.3.2 of this chapter). Training on societal performance is also being deployed in Exploration & Production to raise awareness among various lines of business about societal issues and the tools available. 6 half-day sessions were conducted in 2021, for a total of 70 people trained.

Webinars attended by nearly 190 participants were organized in October 2021 for the launch of the societal reporting campaign.

HANDLING GRIEVANCES FROM NEIGHBORING COMMUNITIES

The One MAESTRO reference framework provides that the Company's operating subsidiaries[1] are expected to implement grievance handling procedures aligned with the United Nations Guiding Principles on Business and Human Rights. These provide residents and local communities with a preferential and easily accessible channel to voice their concerns and grievances and involve them in finding a solution. At every stage of the asset life cycle, from developing a project to cessation of activity and divestment, the Company intends to provide swift and appropriate responses to people or organizations that have been adversely affected. As part of a continuous improvement process, analysis of all grievances received helps improve operations. Grievance management forms part of the Company's societal reporting and is one its performance indicators. The subsidiaries of the Exploration & Production (EP), Refining & Chemicals (RC) and Marketing & Services (M&S) segments of the One MAESTRO roll-out scope with operational activity in 2021 (see point 5.11.4 of this chapter) continued the implementation and improvement of their grievance handling system.

Societal indicator	2021	2020	2019
Percentage of EP, RC and M&S segments' operating subsidiaries in the One MAESTRO roll-out scope with an operational activity which have a grievance mechanism in place	100%	99%	47%

Grievances received by the Company's subsidiaries in connection with the societal impact of their activities correspond to the following: access to land and habitat, economic losses/loss of livelihood, dangers for the environment and health, employment and value chain, road safety/logistics and transportation, adverse impact on culture and heritage, security and social conduct, quality of local dialogue and management of economic development projects.xamples of management of negative impacts linked to operational activities.

5.9.2.2 EXAMPLES OF MANAGEMENT OF NEGATIVE IMPACTS LINKED TO OPERATIONAL ACTIVITIES

Following the analysis of the challenges and the societal context, the actions taken by subsidiaries to minimize the impacts are adapted to the reality of the situation on the ground.

Impacts for local communities on access to land, maritime space and resources

In Mozambique, the identification of impacts related to land and livelihoods has led to a multi-year action plan (2018-2022) for local populations: construction of housing, programs to develop agricultural and fishing activities, and relocation of burial sites. The subsidiary also supported programmes for food aid, access to housing and aid for vulnerable people.

In Uganda, as part of the Tilenga project, 400 meetings were held with stakeholders, half of which were related to the implementation of the displacement and resettlement plan for local communities linked to land access. For this purpose, nearly 180 people were recruited (project management, legal aspects, dialogue, assessment, etc.).

As part of livelihood restoration, transitional assistance for 4,250 households began in December 2021.

Impacts on cultural and religious practices and heritage

In Tanzania, archaeological surveys were conducted on the sites under construction. Three archaeological sites were identified and excavated with the support of the national antiquities department.

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[1] Subsidiaries included in the scope of roll-out of One MAESTRO (see section 5.11.4 of this chapter) and having an operational activity, i.e., excluding commercial offices, trading activities and Exploration & Production subsidiaries with no exploration or production operations in 2021.

Other impacts

In the context of the natural gas liquefaction terminal project in Mozambique, a system of complaints was set up to address the potential impacts of operations and human rights, particularly those related to the actions of the country's security forces in the area.

In Uganda, in 2021, a contract was signed with the International Organization for Migration and Aceleron to create a mobile unit for repairing solar lamps and to recover used battery cells to make new battery packs.

5.9.2.3 EXAMPLES OF CONTRIBUTION TO SOCIO-ECONOMIC DEVELOPMENT IN FAVOR OF LOCAL COMMUNITIES

First and foremost, the local projects address the issues of development and solidarity identified thanks to consultations with local communities, and favor cooperation and skills development.

ACCESS TO BASIC NEEDS (ACCESS TO ENERGY, WATER, HEALTH, ETC.)

In connection with the Company's *raison d'être* to provide accessible energy to as many people as possible, the Integrated Gas, Renewables & Power segment developed a range of solar solutions to provide access to distributed energy in 38 countries in 2021. By the end of 2021, 4.2 million solar lamps and kits had been sold, giving 18.7 million people access to energy and avoiding 4.7 million tons of CO_2. The Company's aim is to equip 25 million people by 2025.

In France, TotalEnergies Marketing France (TMF) is pursuing its action to fight fuel poverty, by helping low-income households make their homes more energy efficient within the framework of a number of national programs and initiatives (€127.77 million spent by the Company in 2021). The commitment to combat fuel poverty also concerns mobility via a program to provide help with transportation for people looking for jobs in partnership with WIMOOV.

DEVELOPMENT OF LOCAL COMMUNITIES

In France, TotalEnergies Renouvables France proposes a number of projects eligible for participatory financing of electricity production sites through platforms labeled "Green Growth" in order to enable local citizens to benefit from additional income linked to the sale of electricity. In 2021, 16 projects representing a production capacity of 139 MWc were co-financed in this way by citizens. Four of them allowed the entry of local authorities into the capital. Throughout France, more than 1,200 local contributors took part in financing these projects, contributing €10.9 million. After setting up a first participatory investment campaign, TotalEnergies proposed a second participatory campaign, this time outside the regulatory obligation. The goal was to allow the nearest residents and the inhabitants of the Community of Communes to get involved in the Sarreguemines solar power plant project. In addition, at the hospital in Chalon-sur-Saône, a participatory investment project was carried out with hospital staff and local residents to install solar panels on parking lot shade structures.

In Mozambique, the Exploration & Production segment launched *Catalisa*, a five-year program with its technical partner TechnoServe and the authorities of the Cabo Delgado province in the districts of Pemba, Palma, Montepuez, Chiure and Ancuabe. The aim is to support the province's economic development with the education and vocational training of young people, as well as agro-industrial development (poultry and horticulture). At year-end 2021, the program had helped 948 farmers improve their productivity and meet local needs by creating 441 jobs. In addition, 500 young people took part in the development program and 22 new graduates received financial support to start their own businesses.

In Germany, following major adverse weather events in 2021, the Marketing & Services segment provided more than €65,000 worth of fuel to rescue teams.

In Belgium, Marketing & Services employees helped flood victims by cleaning up their flooded homes and distributing food and clothing.

In French Polynesia, the *Hello Scoot*' program lends free parking spaces in some gas stations for self-service electric scooters (with solar charging).

In Papua New Guinea, in partnership with all stakeholders (Gulf province, ministry of community development, local businesses, foundations, international development agencies, community representatives, the local health committee, local women's cooperative etc.) projects to support health, education and local economic development were launched. In 2021, 71 students completed their maintenance and carpentry training through the Vocational Scholarship Program.

In Argentina, a subsidiary of the Exploration & Production segment has been working for 10 years with local goat farmers on a sustainable rural development program in cooperation with consulting firm Halkis. Its aim is to provide technical and professional advice for farmers in partnership with local agencies.

DIVERSIFIED PROGRAMMES

In Marketing & Services, a social programme was launched in April 2020 on the African continent, based on the geographical footprint of its network of 4,800 service stations in 37 countries. The programme has been approved by the Marketing & Services segment's Management Committee and is steered by each subsidiary. It focuses on six areas :

- end of plastic bags at service stations. This objective was achieved in 2021, opening the way to replacing plastic in other consumables; ;
- solarisation of more than 2,400 service stations before the end of 2022. At the end of 2021, more than 1,400 service stations were solarised on the continent;
- promotion of road safety, with the marketing and distribution of accessories (safety waistcoats, helmets for two-wheelers, etc.) and the organisation of customer events;
- access to free WIFI in service stations for customers, in a context where the cost of access to data is still very high, with the aim of equipping 2,000 service stations. By the end of 2021, more than 500 service stations will offer this service;
- reduce the environmental footprint of the service stations, particularly in the areas of recycling used oil, reducing energy consumption and recycling plastic waste from stations and customers. On this last point, partnerships have been formed with local players, such as Mr Green in Kenya, Coliba in Côte d'Ivoire and Voltic in Ghana. Projects are also being studied for the treatment and recycling of water at the stations;
- collaboration with schools near the stations. The network's teams are involved with these schools in awareness-raising campaigns, improving schooling conditions, providing infrastructure or welcoming young people on work experience.

5.9.3 Engaging in citizenship initiatives: the TotalEnergies Foundation program

In addition to the solutions proposed by TotalEnergies in response to the direct expectations of the people related to its operations, the Company aims to contribute to local actions in the countries where it operates by addressing global societal challenges.

5.9.3.1 THE TotalEnergies FOUNDATION PROGRAM

Being present in over 130 countries, TotalEnergies has witnessed the escalation in inequality and social and environmental challenges, which affect young people in particular. Since 2017, the *TotalEnergies Foundation* program has covered the solidarity initiatives conducted every day worldwide by TotalEnergies, its subsidiaries and its corporate foundation. Its aim is to contribute to the vitality of the host communities and regions in which the Company is based by giving in particular to 12- to 25-year-olds the means to determine their own future.

The *TotalEnergies Foundation* program favors collective action and aims to involve all players in the region, including charities from both the public and private sectors. This joint approach based on local needs also allows the testing and rolling out of new solidarity models.

In addition to financial backing, the program's partners receive support to help them develop and achieve their goals. For example, such support may concern the digital domain, strategy, communication or impact assessment. A community of players linked to the program is coordinated in order to facilitate exchanges and possible connections among associations working on the same themes. It took shape with the holding of a partners' day that brought together more than 70 associations in September 2021.

Lastly, since 2018, through the employees' solidarity engagement program *Action!*, employees have been able to devote up to three workdays a year to general interest projects. By the end of 2021, the program had been introduced in 93 countries, and more than 17,400 solidarity actions had been carried out since its launch. In France, employees were also able to provide financial support to four associations participating in the *Action!* program.

5.9.3.2 FOUR AREAS OF ACTION

The *TotalEnergies Foundation* program is based on four societal challenges, in line with the Company's history, values and businesses.

YOUTH EDUCATION AND INCLUSION

Unemployment and job insecurity are affecting more and more young people all over the world. The first aspect of the *TotalEnergies Foundation* program aims to empower young people who are socially vulnerable, by means of support and guidance, training, particularly in industry, and integration into the world of work.

In this context, for example, the Industry of the Future campus, INDUSTREET, located in Stains in the Paris region, which celebrated its first anniversary at the end of 2021, will have welcomed nearly 200 young people in training. This new industry training center provides free training and offers innovative teaching to young people who are interested in new jobs in industry. Over time, it plans to provide places for 400 young people between 18 and 25 each year.

Also, since 2018, the TotalEnergies Corporate Foundation has committed to supporting the deployment of production schools in industrial professions throughout France for 10 years. This significant financial support will increase the number of schools from 25 in 7 regions to 100 schools throughout France by 2028. By the end of 2021, the TotalEnergies Corporate Foundation will have contributed to the creation of 18 new schools and the extension of 10 existing schools.

Lastly, in 2021, the TotalEnergies Corporate Foundation also launched its second call for partners in France and selected nine new associations to broaden its scope of action, particularly in the areas of youth empowerment, mentoring and teacher-business relations.

ROAD SAFETY

Road accidents are the leading cause of death among young people worldwide. The second priority of the *TotalEnergies Foundation* program is to ensure safer mobility in order to contribute to the global target of the UN's Action Plan for the decade 2021-2030 of cutting the number of deaths and injuries on the road by 50% between now and 2030. Its actions include educating young people by means of local awareness-raising, training and advocacy efforts, as well as participation in and support for the initiatives of international organizations.

In this context by way of example in 2021 the TotalEnergies corporate Foundation continued to deploy the *VIA* program to educate young people in road safety, mobility and citizenship in Argentina, Cameroon, Egypt, Fiji, France, India, Kenya, Morocco, Mauritania, Niger, Romania, Senegal, Taiwan, Tanzania, Thailand and Togo. Support for the NGO *Yours (Youth for Road Safety)*, a global coalition of young people for road safety, was maintained, as was support for the NGO *Amend*, which targets motorcyclists in Africa, and for the NGO *Global Alliance*, which aims to increase the skills of local NGOs by specifically funding its African chapter. A new partnership was established with the *International Road Federation*, to promote access to reliable road safety data.

CLIMATE, COASTAL AREAS AND OCEANS

The third focus of the *TotalEnergies Foundation* program is to support initiatives that benefit coastal areas and the oceans, in particular to preserve the services they provide to people in a context of climate change.

Coastal areas and oceans pose major environmental and climate challenges. The objective of the TotalEnergies Foundation program Attention in this area is to act to preserve coastal and oceanic ecosystems, to develop and share knowledge about the interactions between climate, coastal areas and oceans by involving applied research experts, young people and the general public, and lastly to allow young people to discover coastal areas (field trips, training in maritime careers).

Within this framework, by way of example, in 2021 the TotalEnergies corporate Foundation continued the partnership initiated in 2018 with the French National Forestry Office, in particular by supporting an experimental project aimed at optimizing the resilience of dunes to climate change on the Atlantic coast. It also renewed its support for the Port-Cros National Park in a project to raise awareness and educate users of the National Park about the environment. This project aims in particular to give as many people as possible a better understanding of the stakes involved in preserving Mediterranean biodiversity.

DIALOGUE ON CULTURE AND HERITAGE

The slackening of social ties makes young people more vulnerable and regional cohesion more fragile. The fourth axis of the *TotalEnergies Foundation* program aims to strengthen social cohesion and empower young people through culture and heritage by supporting artistic creation with a social impact by and for young people, attributing value to cultural diversity and preserving heritage.

Within this framework, by way of example, in 2021, the TotalEnergies corporate Foundation supported 11 restoration projects providing employment for young people in France through its partnership with the Fondation du Patrimoine (Heritage Foundation). In the field of artistic and cultural education, in 2021, 15 partnerships were set up to promote the empowerment and integration of young people as citizens into society. Lastly, the TotalEnergies corporate Foundation sponsored *Africa 2020* to showcase the creative vitality of Africa and its youth (a project that took place in 2021 against the backdrop of the COVID-19 pandemic), *Arab Divas* at the Arab World Institute and *Ex-Africa* at the Musée du Quai Branly, whose running times were cut short due to the health situation.

5.9.3.3 MOBILIZATION IN THE FACE OF THE CRISIS IN MYANMAR

In the context of this political and humanitarian crisis in Myanmar, the Company intended that in 2021 a donation equivalent to the taxes it would have to pay to the State be made to humanitarian organizations. Thus, a donation agreement was signed with the World Food Program which made the distribution of food possible to vulnerable populations in the outskirts of Rangoon and Mandalay. An agreement was also signed in 2021 with the FXB Foundation to finance two mobile clinics on the Irrawaddy River. Finally, an agreement with the Pro Asia Endowment Fund was established to allow the construction of a hospital in Mandalay.

In January 2022, due to the continuing deterioration of the human rights situation and the rule of law in Myanmar, TotalEnergies announced its decision to initiate the contractual process of withdrawing from the Yadana field and from MGTC in Myanmar, both as operator and as shareholder, without any financial compensation for TotalEnergies.

5.10 Contractors and suppliers

8 DECENT WORK AND ECONOMIC GROWTH 16 PEACE, JUSTICE AND STRONG INSTITUTIONS

TotalEnergies' activities generate hundreds of thousands of direct and indirect jobs worldwide. Present in more than 130 countries, the Company works with a network of over 100,000 suppliers of goods and services. In 2021, the Company's purchases of goods and services (excluding petroleum products and vessel chartering by Trading & Shipping) represented approximately $25 billion worldwide. The allocation of expenditures at Company level is approximately 26% for goods (products, materials, etc.) and 74% for services (such as consulting services, materials supply operations, transportation, etc.).

In terms of social and environmental responsibility, the activities of the Company's subcontractors and suppliers are likely to present the same risks as those associated with TotalEnergies' activities. The main risks relate basically to human rights in the workplace (forced labor, child labor, discrimination, decent working conditions), health and safety and security, corruption, fraud, environment including climate, biodiversity, circular economy and responsible use of natural resources (water, forests).

The Company attaches particular importance to working with sustainable suppliers who respect both human rights and the environment, throughout its value chain. The Company expects its suppliers to adhere to the Fundamental principles of purchasing which derive from its own code of conduct. To that end, the Company has chosen to have the management of its supplier relations coordinated by a dedicated cross-functional entity, TotalEnergies Global Procurement, which is specifically tasked with providing Purchasing services and assisting the Company's entities and sites(1).

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(1) Excluding in particular Hutchinson, Saft Groupe, TotalEnergies Renouvelables France, TotalEnergies Electricité et Gaz France, Greenflex, TOTSA TotalEnergies Trading SA and SunPower Corporation.

5.10.1 The Company's sustainable procurement policy

FUNDAMENTAL PRINCIPLES OF PURCHASING

The Fundamental principles of purchasing specify the commitments that TotalEnergies requires its suppliers to meet in the following seven areas:

- Respect for human rights at work;
- Protection of health and safety and security at work;
- Action in favor of climate;
- Preservation of the environment;
- Prevention of corruption, conflicts of interest and combating of fraud;
- Compliance with competition law;
- Promotion of economic and social development.

These principles uphold the principles defined in the United Nations Universal Declaration of Human Rights, the fundamental conventions of the International Labor Organization, the UN Guiding Principles on Business and Human Rights, the UN Global Compact, the Voluntary Principles on Security and Human Rights and the OECD Guidelines for Multinational Enterprises.

TotalEnergies expects its suppliers to adhere to the Fundamental Principles of Purchasing and ensure compliance with those principles in their activities, and in particular to:

- be attentive to the day-to-day working conditions of their employees and their suppliers' employees;
- ensure that their own suppliers and subcontractors adhere to those Fundamental Principles of Purchasing;
- agree to be audited in accordance with those principles;
- refer to the Ethics Committee(1) in case of doubt.

The rules set out in these Principles must be included or transposed into the agreements concluded with suppliers. To that end, these Principles are available for consultation by all suppliers in both French and English on TotalEnergies' website (under "Suppliers").

The Company ensures that contractual conditions are negotiated in an equitable manner with its suppliers. TotalEnergies' Code of Conduct restates this requirement and the three essential principles that guide TotalEnergies' relations with its suppliers: dialogue, professionalism and compliance with commitments.

UPDATE OF THE FUNDAMENTAL PRINCIPLES OF PURCHASING

At the end of 2020, the Company updated the first of the six Fundamental Principles of Procurement dealing with respect for human rights at work. The objective of this update was to detail more precisely the Company's requirements in this area in order to ensure that they are fully understood by suppliers. In 2021, an awareness-raising campaign was conducted following this update to remind the Company's buyers and purchasing lawyers of good practices. In addition, and in order to help Suppliers implement these Principles correctly, a Practical Guide on Human Rights at Work, together with a training plan, were prepared in 2021 for distribution to Suppliers in 2022.

In addition, in 2022, the Company updated the Fundamental Principles of Purchasing to better integrate climate, biodiversity, circular economy and responsible use of natural resources (water, forests). A new awareness-raising campaign of the suppliers will be conducted.

SUSTAINABLE PROCUREMENT ROADMAP

The sustainable procurement approach was strengthened in 2020 with the creation of a dedicated department. Work on updating the sustainable procurement roadmap was carried out in 2021 and approved in early 2022. This roadmap is based on four pillars: climate and sustainable energy, human well-being, care for the environment and value creation for society. For each of these areas, sustainable procurement objectives have been defined as follows:

Climate and sustainable energy

Carbon neutrality (Scope 1+2)
Contribute to the reduction of Company's facilities' emissions

Carbon neutrality (Scope 3 upstream)
Encourage and support our suppliers to reduce their emissions

Well-being

Health & Safety
Support our suppliers in improving the prevention of health and safety risks

Human rights
Promote respect for human rights in the supply chain

Diversity
Develop purchases from companies in the adapted sector

Care for the environment

Environmental footprint
Limit the environmental footprint linked to our supply chain: water, air, soil

Circular economy
Integrate the principles of the circular economy into procurement

Biodiversity
Contribute, in collaboration with our suppliers, to the protection of biodiversity

Value creation for society

Shared prosperity
Prevent and fight against the risk of conflicts of interest and corruption in purchasing

Host territories
Support small and medium-sized businesses in their local growth and international development

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(1) The Ethics Committee ensures compliance with the Code of Conduct. Its Chairperson, who reports to the Chairman and Chief Executive Officer of TotalEnergies SE, presents an annual report on Ethics to the Gouvernance and Ethics Committee of the Board of Directors.

The Company has set goals for itself on the various topics:

- Climate and sustainable energy:
  - Raising awareness on climate issues among buyers, in particular through the creation of an internal guide on “How to integrate climate issues throughout the purchasing process”;
  - Measuring and tracking Scope 3 upstream GHG emissions(1) of TotalEnergies' purchases of goods and services;
  - Integrate the cost of carbon emissions into the calculation of the total cost of acquisition of all goods and services that have a significant impact on its operations;
  - Engage the 1,000 suppliers that account for 80% of Scope 3 upstream GHG emissions in a continuous improvement process;
  - Ensure that by 2025 at least 90% of the Company's Top 400 suppliers have set targets for GHG emission reductions by 2030;
  - Ensure that any new supplier qualified from 2022 and likely to join this Top 400 also have this objective.
- Well-being of people:
  - Raise awareness on human rights issues among the Company's buyers;
  - Raise awareness among the Company's suppliers: publish a Practical Guide on Human Rights at Work for suppliers;
  - Audit 100% of priority suppliers (approximately 800 suppliers) on respect of human rights at work every 3 years;
  - Pilot innovative systems to collect live feedback from workers on their working conditions in major operated projects such as EACOP and Tilenga (Workers' Voice Survey) from 2022;
  - Address human rights risks related to raw material extraction beyond Tier 1 suppliers;
  - Double procurement spending with adapted sector (sheltered employment for disabled) suppliers in France in the coming years.
- Care for the environment:
  - Define an environmental audit framework for suppliers' sites in 2022 for deployment in 2023;
  - Integrate environmental criteria (including climate, biodiversity, the sustainable use of resources and the circular economy) in calls for tenders for priority categories from 2022 onwards;
  - Identify priority suppliers in the areas of water, forests and biodiversity and raise awareness among these suppliers to ensure that these issues are taken into account.
- Value creation for society:
  - Continue the TotalEnergies SME Pool program and support at least 10 French SMEs each year;
  - Ensure that payment terms are met at all times, especially for SMEs;
  - Deploy the local content roadmap to support the sustainable use of local businesses and labor.
- Awareness-raising and training of suppliers and buyers:
  - Engage the Company's suppliers in a sustainable development approach through a dedicated program and platform;
  - Launch and deploy mandatory sustainable purchasing training for buyers in 2022.

The objectives of the roadmap are reviewed by the Executive Committee. The implementation of this roadmap is monitored by the Sustainable Procurement Committee which meets twice a year. The Committee includes TotalEnergies Global Procurement Management Committee and representatives from the Human Rights, HSE and Climate Change directorates.

5.10.2 Implementation of the sustainable procurement roadmap in 2021

CLIMATE AND SUSTAINABLE ENERGY

The Company integrates climate issues into its purchasing decisions. Thus, the cost of carbon emissions is integrated into the calculation of the total cost of ownership for the highest emission categories (marine logistics, rotating machines, etc.).

In 2021, the Company also conducted the first estimate of supply chain GHG emissions in the scope of TotalEnergies Global Procurement. According to this study, carried out with the help of the specialized firm EcoAct, the emissions linked to the purchase of goods and services(2) would represent approximately 7 Mt CO_2e per year. This initial estimate, which also made it possible to identify priority purchasing categories in terms of GHG emissions, must be completed and refined in 2022.

Finally, the Company launched the TotalEnergies Supply Chain Carbon Footprint Initiative in 2021, engaging the top 1,000 suppliers representing 80% of the GHG emissions related to the Company's goods and services supply chain. After receiving an explanatory letter, these suppliers were all invited to an introductory webinar presenting the Company's sustainable development approach and its expectations of suppliers. More than 500 suppliers participated.

WELL-BEING

Human rights

Since 2016, the Company has conducted audits on working conditions among suppliers. A targeted audit plan is defined each year and includes at-risk suppliers. These audits measure respect for human rights in the workplace, and cover topics including child labor, forced labor, discrimination, freedom of association and the right to collective bargaining, working conditions (overtime, days off) and workplace health and safety. These on-site audits, carried out by an independent external service provider, include interviews with workers.

Fewer than 30 audits per year were conducted between 2016 and 2018. Starting in 2019, the target has been increased to 100 audits per year. This goal was achieved in 2019, but could not be achieved in 2020 and 2021 mainly due to the COVID-19 health crisis.

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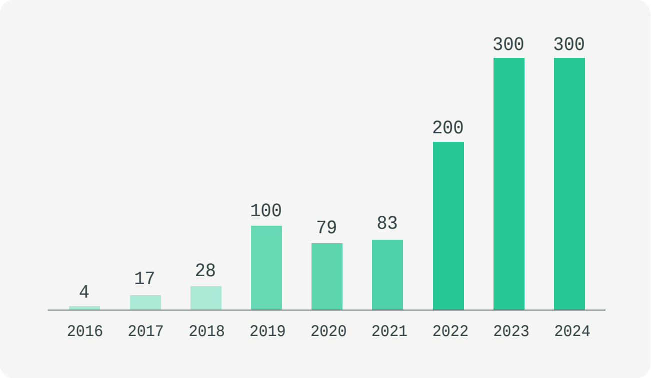
(1) GHG Protocol-Categories 1, 2, 4, 5, and 8.

(2) Excluding in particular Hutchinson, Saft Groupe, TotalEnergies Renouvelables France, TotalEnergies Electricité et Gaz France, Greenflex, TOTSA TotalEnergies Trading SA and SunPower Corporation.

Audits 2016-2021 & Targets 2022



Action plans are developed to remedy the non-conformities identified during these audits. In 2021, these audits covered more than 25,000 suppliers' workers.

A dedicated committee monitoring human rights audits of suppliers was also created in 2021 with the participation of the Company's human rights teams, members of the TotalEnergies Global Procurement Management Committee and the Sustainable procurement Department.

In 2022, the Company plans to audit 200 suppliers. The objective is to audit 100% of priority suppliers in terms of human rights (800 suppliers) via on-site and documentary audits by 2024.

In addition, the Company plans to implement and pilot innovative systems such as “workers' voice surveys” to gather live feedback from workers on their working conditions in major operated projects, including EACOP and Tilenga in Tanzania and Uganda.

Finally, several projects have been conducted in order to improve the transparency of the Company's supply chain, including traceability audits of the photovoltaic panel supply chain that were initiated in 2021 and will continue in 2022.

Adapted and protected sector

Lastly, the Company pays special attention to the adapted and protected sector (sheltered employment sector for disabled workers). In France, the Company’s purchases from this sector represented about €3 million in 2021. TotalEnergies is a member of the Pas@Pas (“Step by Step”) organization and provides its buyers with an online tool that can be used to identify potential suppliers and service providers in the sheltered employment sector by region and category. A number of meetings have been organized in liaison with Mission Handicap, the Company’s disabilities office, to familiarize buyers with the Company’s commitments and teach them how to use the online tool.

CARE FOR THE ENVIRONMENT

In 2020, the priority categories regarding waste production, natural resource impairment and risks of pollution were identified. In 2021, a pilot circular economy/climate questionnaire integrated at the time of the evaluation of the supplier offer was deployed for the packing category. In 2022, all priority circular economy categories will have to incorporate this type of questionnaire. In 2022, an environmental audit framework for suppliers' sites should be defined for deployment of audits in 2023.

VALUE CREATION FOR SOCIETY

TotalEnergies is committed to driving local economic development both in France and abroad.

In this respect, insofar as operational constraints allow, the Company uses local employment and subcontracting and also contributes to the development of local skills.

For the Company's major industrial projects, a local content development and management approach has been structured to strengthen the positive impact on local employment and economic activity. The main suppliers are thus methodically involved. Call for tenders include local content criteria aimed at ensuring at least equal opportunity for local subcontractors, or, depending on the local context, quantified contractual obligations (use of local subcontractors, employment, investment in local capacity) for subcontractors. Industrial capacity studies have been carried out or are under way for major projects in new countries such as South Africa and Iraq, as well as for offshore wind power projects.

To facilitate performance measurement, a web-connected digital reporting solution has been developed and is currently being deployed. It also makes it possible to calculate the impact of local purchases for major projects in terms of value creation and jobs created. A new reference framework of procedures with online training will allow the deployment of best practices for sustainably developing local content.

Additionally, in April 2019, TotalEnergies launched the TotalEnergies SME Pool program to help a dozen or so of the Company’s small and medium-sized suppliers grow their business. For one year, free of charge, these companies are introduced to other major groups and they receive guidance for their executives and support in their international growth through TotalEnergies France directorate. In September 2020, TotalEnergies received a *Trophées Décision Achats* award in the category CSR in recognition of this initiative. This pilot scheme proved so successful that the *TotalEnergies SME Pool* has now been established on a permanent basis. Twelve new SMEs received support through this program in 2020. The Company decided to extend the program into 2021 for the 2020 beneficiaries to allow them to benefit from it as much as possible after the COVID-19 crisis period.

Lastly, in the context of the development of good practices in business relations, since 2013 TotalEnergies has carried out regular awareness-raising programs with its employees on mediation as an alternative means of dispute resolution. In parallel with this, an email address (mediation.fournisseurs@totalenergies.com) is available on the TotalEnergies website to enable the Company's suppliers to contact the dedicated internal mediator. Its mission is to facilitate relations between the Company and its French and international suppliers. The general purchasing terms and conditions also mention the possibility of recourse to mediation.

5.10.3 The sustainable procurement approach

RISK MAPPING AND PRIORITY IDENTIFICATION

In early 2020, TotalEnergies Global Procurement finalized the update of the CSR risk mapping for the Company's procurement of goods and services. This risk mapping examined CSR risks relating to human rights and fundamental freedom (working conditions and the right to organize, discrimination, health and safety, child labor, forced labor and modern slavery) as well as risks relating to the environment (depletion of natural resources; loss of biodiversity; climate change and greenhouse gases; waste and end-of-life management; air, water and soil pollution). This mapping is the result of methodological work carried out with support from AFNOR (the French standards association) during the second half of 2019, involving internal CSR experts as well as nearly 90% of TotalEnergies Global Procurement buyers.

AWARENESS-RAISING AND TRAINING OF EMPLOYEES

TotalEnergies has set up a number of channels of communication to raise its buyers' awareness of risks and concerns relating to its supply chain. Buyers follow training modules that explain the Company's ethical commitments, particularly in terms of human rights. In addition, all new employees of TotalEnergies Global Procurement receive training which includes a section on sustainable procurement, presenting the Fundamental Principles of Purchasing and the sustainable procurement roadmap. Awareness-raising sessions are held regularly on specific topics. For example, in 2021, 100% of TotalEnergies Global Procurement buyers were trained in anti-corruption and anti-fraud rules, and 91% completed the online human rights module. On the subject of climate change, a practical guide for buyers was deployed in TotalEnergies Global Procurement in 2021, along with training sessions. Finally, sustainable procurement and sustainable development aspects are now systematically integrated into all purchasing events, such as the International Procurement Day in June 2021, which brought together 452 participants (buyers and procurement support functions) with a session dedicated to sustainable procurement as well as two spotlight sessions, on human rights and the climate.

RAISING SUPPLIERS' AWARENESS

Every two years, TotalEnergies Global Procurement organizes a Suppliers Day which brings together the Company's strategic suppliers. Given the health context of the last two years, it was not possible to hold this event. However, TotalEnergies' International Procurement Office (IPO) in Shanghai, China, was able to organize two supplier days, attended by some 260 people, during which climate, human rights, the environment, compliance and safety were discussed. The subsidiaries also organize events on these topics, such as the supplier forum held by the Exploration & Production subsidiary in Mozambique, which brought together 107 suppliers and focused on respect for human rights in the workplace.

The commitment of suppliers to CSR aspects is now taking a new form. In 2021, TotalEnergies sent a letter to the 1,000 suppliers accounting for 80% of supply chain emissions to inform them of the launch of a supply chain climate initiative. In December 2021, the first webinar introducing the initiative was attended by more than 500 suppliers. In 2022, the Company plans to set up a digital platform to coordinate this community of suppliers and to extend the program to all the topics of the sustainable procurement roadmap.

THE SUPPLIER APPROVAL PROCESS

The harmonization of the supplier qualification process led to the publication of an internal reference framework in 2018, and then to the implementation of a computerized qualification tool which has been gradually deployed since 2019.

The tool is used to automate and document the supplier qualification process, which has four steps:

- validation by the technical expert of the value of launching the qualification process;
- preliminary risk analysis to determine whether an in-depth analysis is needed for each criterion (HSE; anti-corruption; sustainable development, financial and technical responsibility);
- determination of the qualification status;
- monitoring and renewal of qualification. Qualifications are valid for three years.

The qualification process covers five criteria: anti-corruption, technical, HSE, financial and sustainable development. This last criterion allows assessment of the risk presented by the supplier in question regarding human rights and the environment. During this risk assessment, the Fundamental Principles of Purchasing are systematically sent to the supplier for signing, a questionnaire is sent and supporting documents are requested. Following the analysis of these elements, the supplier can be qualified on the sustainable development criterion. A non-qualification on this criterion leads to the non-qualification of the supplier, meaning that the Company cannot deal with it.

The qualification process also identifies suppliers using "conflict minerals". Finally, pursuant to Rule 13p-1 of the U.S. Securities Exchange Act of 1934, as amended, which implemented certain provisions of the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010, since 2014, TotalEnergies has filed with the United States Securities and Exchange Commission (SEC) an annual document relating to "conflict minerals"(1) sourced from the Democratic Republic of the Congo or neighboring countries. This document indicates whether, during the preceding calendar year, any such minerals were necessary for the operation or for the production of a product manufactured by TotalEnergies SE or one of its consolidated companies or contracted by TotalEnergies SE or one of its consolidated companies to be manufactured. The purpose of this regulation is to prevent the direct or indirect funding of armed groups in central Africa. For more information, please refer to TotalEnergies' most recent publication, available on the TotalEnergies website or sec.gov.

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(1) Rule 13p-1 defines "conflict minerals" (irrespective of their geographical origin) as: columbite-tantalite (coltan), cassiterite, gold and wolframite as well as their derivatives, which are limited to tantalum, tin and tungsten.

More than 15,000 suppliers have been integrated in this qualification tool, representing about 15% of the Company' suppliers base and almost 25% of the suppliers with a spend over 50KUSD. Deployment slowed during the COVID-19 pandemic in 2020 and 2021, and is resuming in 2022.

SUPPLIER EVALUATION AND IMPROVEMENT MONITORING SYSTEM

The Company evaluates supplier performance on sustainability in several ways. First, the Company ensures that suppliers adhere to its Fundamental Principles of Purchasing, which must be signed by the supplier at the time of qualification and are included in the contracts. During the qualification process, the supplier answers a CSR questionnaire that conditions its ability to work with the Company. Subsequently, effective compliance with the Fundamental Principles of Purchasing is verified through assessments such as the on-site human rights audits conducted each year by an external service provider on behalf of the Company. Whenever necessary, an action plan is put in place and followed by the teams, allowing improvement of the supplier's practices to be attested. The Company is also assessing the maturity of its suppliers as it did in 2021 on the subject of climate: a maturity assessment questionnaire has been sent to the Company's Top 200 suppliers. From 2022 onwards, this assessment will be carried out regularly on the Top 1,000 suppliers in parallel with the deployment of the supplier commitment program on the climate issue, in order to measure the impact of this program on supplier practices.

LEADERSHIP AND SHARING OF BEST PRACTICES

The Company is aware of the importance of mobilizing its entire ecosystem in favor of sustainable development and sustainable purchasing. This is why TotalEnergies is heavily involved at the national and international level with its peers and other companies to advance practices and develop new standards. For example, TotalEnergies launched an industry initiative in 2018 with BP, Equinor and Shell to implement a platform allowing to mutualize suppliers' human rights audits. These founding members were joined by new members such as Wintershall, AkerBP, ConocoPhilips and Var Energy. The platform, which is operational since 2020, should be extended to other compagnies in the sector. The objective of this initiative is to promote better practices regarding respect for human rights at work in the industry, while trying to reduce the suppliers' "audit fatigue". TotalEnergies is also a member of the IPIECA Supply Chain Working Group. As an extension of the workshops held since 2015, TotalEnergies continued to take part in the *Operationalization of the U.N. Guiding Principles* organized by IPIECA, aimed at both oil and gas companies and EPC *(Engineering, Procurement and Construction)* contractors.

Since 2010 TotalEnergies has also been a signatory to the sustainable Supplier Relations Charter of the French Ministry of the Economy and Finance, which aims to develop sustainable and balanced relations between customers and suppliers. In 2021, the Company signed the new version of this Charter. TotalEnergies has also participated in the sustainable Purchasing Observatory's working groups since 2017.

5.10.4 Payment terms

The payment terms of invoices from suppliers and customers of TotalEnergies SE as of December 31, 2021, presented in the table below pursuant to the provisions of Article D. 441-4 of the French Commercial Code, are established within the boundaries of the parent company, and not TotalEnergies and therefore include invoices issued and received between TotalEnergies SE and its subsidiaries.

	SUPPLIERS						CUSTOMERS					
	Invoices received and outstanding at the closing date of the previous fiscal year						Invoices issued and outstanding at the closing date of the previous fiscal year					
As of December 31, 2021 *(M€)*	0 day (provisional)	1 to 30 days	31 to 60 days	61 to 90 days	91 days or more	Total (1 day or more)	0 day (provisional)	1 to 30 days	31 to 60 days	61 to 90 days	91 days or more	Total (1 day or more)
(A) Late payment brackets												
Number of invoices involved	434					639	275					10,931
Total value of invoices involved (including tax)	24	3	0	2	4	9	89	62	175	52	216	505
Percentage of the total value of purchases for the fiscal year (including tax)	0.6%	0.1%	0.0%	0.1%	0.1%	0.2%						
Percentage of sales for the fiscal year (including tax)							2.3%	1.6%	4.5%	1.3%	5.5%	12.9%
(B) Invoices excluded from (A) relating to disputed or unrecorded liabilities and receivables												
Number of invoices excluded						None						None
Total value of invoices excluded						None						None
(C) Reference payment terms used (contractual or legal – Article L. 441-6 or Article L. 443-1 of the French Commercial Code)												
Payment terms used for late payment penalties						Legal payment terms						Legal payment terms

A significant portion of the invoices issued by TotalEnergies SE relates to internal services re-invoiced to the companies of the Company. Most of these companies are included in the scope of consolidation. Thus, 86% of the outstanding customer invoices due at the balance sheet date (i.e. 89% of the total amount including VAT) relate to consolidated companies.

In order to present only the invoices issued to non-consolidated companies or third parties, the table below has been restated for invoices issued and received by consolidated companies.

As of December 31, 2021 *(M€)*	SUPPLIERS						CUSTOMERS					
	Invoices received and outstanding at the closing date of the previous fiscal year						Invoices issued and outstanding at the closing date of the previous fiscal year					
	0 day (provisional)	1 to 30 days	31 to 60 days	61 to 90 days	91 days or more	Total (1 day or more)	0 day (provisional)	1 to 30 days	31 to 60 days	61 to 90 days	91 days or more	Total (1 day or more)
Late payment brackets												
Number of invoices involved	299					521	86					1,520
Total value of invoices involved (including tax)	9	0	0	2	1	3	7	0	12	4	39	55
Percentage of the total value of purchases for the fiscal year (including tax)	0.4%	0.0%	0.0%	0.1%	0.0%	0.1%						
Percentage of sales for the fiscal year (including tax)							4.8%	0.0%	8.3%	2.8%	26.9%	38.0%

5.11 Reporting scopes and methodology

5.11.1 Frameworks

The Company's reporting is based:

- for workforce indicators, on a practical handbook on the Company's workforce reporting protocol and methodology;
- for safety indicators, on a company rule on event and statistical reporting;
- for environmental and climate change-related indicators, on a Company reporting rule, together with segment-specific instructions;
- for societal indicators, on Company instructions.

These documents are available to all subsidiaries of the Company and can be consulted at corporate headquarters, in the relevant divisions.

5.11.2 Scopes

Workforce and Health reporting is based on three surveys: the Global Workforce Analysis, the complementary Worldwide Human Resources Survey and the Compensation Survey. Three centralized tools (Sogreat, HR4U and the Company compensation questionnaire) are used to aid in those surveys.

The Global Workforce Analysis is conducted once a year, on December 31, in all the controlled, consolidated companies (refer to Note 18 to the Consolidated Financial Statements, point 8.7 of chapter 8) having employees, i.e., 316 companies in 95 countries at December 31, 2021. The survey mainly covers worldwide workforces, hiring under permanent and fixed-term contracts (non-French equivalents of 'contrats à durée déterminée' or 'indéterminée') and employee turnover at the global level. It offers a breakdown of the workforce by gender, professional category (managers and other employees and non-French equivalents), age and nationality.

The Worldwide Human Resources Survey (WHRS) is an annual survey that comprises 216 workforce indicators, including the health indicators described in point 5.3. The indicators are selected in cooperation with the relevant liaisons and cover major components of the Company Human Resources policy, such as mobility, talent development, training, work conditions, workplace dialog, deployment of the Code of Conduct, human rights and health. The survey covers a representative sample of the consolidated scope. The data published in this document is extracted from the most recent survey, carried out in December 2021 and January 2022; 134 companies in 54 countries, representing 91.7% of the consolidated Company workforce (92,852 employees) responded to all the topics. For the health indicators, responses were collected across a broader scope of 149 companies in 54 countries, representing 93% of the consolidated Company workforce.

The Compensation Survey is carried out once a year with a representative sample of the consolidated scope. The data published in this document are taken from the most recent survey, carried out in July 2021 on data extrapolated at December 31, 2021: 140 companies in 54 countries, representing 92.6% of the consolidated Company workforce (93,773 employees) responded to the survey.

The 'Socle Social Commun' or 'Common Social Basis' (whereby all employees have the same rights) brings together the following in France: TotalEnergies SE, Elf Exploration Production, TotalEnergies Marketing Services, TotalEnergies Marketing France, TotalEnergies Additives and Fuels Solutions, TotalEnergies Lubrifiants, TotalEnergies Fluids, TotalEnergies Raffinage Chimie, TotalEnergies Petrochemicals France, TotalEnergies Raffinage France, TotalEnergies Global Information Technology Services, TotalEnergies Global Financial Services, TotalEnergies Global Procurement, TotalEnergies Global Human Resources Services, TotalEnergies Learning Solutions, TotalEnergies Facilities Management Services and TotalEnergies Consulting. TotalEnergies One Tech has also been integrated into the Common Social Basis since November 30, 2021, but has employees only since January 1, 2022.

Environmental and climate change reporting covers all activities, sites and industrial assets in which TotalEnergies SE, or one of the companies it controls exclusively, is the operator, i.e., it either operates or contractually manages the operations ("operated domain"). Compared to the scope of financial consolidation, this corresponds to fully consolidated companies, with some exceptions(1). The Company subsidiaries that are not fully consolidated because they are not material from a financial standpoint are consolidated in the reporting on environmental indicators.

Greenhouse gas (GHG) emissions "based on the Company's equity interest" are published for the "equity interest domain." This scope, which is different from the "operated domain," includes all the assets in which the consolidated subsidiaries have a financial interest or rights to production. This scope includes the entire statutory scope of the consolidated non-financial performance statement and the emissions of subsidiaries consolidated by equity method or not consolidated because not material from a financial standpoint.

The list of environmental and climate change-related indicators on which an entity must report is drawn up on the basis of the materiality thresholds (refer to section entitled "Consolidation method").

Safety reporting covers employees of subsidiaries controlled exclusively by the Company, employees of contractors working on sites, assets or activities operated by those subsidiaries and employees of transportation companies under long-term contracts. Compared to the scope of financial consolidation, this corresponds to fully consolidated companies, with some exceptions(2). Subsidiaries not consolidated because they are not material from a financial standpoint are consolidated in the reporting on safety indicators.

Reporting on societal indicators covers the subsidiaries of the EP, RC and M&S segments that are part of the One MAESTRO scope of deployment (refer to point 5.11.4 of this chapter) with an operational activity, i.e. excluding the commercial offices of M&S, the trading activities of RC and the EP subsidiaries that had no exploration or production activity in 2021. Compared to the scope of financial consolidation, this corresponds to fully consolidated companies of the EP, RC and M&S segments, with some exceptions(3). It also includes subsidiaries of the EP, RC and M&S segments corresponding to that scope that are not fully consolidated because they are not material from a financial standpoint.

Reporting on the Voluntary Principles on Security and Human Rights (VPSHR) covers the Company entities and subsidiaries that are particularly exposed to the disproportionate use of force. An annual campaign is used to send auto-diagnosis and risk assessment tools to these entities. This internal process has been in place since 2016. The results obtained are consolidated by the Corporate Security Division. The 2020 campaign specifically targeted 38 countries and the response rate was 89%.

CONSOLIDATION METHOD

For the scopes defined above, the workforce, safety and societal indicators are fully consolidated.

For the "operated domain" scope, the environmental indicators are fully consolidated. For the "equity interest domain" scope, greenhouse gas emissions are consolidated based on the Company's equity interest in the assets or its share of production for oil and gas production assets. For non-operated assets, TotalEnergies relies on information provided by its partner operators. In cases where this information is not available, estimates are made based on past data or budget data or by analogy with similar assets.

The list of environmental and climate change-related indicators on which an entity must report is drawn up on the basis of the materiality thresholds. These thresholds were calibrated in order to report 99% of greenhouse gas emissions and 95% of the Company's other emissions observed or modeled based on data related to financial year 2020. In addition, no site accounting for more than 2% of an indicator excludes this indicator from its reporting.

CHANGES IN SCOPE OF CONSOLIDATION

Workforce indicators are calculated on the basis of the consolidated scope of the Company as of December 31, 2021. These workforce data are presented on the basis of the operational business segments identified in the 2021 Consolidated Financial Statements.

For environmental and climate change-related indicators, acquisitions are recognized from the acquisition date whenever possible, or otherwise from January 1 of the current year or the following year. Some acquisitions of 2021 will be included in the reporting published in 2023 on financial year 2022(4). Any facility sold before December 31 is excluded from the Company's reporting scope for the current year(5).

Regarding safety indicators, acquisitions are recognized in the same year as soon as possible or from January 1 of the following year. Some subsidiaries acquired in 2021 will be included in the reporting published in 2022 on financial year 2021(6). All facilities sold are recognized up to the date of the sale.

Regarding societal indicators, subsidiaries of the EP, RC and M&S segments are recognized as soon as possible and in any case within 36 months of acquisition.

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(1) As an exception, the scope of reporting on environmental and climate change-related indicators does not include exclusively controlled company recently acquired Fonroche (Renewables & Power (iGRP); and jointly controlled companies Naphtachimie (RC), BASF TOTAL Petrochemicals (RC), Appryl (RC); and approximately 80 jointly controlled assets operated by third parties in Exploration & Production EP).

(2) As an exception, the scope of reporting on safety indicators does not include exclusively controlled companies recently acquired Hutchinson Tanger (RC), Fonroche (iGRP); and jointly controlled companies Naphtachimie (RC), BASF TOTAL Petrochemicals (RC), Appryl (RC); and some 80 jointly controlled assets operated by third parties in EP.

(3) As an exception, the scope of reporting for societal indicators of the EP, RC and M&S segments does not include the sales offices of M&S, the trading activities of RC, the polymer factory in Zhenjiang, China, EP operations with no exploration or production activity in 2021, subsidiaries not applying One MAESTRO in these segments, i.e. Polyblend (RC), Synova (RC), Sobegi (RC), Hutchinson (RC) and the Zeeland Refinery (RC) as well as the consolidated companies over which the Company does not have exclusive control, i.e. Naphtachimie (RC), BASF TOTAL Petrochemicals (RC), Appryl (RC), and approximately 80 jointly controlled assets operated by third parties in EP.

(4) The subsidiary acquired in 2021 that is not included in the reporting of environmental indicators is Fonroche (iGRP segment).

(5) Except for the Cap Lopez site in Congo (EP segment), which was included in the environmental and climate change-related reporting as it was sold late (during December 2021).

(6) The subsidiary acquired in 2021 that is not included in the reporting of safety indicators is Fonroche (iGRP segment).

5.11.3 Principles adopted

INDICATOR SELECTION AND RELEVANCE

The data published in this statement are intended to inform stakeholders about the Company's annual results in social and environmental responsibility. The environmental indicators include the Company's performance indicators with reference made, to a large extent, to the IPIECA reporting guidelines, updated in 2020.

METHODOLOGICAL SPECIFICITIES

The methodologies may be adjusted, in particular in light of the diversity of the Company's activities, the integration of newly acquired entities, the absence of regulations or standardized international definitions, practical procedures for collecting data, or changes in methods.

Restatement of previous years' published data is limited to changes in methodology.

CONSOLIDATION AND INTERNAL CONTROL

The workforce, environmental and climate change-related, societal and health and safety data is consolidated and checked by each operational unit and business segment before being checked at Company level. Data pertaining to certain specific indicators is calculated directly by the business segments. These processes undergo regular internal audits.

[REDACTED SECTION: CERTAIN TEXT HAS BEEN REDACTED.]

5.11.4 Details of certain indicators

WORKFORCE DEFINITIONS AND INDICATORS

Outside of France, "management staff" refers to any employee whose job level is the equivalent of 300 or more Hay points. Permanent contracts correspond to 'contrats à durée indéterminée' (CDI) and fixed-term contracts to 'contrats à durée déterminée' (CDD), according to the terminology used in the Company's workforce reporting.

Employees present: employees present are employees on the payroll of the consolidated scope, less employees who are not present, i.e., persons who are under suspended contract (sabbatical, business development leave, etc.), absent on long-term sick leave (more than six months), on attachment to an external company, etc.

SAFETY DEFINITIONS AND INDICATORS

TRIR (Total Recordable Injury Rate): number of recorded injuries per million hours worked.

LTIR (Lost Time Injury Rate): number of lost-time injuries per million hours worked.

Employees of contractors: any employee of a contractor working at a site that is part of the safety reporting scope or assigned by a transportation company under a long-term contract.

Tier 1 and Tier 2: indicator of the number of loss of primary containment events with more or less significant consequences, as defined by API 754 (for downstream) and IOGP 456 (for upstream) standards.

Near miss: sudden event which in slightly different circumstances could have resulted in an accident. Near misses have a potential but no actual severity.

Incidents and near misses are assessed in terms of actual or potential severity based on a scale that consists of six levels. Events with an actual or potential severity level of four or more are considered serious.

ENVIRONMENTAL OR CLIMATE CHANGE-RELATED DEFINITIONS AND INDICATORS

Blue hydrogen: see Low-carbon or clean hydrogen.

Life cycle Carbon intensity of the products sold : this indicator measures the average GHG emissions of energy products used by the Company's customers during their lifecycle (i.e., Scope 1+2+3), from production in TotalEnergies facilities to end use by customers. This indicator takes into account:

- for the numerator:
  - emissions connected to the production and conversion of energy products used by the customers on the basis of the Company's average emission rates,
  - emissions connected to the use of sold products. For each product, stoichiometric emission factors(1) are applied to these sales to obtain an emission volume. Non-fuel use products (bitumen, lubricants, plastics, etc.) are not taken into account;
  - negative emissions stored through the use of CCUS and natural carbon sinks;
- for the denominator: the quantity of energy sold, taking into account, as for the calculation of Scope 3, the maximum flow in each of the value chains in accordance with IPIECA recommendations. Electricity is placed on an equal footing with fossil fuels, taking into account average capacity factors and average efficiency ratios.

COVID-19 effect: the COVID-19 effect is assessed on the basis of a 10% decrease of petroleum products demand in 2021 compared with their structural demand.

Energy mix of sales: the mix is calculated by taking into account electricity sales, marketable gas production from Exploration & Production and LNG sales, sales of petroleum products (from Marketing & Services and massive sales of Refining & Chemicals) and distribution of biofuels, biomass and H_2 sales. Electricity is placed on an equal footing with fossil fuels, taking into account average capacity factors and average efficiency ratios.

Freshwater: water with salinity below 2 g/l.

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(1) The emission factors used are taken from a technical note of the CDP: *Guidance methodology for estimation of scope 3 category 11 emissions for oil and gas companies.*

GEEI (Global Energy Efficiency Index): a combination of energy intensity ratios (ratio of net primary energy consumption to the level of activity) per business reduced to base 100 in 2010 and consolidated with a weighting based on each business's net primary energy consumption. The scope of the indicator relates to the "operated domain" of the Company's upstream oil and gas activities and the Refining & Chemicals segment, with the exception of Hutchinson. It does not include facilities for power generation from renewable sources or natural gas, such as combined-cycle natural gas power plants.

GHG: the six greenhouse gases in the Kyoto protocol, namely CO_2, CH_4, N_2O, HFCs, PFCs and SF_6, with their respective GWP (Global Warming Potential) as described in the 2007 IPCC report. HFCs, PFCs and SF_6 are virtually absent from the Company's emissions or are considered as non-material, and are therefore no longer counted with effect from 2018.

GHGs based on the Company's equity interest: greenhouse gases emitted by the sites and activities that are part of the Company's "equity interest domain" (refer to point 5.11.2, "Scopes"). They are calculated on a pro rata basis according to the Company's share in the entity or the production (in the case of the Company's activities).

Green hydrogen: see Low-carbon or clean hydrogen.

Hydrocarbon spills with an environmental impact: spills with a volume greater than 1 barrel (≈159 liters) are counted. These are accidental spills of which at least part of the volume spilled reaches the natural environment (including non-waterproof ground). Spills resulting from sabotage or malicious acts are excluded. Spills that do not affect the environment are also excluded.

Intensity of CO_2 equivalent emissions: Scope 1+2 GHG emissions from the facilities operated by the Company for its upstream oil & gas activities (kg) divided by the Company's operated hydrocarbon production in barrels of oil equivalent (boe).

Intensity of methane emissions: the volume of methane emissions divided by the volume of commercial gas produced, from all facilities operated by the Company (oil and/or gas) for its upstream oil & gas activities. Gas facilities are facilities for which the sum of exported gas production and fuel gas (in boe) represents more than 50% of the operated production (exports + fuel gas).

Low-carbon or clean hydrogen: regroups blue hydrogen (hydrogen produced notably from natural gas via the steam reforming process associated with a capture and storage (CCS) process of the CO_2 emissions presenting a carbon footprint lower than 36.4 g CO_2/MJ) and green hydrogen (hydrogen produced from renewable electricity via the water electrolysis process).

Non-routine flaring: flaring other than routine flaring and safety flaring occurring primarily during occasional and intermittent events.

Oil spill preparedness:

- an oil spill scenario is deemed "significant" when its consequences are at a minimum on a small scale and have a limited impact on the environment (approximately several hundred meters of shores impacted or several tons of hydrocarbons involved);
- an oil spill preparedness plan is deemed operational if it describes the alert mechanisms, if it is based on pollution scenarios that stem from risk analyses and if it describes mitigation strategies that are adapted to each scenario; if it defines the technical and organizational resources, internal and external, to be deployed; and lastly if it indicates the items to be addressed in order to begin monitoring the environmental impact of the pollution;
- proportion of those sites that have performed an oil spill response exercise or whose exercise was prevented following a decision by the authorities: are included for this indicator sites that have performed an exercise during the year on the basis of one of the scenarios identified in the oil spill preparedness plan up to the equipment deployment stage as well as sites that have been prevented from carrying out an exercise by a competent authority (e.g. administration, port authority, local fire brigade).

Operated oil & gas facilities: facilities operated by the Company as part of its Upstream oil and gas activities as well as in its Refining & Chemicals and Marketing & Services segments. They do not include power generation facilities based on renewable sources or natural gas such as combined-cycle natural gas power plants.

Routine flaring: flaring during normal production operations conducted in the absence of sufficient facilities or adequate geological conditions for the reinjection, on-site utilization or sale of the gas produced (as defined by the working group of the Global Gas Flaring Reduction program as part of the World Bank's Zero Routine Flaring initiative). Routine flaring does not include safety flaring.

Safety flaring: flaring to ensure the safe performance of operations conducted at the production site (emergency shutdown, safety-related testing, etc.).

Scope 1 GHG emissions: direct emissions of greenhouse gases from sites or activities that are included in the scope of reporting for climate change-related indicators. Sites with GHG emissions of less than 30,000 metric tons of CO_2 equivalent per year are not included.

Scope 2 GHG emissions: indirect emissions attributable to brought-in energy (electricity, heat, steam), excluding purchased industrial gases (H_2).

Scope 3 GHG emissions: other indirect emissions. TotalEnergies reports Scope 3 GHG emissions, category 11, which correspond to indirect GHG emissions related to the use of energy products by customers, i.e. from their combustion to obtain energy. The Company follows the oil & gas industry reporting guidelines published by IPIECA, which comply with the GHG Protocol methodologies. In order to avoid double counting, this methodology accounts for the larger volume in the oil or gas value chain, i.e. the higher of production or sales. For TotalEnergies, in 2021, the calculation of Scope 3 GHG emissions for the oil value chain takes into account sales of petroleum products and biofuels (higher than production) and for the gas value chain, gas sales, either in the form of LNG or through marketing to B2B/B2C customers, which are equivalent to marketable gas production. A stoichiometric emission (oxidation of molecules to carbon dioxide) factor is applied to these sales to obtain an emission volume.

Upstream oil and gas activities: the Company's upstream oil and gas activities include the oil and gas exploration and production activities conducted by the Exploration & Production and Integrated Gas, Renewables & Power segments. They do not include power generation facilities based on renewable sources or natural gas such as combined-cycle natural gas power plants.

Water consumption: volume of water (fresh, brackish or sea water) taken that is not discharged into the environment or to a third party.

Waste: all waste is counted, with the exception of drilling debris, mining cuttings and polluted soil at inactive sites, which are counted separately.

OTHER DEFINITION

One MAESTRO (Management and Expectations Standards Toward Robust Operations): the Company's operational Health, Safety, Environment and Societal reference framework. This reference framework applies to companies controlled exclusively by TotalEnergies with the following exceptions: subsidiaries acquired for less than three years ago and subsidiaries covered by an audited reference framework of their own, namely Hutchinson (RC), Zeeland Refinery (RC), Polyblend (RC), Sobegi (RC), Synova (RC), Saft Groupe (iGRP), TEP Barnett (iGRP) and SunPower (iGRP).

6

TotalEnergies and its shareholders

[REDACTED SECTION: CERTAIN TEXT HAS BEEN REDACTED.]

6.1 Listing details

6.1.1 Listing

STOCK EXCHANGES AND MARKETS

- Paris (Euronext Paris);
- Brussels (Euronext Brussels);
- London (London Stock Exchange); and
- New York (New York Stock Exchange or NYSE).

CODES (EURONEXT)

ISIN	FR0000120271
Reuters	TTEF.PA
Bloomberg	TTE FP
Ticker	TTE
LEI	529900S21EQ1BO4ESM68

MAIN INDICES AS OF DECEMBER 31, 2021

Index	Weighting in the index	Ranking in the index
CAC 40	6.75%	2
Euro Stoxx 50	3.30%	6
Stoxx Europe 50	2.31%	12
FTSE4Good (ESG)	–	–

Sources: Euronext, Stoxx, Bloomberg and FTSE Russell.

MARKET CAPITALIZATION AS OF DECEMBER 31, 2021(1)

Market	Market capitalization	Closing price
Euronext	€117.8 billion	€44.63
NYSE	$130.6 billion	$49.46

MARKET CAPITALIZATION ON EURONEXT PARIS AND IN THE EUROZONE AS OF DECEMBER 31, 2021(2)

TotalEnergies SE is the fourth-largest market capitalization on the Euronext Paris regulated market and the ninth-largest capitalization of the Euro Stoxx 50.

PERCENTAGE OF FREE FLOAT

As of December 31, 2021, the free float factor determined by Euronext Paris for calculating the weight of TotalEnergies SE in the CAC 40 was 95%. The free float factor determined by Stoxx for calculating the weight of TotalEnergies SE in the Euro Stoxx 50 was 100%(3).

PAR VALUE

€2.50.

[REDACTED SECTION: CERTAIN TEXT HAS BEEN REDACTED.]

6.1.2 Share performance

6.1.2.1 CHANGE IN SHARE PRICES BETWEEN JANUARY 1 AND DECEMBER 31, 2021

The change in TotalEnergies' share price in 2021, compared with that of the share prices of its main peers listed in Europe and the United States, is shown in the following tables:

IN EUROPE

(% calculated on the basis of the closing price in local currency)

TotalEnergies (euro)	**26.43%**
Shell A (euro)	32.13%
Shell B (pound sterling)	28.82%
BP (pound sterling)	29.71%
ENI (euro)	42.96%

Source: Bloomberg

IN THE UNITED STATES (AMERICAN DEPOSITARY RECEIPTS PRICES FOR EUROPEAN COMPANIES)

(% calculated on the basis of the closing price in US$)

TotalEnergies	**18.01%**
ExxonMobil	48.45%
Chevron	38.96%
Shell A	23.51%
Shell B	28.98%
BP	29.78%
ENI	34.22%

Source: Bloomberg

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(1) Based on a share capital composed of 2,640,429,329 shares as of December 31, 2021.

(2) Source: Bloomberg.

(3) Source: Stoxx.

6.1.2.2 SHAREHOLDER'S ANNUAL RETURN

€1,000 invested in TotalEnergies shares by an individual residing in France, assuming that the dividends are reinvested in TotalEnergies shares, would have generated the following returns as of December 31, 2021 (excluding tax and social withholding):

	Shareholder's annual return		Value as of December 31, 2021 of €1,000 invested	
Investment term	**TotalEnergies**	**CAC 40[b]**	**TotalEnergies**	**CAC 40**
1 year	35.49%	31.88%	1,355	1,319
5 years	4.08%	11.06%	1,221	1,689
10 years	7.17%	11.99%	1,999	3,102
15 years	4.25%[a]	5.22%	1,866	2,144

(a) TotalEnergies' share prices, used for the calculation of the annual returns, take into account the adjustment made by Euronext Paris in 2006 following the detachment of Arkema's shares allocation rights.

(b) CAC 40 prices taken into account to calculate the annual returns include all dividends distributed by the companies that are in the index.

Sources: Euronext Paris, Bloomberg.

6.1.2.3 MARKET INFORMATION SUMMARY

TotalEnergies share prices over the 2017-2021 period *(in €)*	**2017**	**2018**	**2019**	**2020**	**2021**
Highest (during trading session)	49.50	56.82	52.27	50.93	45.55
Lowest (during trading session)	42.23	43.09	42.65	21.12	33.91
Last price of the year (closing)	46.05	46.18	49.20	35.30	44.63
Average of the last 30 trading sessions (closing)	47.00	47.96	48.32	36.34	43.53

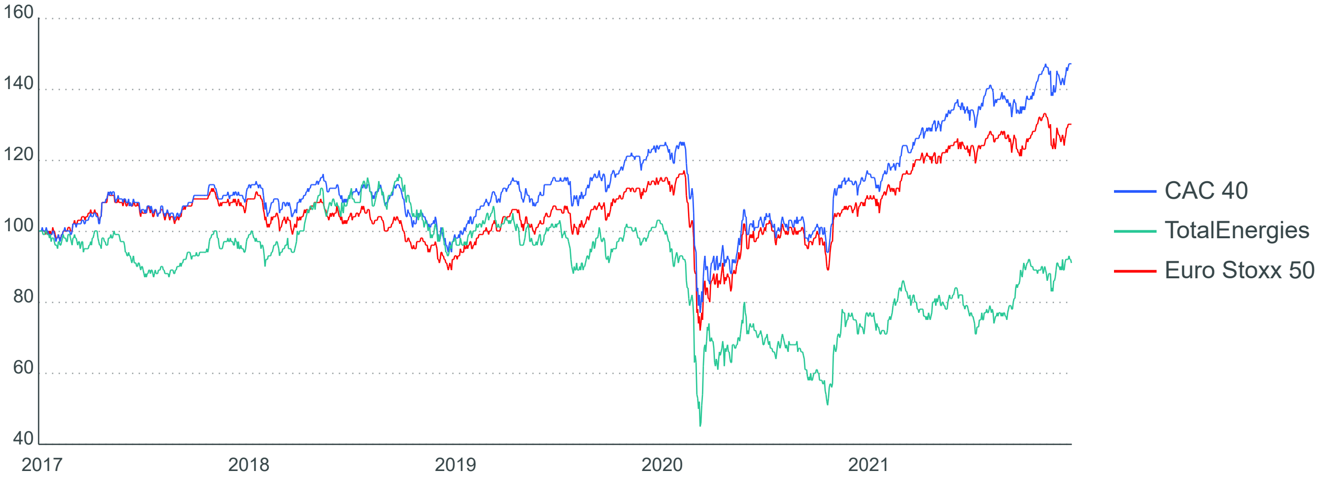
Trading volume (average per session)					
Euronext Paris[a]	5,380,909	6,199,835	5,549,490	8,420,407	6,716,594
NYSE[b]	1,667,928	1,855,274	1,770,853	2,965,225	2,155,131

(a) Number of TotalEnergies shares traded.

(b) Number of American Depositary Receipts (ADR) traded.

Sources: Euronext Paris, NYSE.

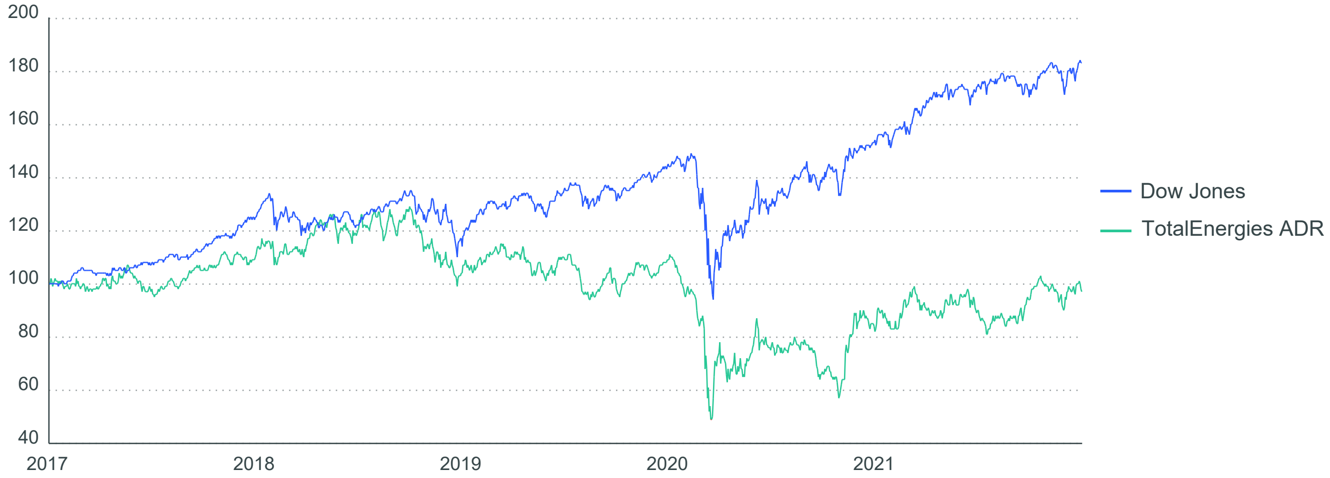
CHANGE IN TotalEnergies SHARE PRICE AT CLOSING ON EURONEXT PARIS (2017-2021)



Base 100 at 01/01/2017.

Sources: Euronext Paris, Bloomberg.

CHANGE IN TotalEnergies ADR PRICE AT CLOSING ON NYSE (2017-2021)



Base 100 at 01/01/2017.

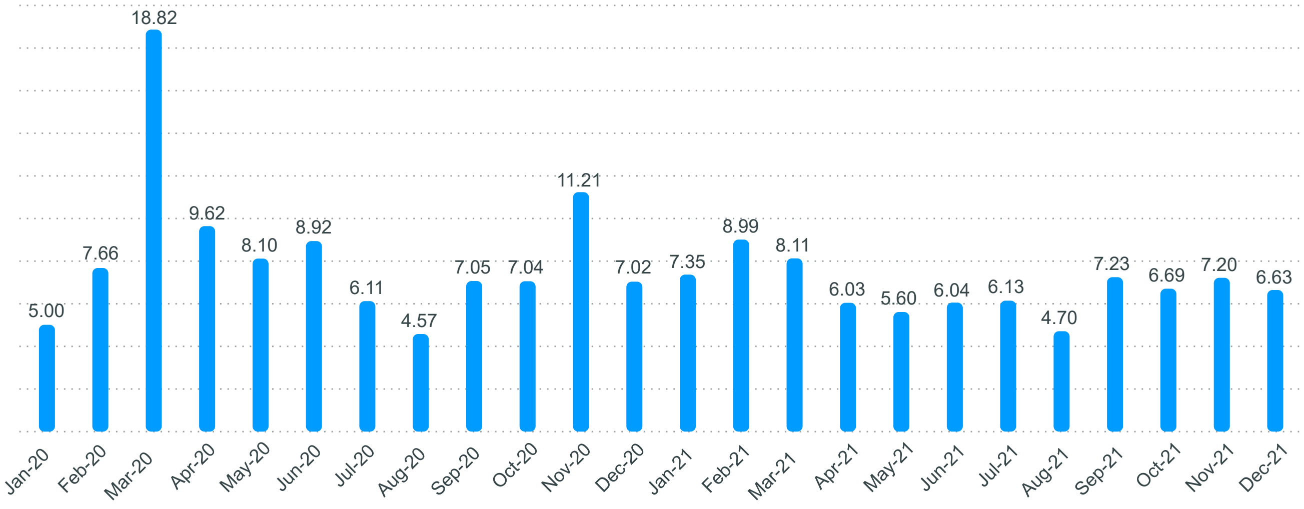
Sources: NYSE, Bloomberg.

CHANGE IN TotalEnergies SHARE PRICE AT CLOSING ON EURONEXT PARIS (2020-2021)

Source: Euronext Paris.

AVERAGE NUMBER OF TotalEnergies SHARES TRADED ON EURONEXT PARIS (2020-2021)

(in millions of shares)



Source: Euronext Paris.

6.2 Dividend

6.2.1 Shareholder return policy

Confident in TotalEnergies' ability to transform itself into a sustainable multi-energy company and to increase shareholder return, at its meeting held on February 8, 2021, the Board of Directors confirmed its priorities in terms of cash flow allocation:

- investing in profitable projects to implement the strategy of transforming TotalEnergies into a multi-energy company,
- supporting the dividend through economic cycles,
- maintaining strong balance sheet and a long-term credit rating of at least "A" by keeping the Company's debt ratio below 20% on a long-term basis, and
- being able to buy back its own shares in the event of a high oil price and if the Company's debt ratio were below 20%.

At its meeting held on February 9, 2022, in line with the policy announced in February 2021, the Board of Directors proposed to the Shareholders' Meeting to be held on May 25, 2022, the distribution of a final dividend for fiscal year 2021 of 0.66 euro per share, equal to the three interim dividends already decided, to bring the dividend for 2021 to 2.64 euros per share. The Board of Directors has also defined a return-to-shareholder policy for 2022 combining, on the one hand, an increase in interim dividends of 5% given the structural growth in cash flow generated by the LNG and electricity business, and on the other hand, share buybacks to share the surplus cash flows from high hydrocarbon prices. These share buybacks are expected to be $2 billion for the first half of 2022.

As a reminder, at its meeting held on February 8, 2021, the Board had confirmed its policy of supporting the dividend through economic cycles and proposed the distribution of a final dividend for fiscal year 2020 of 0.66 euro per share, equal to the previous three quarters, thus set the dividend for 2020 at 2.64 euros per share. At its meeting held on April 28, 2021, given the excellent results for the first quarter of 2021 and confident in the Company's fundamentals, the Board of Directors had decided to distribute a first interim dividend for fiscal year 2021 stable at 0.66 euro per share. On July 28, 2021, it had maintained the second interim dividend at 0.66 euro per share. In addition, given the high hydrocarbon prices and gearing below 20% noticed at the end of the second quarter of 2021, in respect of TotalEnergies' strategy and consistent with the cash flow allocation scheme presented in February 2021, the Board of Directors had decided to allocate up to 40% of the additional cash flow generated above $60/b to share buybacks.

On September 28, 2021, the Company had announced that, in a constant $50/b environment, it anticipated cash flow growth by $5 billion between 2021 and 2026, this cash flow growth coming notably from renewables and electricity for $1.5 billion and LNG for $1.5 billion, the two pillars of its growth. The Company had announced that this sustainable cash flow growth, given the investments discipline, will support dividend growth over the next few years. In addition, in accordance with the announced policy of allocating up to 40% of surplus cash generated above $60/b to buybacks and considering the high prices of oil and gas in the second half of 2021, the Company had announced to plan to buyback $1.5 billion of its shares in fourth quarter 2021.

At its meeting held on October 27, 2021, the Board of Directors had confirmed that the third interim dividend would be maintained at 0.66 euro per share and confirmed the completion of $1.5 billion shares repurchases in the fourth quarter 2021. In fourth quarter of 2021, TotalEnergies repurchased 30.7 million shares for cancellation, for a total of $1.5 billion.

In 2020, in light of the economic crisis created by the COVID-19 pandemic but also considering the solid fundamentals of the Company, the Board of Directors, at its meeting held on May 4, 2020, had decided to maintain the final dividend for fiscal year 2019, as announced on February 5, 2020, while proposing to the Shareholders' Meeting on May 29, 2020 that the balance of the dividend for fiscal year 2019 be paid in shares. It was also decided to suspend the dividend growth policy for 2020 and thus set the first interim dividend for fiscal year 2020 at €0.66 per share, at the same level as the first interim dividend payment for fiscal year 2019. At its meeting on July 29, 2020, the Board of Directors had maintained the second interim dividend for 2020 at 0.66 euro per share and reaffirms its sustainability in a $40/b Brent environment. On October 29, 2020, the Board of Directors had confirmed the third interim dividend payment maintained at €0.66 per share and reaffirmed its sustainability in a context of $40/b, particularly in view of the results of the third quarter.

In respect of fiscal year 2020, the Company had announced share buybacks in an amount of $2 billion in an environment at $60/b. Having bought back shares in an amount of $0.55 billion in the first quarter of 2020, it announced the suspension of share buybacks by the Corporation on March 23, 2020, against the backdrop of the COVID-19 pandemic and an oil price of around $30/b.

6.2.2 Dividend payment policy

On October 28, 2010, the Corporation's Board of Directors adopted a policy based on quarterly dividend payments starting in fiscal year 2011.

The decision of TotalEnergies SE's subsidiaries to declare dividends is made by their relevant Shareholders' Meetings and is subject to the provisions of applicable local laws and regulations. As of December 31, 2021, there is no restriction under such provisions that would materially restrict the distribution to TotalEnergies SE of the dividends declared by those subsidiaries.

DIVIDENDS FOR FISCAL YEAR 2021

On February 9, 2022, the Board of Directors, after approving the financial statements for fiscal year 2021, decided to propose to the Shareholders' Meeting on May 25, 2022, the distribution of a €2.64 dividend per share for fiscal year 2021.

Subject to the Shareholders' decision on May 25, 2022, considering the first three interim dividends already decided by the Board of Directors, the final dividend for fiscal year 2021 will be 0.66 euro per share.

2021 dividend	First interim	Second interim	Third interim	Final
Amount	€0.66	€0.66	€0.66	€0.66
Set date	April 28, 2021	July 28, 2021	October 27, 2021	May 25, 2022
Ex-dividend date	September 21, 2021	January 3, 2022	March 22, 2022	June 21, 2022
Payment date	October 1, 2021	January 13, 2022	April 1, 2022	July 1, 2022

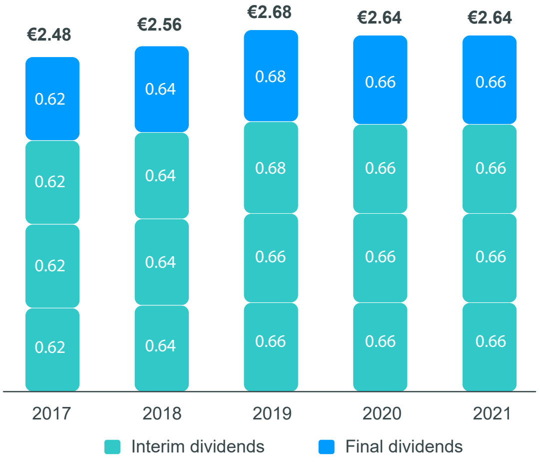
DIVIDENDS FOR FISCAL YEAR 2022

Subject to the applicable legislative and regulatory provisions, as well as the pending approval by the Board of Directors and the Shareholders' Meeting to be held on May 25, 2022, the ex-date calendar for the interim and final dividends for fiscal year 2022 is expected to be as follows:

	Ex-dividend date
First interim	September 21, 2022
Second interim	January 2, 2023
Third interim	March 22, 2023
Final	June 21, 2023

The provisional ex-dividend dates above relate to the shares admitted for trading on Euronext.

DIVIDENDS FOR THE LAST FIVE FISCAL YEARS[1]



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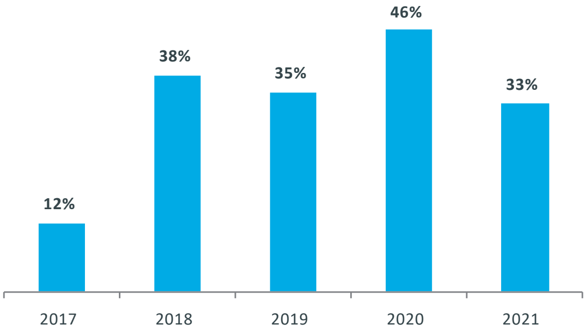
(1) Subject to approval by the Shareholders' Meeting on May 25, 2022. Since January 1, 2018, those dividends received by individuals having their tax residence in France are subject to a 30% flat rate on the gross amount (i.e., 12.8% for income tax and 17.2% for social security contributions). However, with respect to income tax, taxpayers can opt for the taxation of their dividend income at the progressive scale with a 40% rebate.

The rate of return to shareholders is calculated on the basis of the amount of dividends paid in cash during the year plus the amount of TotalEnergies share buybacks carried out by the Corporation during the year (for the purpose of canceling shares issued in connection with the payment of the dividend in shares or under its share buyback program), as a percentage of cash flow from operating activities(1) for the year in question.

The rate of return to shareholders for fiscal year 2021 was 33%(2). Changes in the rate of return to shareholders over the past five fiscal years are as follows:



At its meeting on February 9, 2022, the Board of Directors has defined a shareholder return policy for 2022, combining an increase in the interim dividends of 5% taking into account the structural growth in cash flow generated by the LNG and electricity business, and buybacks to share the surplus cash flow from high hydrocarbon prices. These share buybacks are expected to be $2 billion for the first half of 2022.

6.2.3 Dividend payment

Société Générale Securities Services manages the payment of the dividend, which is made through financial intermediaries using the Euroclear France direct payment system.

JP Morgan Chase Bank N.A. (383 Madison Avenue, Floor 11, New York, 10179, USA) manages the payment of dividends to holders of TotalEnergies ADR.

DIVIDEND PAYMENT ON STOCK CERTIFICATES

The Corporation issued stock certificates (*certificats représentatifs d'actions*, CR Actions) in Belgium as part of the public exchange offer for Total Petrochemicals & Refining SA/NV (formerly Petrofina) shares.

The CR Actions is a stock certificate provided for by French rules, issued by Euroclear France, intended to circulate exclusively outside of France, and which may not be held by French residents. Since January 1, 2018, in compliance with Belgian law, CR Actions may only be issued in the form of a dematerialized certificate. CR Actions issued before this date are freely convertible from a physical certificate into a dematerialized certification in the form of a security registered on a custody account.

In addition, ING Belgique is the bank handling the payment of all coupons detached from outstanding CR Actions. No fees are applicable to the payment of coupons detached from CR Actions, except for any income or withholding taxes; the payment may be received on request at the following bank branches:

- ING Belgique, Avenue Marnix 24, 1000 Brussels, Belgium;
- BNP Paribas Fortis, Avenue des Arts 45, 1040 Brussels, Belgium; and
- KBC BANK N.V., Avenue du Port 2, 1080 Brussels, Belgium.

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(1) The operating cash flow before working capital changes is defined as cash flow from operating activities before changes in working capital at replacement cost, excluding the mark-to-market effect of iGRP's contracts and including capital gain from renewable projects sale (effective in 2020).

(2) Based on an amount of $9.73 billion, consisting of dividends paid in cash plus TotalEnergies share buybacks during 2021 plus an operating cash flow before working capital changes of $29.14 billion in 2021.

6.2.4 Coupons

Fiscal year	Ex-dividend date	Payment date	Date of expiration	Type of coupon	Amount *(in €)*
2015	09/28/2015	10/21/2015	10/21/2020	Interim dividend	0.61
	12/21/2015	01/14/2016	01/14/2021	Interim dividend	0.61
	03/21/2016	04/12/2016	04/12/2021	Interim dividend	0.61
	06/06/2016	06/23/2016	06/23/2021	Final dividend	0.61
2016	09/27/2016	10/14/2016	10/14/2021	Interim dividend	0.61
	12/21/2016	01/12/2017	01/12/2022	Interim dividend	0.61
	03/20/2017	04/06/2017	04/06/2022	Interim dividend	0.61
	06/05/2017	06/22/2017	06/22/2022	Final dividend	0.62
2017	09/25/2017	10/12/2017	10/12/2022	Interim dividend	0.62
	12/19/2017	01/11/2018	01/11/2023	Interim dividend	0.62
	03/19/2018	04/09/2018	04/09/2023	Interim dividend	0.62
	06/11/2018	06/28/2018	06/28/2023	Final dividend	0.62
2018	09/25/2018	10/12/2018	10/12/2023	Interim dividend	0.64
	12/18/2018	01/10/2019	01/10/2024	Interim dividend	0.64
	03/19/2019	04/05/2019	04/05/2024	Interim dividend	0.64
	06/11/2019	06/13/2019	06/13/2024	Final dividend	0.64
2019	09/27/2019	10/01/2019	10/01/2024	Interim dividend	0.66
	01/06/2020	01/08/2020	01/08/2025	Interim dividend	0.66
	03/30/2020	04/01/2020	04/01/2025	Interim dividend	0.68
	06/29/2020	07/01/2020	07/01/2025	Final dividend	0.68
2020	09/25/2020	10/02/2020	10/02/2025	Interim dividend	0.66
	01/04/2021	01/11/2021	01/11/2026	Interim dividend	0.66
	03/25/2021	04/01/2021	04/01/2026	Interim dividend	0.66
	06/24/2021	07/01/2021	07/01/2026	Final dividend	0.66
2021(a)	09/21/2021	10/01/2021	10/01/2026	Interim dividend	0.66
	01/03/2022	01/13/2022	01/13/2027	Interim dividend	0.66
	03/22/2022	04/01/2022	04/01/2027	Interim dividend	0.66
	06/21/2022	07/01/2022	07/01/2027	Final dividend	0.66

(a) A resolution is submitted to the Shareholders' Meeting on May 25, 2022, to pay a dividend of €2.64 per share for fiscal year 2021, exclusively in cash.

6.3 Share buybacks

The Shareholders' Meeting on May 28, 2021, after considering the report from the Board of Directors, authorized the Board of Directors, pursuant to the provisions of Article L. 22-10-62 of the French Commercial Code, of Regulation (EU) No. 596/2014 of April 16, 2014, on market abuse and of the General Regulation (règlement général) of the French Financial Markets Authority (Autorité des marchés financiers), to buy or sell shares of the Corporation. The number of shares acquired may not exceed 10% of the share capital. The maximum purchase price was set at €80 per share. This authorization was granted for a period of 18 months and replaced the previous authorization granted by the Shareholders' Meeting on May 29, 2020.

In 2021, TotalEnergies SE bought back 37,306,005 TotalEnergies shares including :

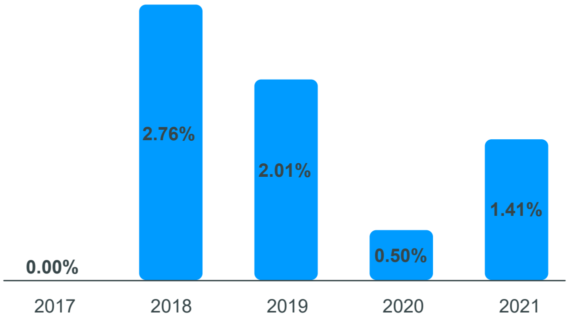
- 30,665,526 TotalEnergies shares in order to cancel them in an amount of $1.5 billion; and
- 6,640,479 TotalEnergies shares in order to cover the performance share plans approved by the Board of Directors.

At its meeting on February 9, 2022, the Board of Directors decided, following the authorization of the Extraordinary Shareholder's Meeting on May 26, 2017, to cancel the 30,665,526 treasury shares bought back during 2021.

In addition, in 2022, TotalEnergies SE had bought back 8,757,120 TotalEnergies shares as of February 28, 2021 i.e. :

- 5,558,668 TotalEnergies shares in order to cancel them in an amount of $318 million; and
- 3,198,452 TotalEnergies shares in order to cover the performance share plans approved by the Board of Directors.

PERCENTAGE OF SHARE CAPITAL BOUGHT BACK (2017 - 2021)



6.3.1 Board of Directors' report on share buybacks and sales

6.3.1.1 SHARE BUYBACKS DURING FISCAL YEAR 2021

Following the Board of Directors' decision on October 28, 2021, and pursuant to the authorization granted by the Shareholders' Meeting on May 28, 2021, the Corporation bought back 30,665,526 TotalEnergies shares during fiscal year 2021, i.e., 1.16% of the share capital as of December 31, 2021. These shares were bought back in order to cancel them for a total amount of €1.3 billion or $1.5 billion(1), at an average unit price of €43.14.

In addition, and also making use of the authorizations given by the Shareholders' Meetings on May 29, 2020, and May 28, 2021, the Corporation bought back, in 2021, a total of 6,640,479 TotalEnergies shares for a total of €272 million, at an average unit price of €40.95, in order to cover the performance share plans approved by the Board of Directors.

6.3.1.2 CANCELLATION OF CORPORATION SHARES DURING FISCAL YEARS 2019 TO 2021

The Board of Directors, pursuant to the authorization granted by the Shareholders' Meeting on May 26, 2017, to reduce the Corporation's share capital in one or more steps by cancelling shares, in accordance with the provisions of Articles L. 22-10-62 and L. 225-213 of the French Commercial Code, cancelled the following TotalEnergies shares:

			Buybacks carried out in the framework of		
Fiscal year	Date of Board of Directors' decision	Number of shares bought back and cancelled	Cancellation of the dilution(a)	Shareholder return policy	Percentage of share capital cancelled(b)
2021	February 8, 2021	23,284,409 shares repurchased between October 31, 2019, and March 9, 2020	n/a	23,284,409 shares	0.88%
2020(c)	n/a				
2019	December 11, 2019	65,109,435 shares bought back between October 29, 2018, and September 9, 2019	34,860,133 shares issued as payment for the 1st, 2nd and 3rd 2018 interim dividends	30,249,302 shares	2.44%

(a) Cancellation of the dilution related to the shares issued for the scrip dividend.

(b) Percentage of the share capital that the cancelled shares represented on the operations' date

(c) TotalEnergies SE did not cancel any shares in fiscal year 2020.

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(1) At the ECB exchange rate on the date of the share buybacks.

6.3.1.3 TRANSFER OF SHARES DURING FISCAL YEAR 2021

4,573,195 TotalEnergies shares were transferred during fiscal year 2021 following the final award of TotalEnergies shares under performance share plans decided by the Board of Directors.

6.3.1.4 SHARES HELD IN THE NAME OF THE CORPORATION AND ITS SUBSIDIARIES AS OF DECEMBER 31, 2021

As of December 31, 2021, the Corporation held 33,841,104 treasury shares representing 1.28% of TotalEnergies SE's share capital on that same date, including:

- 30,665,526 shares to be cancelled; and
- 3,175,578 shares to cover the performance share plans.

In accordance with French law, these shares are deprived of voting rights and do not entitle holders to dividends.

In addition, shares bought back in order to be allocated to employees of the Corporation or other TotalEnergies' companies when such shares are held to cover share purchase option plans that have expired or performance shares that have not been granted by the end of the vesting period, may be held under the conditions applicable to the holding by the Corporation of its own shares and used in accordance with the purposes specified buybacks by the Corporation of its own shares.

6.3.1.5 REALLOCATION FOR OTHER PURPOSES DURING FISCAL YEAR 2021

Treasury shares held by the Corporation were not, during fiscal year 2021, reallocated for purposes other than those initially planned when purchased.

6.3.1.6 CONDITIONS FOR THE SHARE BUYBACKS AND USE OF DERIVATIVE INSTRUMENTS

No derivative instruments were used in the context of the share buyback programs authorized by the Shareholders' Meetings on May 29, 2020, and May 28, 2021. TotalEnergies has no open purchase or sale position as of December 31, 2021.

TRANSACTIONS COMPLETED BY THE CORPORATION INVOLVING ITS TREASURY SHARES FROM JANUARY 1 TO DECEMBER 31, 2021

	Cumulative gross movements	
	Purchases	Sales/Transfers
Number of shares	37,306,005	4,573,195[(a)]
Average transaction price[(b)] (in €)	42.76	–
Amount of transactions (in €)	1,595,209,115.52[(c)]	–

(a) Corresponds to the final award of TotalEnergies shares under the performance share plans.

(b) Including brokerage fees (excluding taxes).

(c) Including €318,978.04 of brokerage fees (excluding taxes).

TREASURY SHARES AT DECEMBER 31, 2021

Percentage of share capital held by TotalEnergies SE	**1.28%**
Number of shares held in portfolio	33,841,104[(a)]
Par value of the portfolio (in €m)	84.6[(b)]
Book value of the portfolio (in €m)	1,465.3
Market value of the portfolio (in €m)	1,510.3[(c)]

(a) Including 3,103,018 shares held to cover the performance share plans and 72,560 shares to be awarded under new share purchase option plans or new performance share plans.

(b) Based on a TotalEnergies share par value of €2.50.

(c) Based on TotalEnergies' closing share price of €44.63 on Euronext Paris on December 31, 2021.

6.3.2 Share buyback program

Given the crisis created by the COVID-19 pandemic, the Board of Directors has decided that in 2021 priority was to be given to reducing the Company's debt and that the share buybacks for the purpose of reducing the share capital by canceling shares were only to be considered when the Company's gearing ratio (excluding lease commitments) is below 20%.

At its meeting on February 9, 2022, the Board of Directors has defined a shareholder return policy for 2022, combining, on the one side, an increase in the interim dividends of 5% taking into account the structural growth in cash flow generated by the LNG and electricity business, and, on the other side, buybacks to share the surplus income derived from high hydrocarbon prices. These share buybacks are expected to be $2 billion for the first half of 2022.

6.3.2.1 DESCRIPTION OF THE SHARE BUYBACK PROGRAM UNDER ARTICLES 241-1 *ET SEQ.* OF THE AMF GENERAL REGULATION

The objectives of the share buyback program are as follows:

- reduce the Corporation's capital through the cancellation of shares;
- honor the Corporation's obligations related to securities convertible or exchangeable into Corporation shares;
- honor the Corporation's obligations related to stock option programs or other share grants to the Corporation's executive directors or to employees of the Corporation or of subsidiaries of TotalEnergies; and
- stimulate the secondary market or the liquidity of the TotalEnergies share under a liquidity agreement.

6.3.2.2 LEGAL FRAMEWORK

Implementation of this share buyback program, which is covered by Articles L. 22-10-62 *et seq.*, L. 225-213 of the French Commercial Code, Articles 241-1 *et seq.* of the General Regulation of the AMF, and the provisions of Regulation (EU) No 596/2014 on market abuse, is subject to approval by the TotalEnergies SE Shareholders' Meeting on May 25, 2022, under the proposed fourth resolution, which reads as follows:

"Upon presentation of the report by the Board of Directors and information appearing in the description of the program prepared pursuant to Articles 241-1 *et seq.* of the General Regulation *(règlement général*) of the French Financial Markets Authority *(Autorité des marchés financiers*), and voting under the conditions of quorum and majority required for Ordinary Shareholders' Meetings, the shareholders hereby authorize the Board of Directors, with the possibility to sub-delegate such authority under the terms provided for by French law, pursuant to the provisions of Article L. 22-10-62 of the French Commercial Code and of Regulation (EU) No. 596/2014 of April 16, 2014, on market abuse and of the General Regulation of the AMF, to buy or sell shares of the Corporation within the framework of a share buyback program.

The purchase, sale or transfer of such shares may be transacted by any means on regulated markets, multilateral trading facilities or over the counter, including the purchase or sale by block trades, in accordance with the regulations of the relevant market regulatory authorities. Such transactions may include the use of any financial derivative instrument traded on regulated markets and implementing option strategies.

These transactions may be carried out at any time, in accordance with the applicable rules and regulations at the date of the operations under consideration, except during any public offering periods applying to the Corporation's share capital.

The maximum purchase price is set at €80 per share.

In the case of a share capital increase by incorporation of reserves and free share grants or in the case of a stock-split or a reverse stock- split, this maximum price shall be adjusted by applying the ratio of the number of shares outstanding before the transaction to the number of shares outstanding after the transaction.

Pursuant to the provisions of Article L. 22-10-62 of the French Commercial Code, the maximum number of shares that may be bought back under this authorization may not exceed 10% of the total number of shares composing the capital as of the date on which this authorization is used. This limit of 10% is applicable to the share capital of the Corporation which may be adjusted from time to time as a result of transactions after the date of the present meeting. Purchases made by the Corporation may under no circumstances result in the Corporation holding more than 10% of the share capital, either directly or indirectly through subsidiaries.

As of February 28, 2022, out of the 2,609,763,803 shares outstanding, the Corporation held 11,919,903 shares directly. Under these circumstances, the maximum number of shares that the Corporation could buy back is 249,056,477 shares and the maximum amount that the Corporation may spend to acquire such shares is €19,924,518,160.00 (excluding acquisition fees).

The purpose of this share buyback program is to reduce the number of outstanding shares of the Corporation or to allow it to fulfill its engagements in connection with:

- convertible or exchangeable securities that may give holders rights to receive shares of the Corporation upon conversion or exchange; and/or
- share purchase option plans, employee shareholding plans, company savings plans or other share allocation programs for executive directors or employees of the Corporation or TotalEnergies' companies.

The purpose of buybacks may also be the implementation of the market practice accepted by the French Financial Markets Authority (*Autorité des marchés financiers*), i.e., support the secondary market or the liquidity of TotalEnergies shares by an investment services provider by means of a liquidity agreement compliant with the deontology charter recognized by the French Financial Markets Authority (*Autorité des marchés financiers*).

This program may also be used by the Corporation to trade in its own shares, either on or off the market, for any other purpose that is authorized under the applicable law or any other permitted market practice that may be authorized at the date of the operations under consideration. In case of transactions other than the abovementioned intended purposes, the Corporation will inform its shareholders in a press release.

According to the intended purposes, the treasury shares that are acquired by the Corporation through this program may, in particular, be:

- canceled, up to the legal limit of 10% of the total number of shares composing the capital on the date of the operation, per each 24-month period;
- granted for no consideration to the employees and to the executive directors of the Corporation or of other TotalEnergies' companies;
- delivered to the beneficiaries of the Corporation's shares purchase options having exercised such options;
- sold to employees, either directly or through the intermediary of company savings funds;
- delivered to the holders of securities that grant such rights to the allocation of Corporation shares, either through redemption, conversion, exchange, presentation of a warrant or in any other manner; and
- used in any other way consistent with the purposes stated in this resolution.

While they are bought back and held by the Corporation such shares will be deprived of voting rights and dividend rights.

This authorization is granted for an 18-month period from the date of this Meeting. It renders ineffective, up to the unused portion, any previous authorization having the same purpose.

The Board of Directors is hereby granted full authority, with the right to sub-delegate such authority, to undertake all actions authorized by this resolution."

6.3.2.3 CONDITIONS

MAXIMUM SHARE CAPITAL TO BE PURCHASED AND MAXIMUM FUNDS ALLOCATED TO THE TRANSACTION

The maximum number of shares that may be purchased under the authorization provided by the Shareholders' Meeting on May 25, 2022, may not exceed 10% of the total number of shares composing the capital, with this limit applying to an amount of the Corporation's share capital that will be adjusted, if necessary, to include transactions affecting the share capital subsequent to this Meeting. Purchases made by the Corporation may under no circumstances result in the Corporation holding more than 10% of the share capital, either directly or indirectly through subsidiaries.

Before any share cancellation under the authorization granted by the Shareholders' Meeting on May 25, 2022, based on the number of shares outstanding as of February 28, 2022(1) and given the 11,919,903 shares held by the Corporation as of February 28, 2022, representing 0.46% of the share capital, the maximum number of shares that may be purchased would be 249,056,477 representing a theoretical maximum investment of €19,924,518,160.00 (excluding acquisition fees) based on the maximum purchase price of €80.

CONDITIONS FOR BUYBACKS

Such shares may be bought back by any means on regulated markets, multilateral trading facilities or over the counter, including through the purchase or sale of blocks of shares, under the conditions authorized by the relevant market regulatory authorities. These means include the use of any financial derivative instrument traded on a regulated market or over the counter and the implementation of option strategies, with the Corporation taking measures, however, to avoid increasing the volatility of its stock. The portion of the program carried out through the purchase of blocks of shares will not be subject to quota allocation, up to the limit set by this resolution. These transactions may be carried out at any time, in accordance with the applicable rules and regulations, except during any public offering periods applying to the Corporation's share capital.

DURATION AND SCHEDULE OF THE SHARE BUYBACK PROGRAM

In accordance with the fourth resolution, submitted to the Shareholders' Meeting on May 25, 2022, the share buyback program may be implemented over an 18-month period following the date of this meeting, i.e., until November 25, 2023.

TRANSACTIONS CARRIED OUT UNDER THE PREVIOUS PROGRAM

Transactions carried out under the previous program are listed in the special report of the Board of Directors on share buybacks (refer to point 6.3.1 of this chapter).

6.4 Shareholders

6.4.1 Major shareholders

6.4.1.1 CHANGES IN MAJOR SHAREHOLDERS' HOLDINGS

TotalEnergies SE's major shareholders(2) as of December 31, 2021, 2020 and 2019 were as follows:

	2021			2020		2019	
As of December 31	% of share capital	% of voting rights	% of theoretical voting rights(a)	% of share capital	% of voting rights	% of share capital	% of voting rights
BlackRock, Inc.(b)	6.2	5.3	5.3	5.9	5.0	6.3	5.4
Employee shareholders(c)	6.8	11.4	11.2	6.4	10.7	5.3	9.0
of which FCPE TotalEnergies Actionnariat France (French shareholders' company mutual fund)	*4.2*	*7.3*	*7.2*	*4.0*	*7.0*	*3.5*	*6.4*
Other shareholders	87.0	83.3	83.5	87.7	84.3	88.4	85.6
of which holders of ADR(d)	8.2	7.8	7.7	7.1	6.7	8.2	7.8

(a) Pursuant to Article 223-11 of the AMF General Regulation, the number of theoretical voting rights is calculated on the basis of all shares to which voting rights are attached, including treasury shares that are deprived of voting rights.

(b) Information taken from Schedule 13G/A filed by BlackRock, Inc. ("BlackRock") with the SEC on February 1, 2022, in which BlackRock declares a holding of 162,580,720 shares in TotalEnergies as of December 31, 2021 (i.e. 6.2% of the Corporation's share capital). BlackRock stated that it has the exclusive right to dispose of its holding and of 147,313,105 voting rights (i.e., 5.3% of the Corporation's voting rights). In addition, BlackRock stated that it does not have any joint voting rights or joint right to dispose of these shares.

(c) On the basis of the definition of employee shareholding set forth in Article L. 225-102 of the French Commercial Code and, since 2020, article 11 para. 6 of the Corporation's Articles of Association. Amundi, the holding company of Amundi Asset Management, which in turn manages the TotalEnergies Actionnariat France fund (see below), filed a Schedule 13G/A with the SEC on February 22, 2022, declaring a holding of 267,934,797 TotalEnergies shares as of December 31, 2021 (10.1% of the Corporation's share capital). Amundi stated that it does not have any exclusive voting rights or exclusive right to dispose of these shares and that it has joint voting rights on 64,731,289 of these shares (i.e., 2.3% of the Corporation's voting rights) and a joint right to dispose of all of these shares.

(d) Including all the American Depositary Shares represented by ADR listed on the NYSE.

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(1) 2,609,763,803 shares.

(2) Major shareholders are defined herein as shareholders whose interest exceeds 5% of the share capital or voting rights.

The percentage of the holdings of the major shareholders was calculated based on the below data:

As of December 31	2021	2020	2019
Number of shares composing the share capital	2,640,429,329	2,653,124,025	2,601,881,075
Number of voting rights attached to the shares	2,771,376,477	2,784,218,957	2,747,986,237
Number of theoretical voting rights	2,805,217,581[(a)]	2,808,611,660[(b)]	2,763,460,471[(c)]

(a) Exercisable at the Shareholders' Meeting taking into account 33,841,104 voting rights attached to the 33,841,104 TotalEnergies shares held by TotalEnergies SE that are deprived of voting rights.

(b) Exercisable at the Shareholders' Meeting as of December 31, 2020.

(c) Exercisable at the Shareholders' Meeting as of December 31, 2019.

6.4.1.2 HOLDINGS ABOVE THE LEGAL THRESHOLDS

In accordance with the provisions of Article L. 233-13 of the French Commercial Code, to TotalEnergies SE's' knowledge, two identified shareholders held 5% or more of the share capital or voting rights at year-end 2021:

- the TotalEnergies Actionnariat France collective investment fund held, as of December 31, 2021, 4.2% of the share capital representing 7.3% of the voting rights exercisable at Shareholders' Meetings and 7.2% of the theoretical voting rights;
- BlackRock held, as of December 31, 2021, 6.2% of the share capital representing 5.3% of the voting rights exercisable at Shareholders' Meetings and 5.3% of the theoretical voting rights.

6.4.1.3 LEGAL THRESHOLD NOTIFICATIONS IN FISCAL YEAR 2021

AMF notice no.	Date of passing threshold	Group	Number of shares	% of share capital	% of voting rights	Going below/ above threshold of 5% of voting rights	Number of shares composing the share capital	Number of voting rights
221C0005	January 4, 2021	BlackRock, Inc.	139,875,645	5.27%	4.98%	Below	2,653,124,025	2,808,505,536
221C0101	January 12, 2021	BlackRock, Inc.	140,859,110	5.31%	5.02%	Above	2,653,124,025	2,808,611,660

6.4.1.4 THRESHOLD NOTIFICATIONS REQUIRED BY THE BYLAWS

In addition to the legal obligation to inform the Corporation and the French Financial Markets Authority when the number of shares (or securities similar to shares or voting rights pursuant to Article L. 233-9 of the French Commercial Code) held represents more than 5%, 10%, 15%, 20%, 25%, 30%, one third, 50%, two thirds, 90% or 95% of the share capital or theoretical voting rights, such information being made at the latest on the close of the fourth trading day after the threshold is exceeded (Article L. 233-7 of the French Commercial Code and Article 223-14 of the AMF General Regulation), any individual or legal entity who directly or indirectly comes to hold a percentage of the share capital, voting rights or rights giving future access to the Corporation's share capital that is equal to or greater than 1%, or a multiple of this percentage, is required to notify the Corporation within 15 days of the date on which each of the above thresholds is exceeded, by registered mail with return receipt requested, and indicate the number of shares held.

If not declared, any shares held in excess of the threshold that should have been declared will be deprived of voting rights at Shareholders' Meetings if, at a Shareholders' Meeting, the failure to make a declaration is acknowledged and if one or more shareholders holding collectively at least 3% of the Corporation's share capital or voting rights so request at that Meeting.

Any individual or legal entity is also required to notify the Corporation in due form and within the time limits stated above when their direct or indirect holdings fall below each of the thresholds mentioned above.

Notifications must be sent to the Head of Investor Relations, contact details provided in point 6.6.6 of this chapter.

6.4.1.5 TEMPORARY TRANSFER OF SECURITIES

Pursuant to legal provisions, any legal entity or individual (with the exception of those described in paragraph IV-3 of Article L. 233-7 of the French Commercial Code) holding alone or in concert a number of shares representing more than two percent of the Corporation's voting rights pursuant to one or more temporary transfer or similar operations as described in Article L. 22-10-48 of the aforementioned Code is required to notify the Corporation and the AMF of the number of shares temporarily owned no later than the second business day preceding the Shareholders' Meeting at midnight (Paris time).

Notifications must be emailed to the Corporation at the following address: holding.df-declarationdeparticipation@totalenergies.com.

If no notification is sent, any shares acquired under any of the above temporary transfer operations will be deprived of voting rights at the relevant Shareholders' Meeting and at any Shareholders' Meeting that may be held until such shares are transferred again or returned.

6.4.1.6 SHAREHOLDERS' AGREEMENTS

TotalEnergies SE is not aware of any agreements among its shareholders.

6.4.2 Employee shareholding

As of December 31, 2021, based on the definition of employee shareholding set forth in Article L. 225-102 of the French Commercial Code and Article 11 paragraph 6 of the Corporation's Articles of Association, the Company's employees held, directly or indirectly, 180,414,839 TotalEnergies shares, representing 6.8% of the Corporation's share capital and 11.4% of the voting rights, distributed as follows:

FCPE TotalEnergies Actionnariat France	111,110,434
FCPE TotalEnergies Actionnariat International Capitalisation	38,763,329
FCPE TotalEnergies France Capital+	5,106,060
FCPE TotalEnergies Intl Capital	2,100,593
Shares subscribed by employees in the US	1,538,238
Shares subscribed by employees in Italy, Germany, Spain and Denmark	1,178,625
TotalEnergies shares resulting from the exercise of stock options and held as registered shares within a Company Savings Plan	1,398,229
TotalEnergies performance shares granted to employees	19,219,331
TOTAL SHARES HELD BY EMPLOYEES	**180,414,839**

The management of each of the collective investment funds (FCPEs) mentioned above is controlled by a dedicated Supervisory Board, two thirds of its members representing holders of fund units and one third representing the company. In accordance with legal provisions, the employees representing the unitholders are elected from among the unitholder employees as a whole based on the number of units held by each unitholder and, for the exercise of the voting rights attached to the securities issued by the company, after discussion in the presence of the company representatives, the voting operations take place without the latter being present. The Supervisory Board is responsible for reviewing the collective investment fund's management report and annual financial statements, as well as the financial, administrative and accounting management of the fund, exercising voting rights attached to portfolio securities, deciding contributions of securities in case of a public tender offer, deciding mergers, spin-offs or liquidations, and granting its approval prior to changes in the rules and procedures of the collective investment fund in the conditions provided for by the rules and procedures.

These rules and procedures also stipulate a simple majority vote for decisions, except for decisions requiring a qualified majority vote of two thirds plus one related to a change in a fund's rules and procedures, its conversion or disposal.

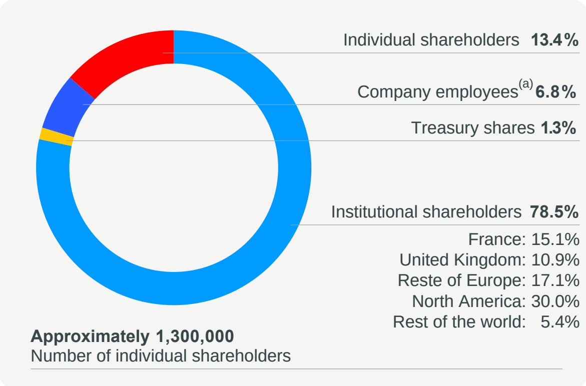
For employees holding shares outside of the employee collective investment funds mentioned in the table above, voting rights are exercised individually.

The information regarding shares held by the administration and management bodies is set forth in point 4.1.6 of chapter 4.

6.4.3 Shareholding structure

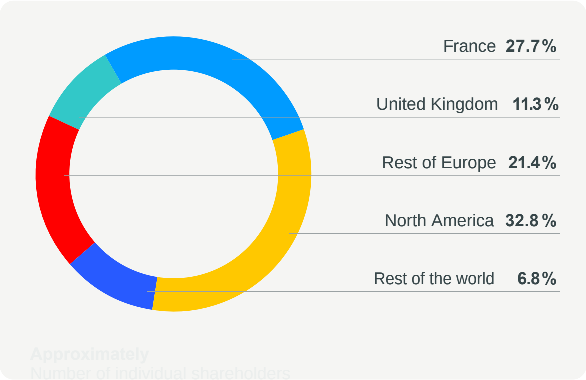
Estimate as of December 31, 2021, based on the request for the identification of shareholders made on that date, pursuant to Article L. 228-2 of the French Commercial Code.

By shareholder type



(a) Based on the definition of employee shareholding set forth in Article L. 225-102 of the French Commercial Code and Article 11 paragraph 6 of the Corporation's Articles of Association.

By area[(a)]



(a) Excluding treasury shares.

The number of individual shareholders of TotalEnergies SE increased in 2021 compared to 2020, due to an organic growth of TotalEnergies SE's shareholder base, to a better identification of final shareholders by financial institutions (Shareholder Rights Directive, so-called SRD II), and to the consideration of the number of individual shareholders holding ADRs in the United States (around 590,000).

6.6 Investor relations

6.6.1 Documents on display

Information and documents regarding TotalEnergies SE, its bylaws and the Corporation's Statutory and Consolidated Financial Statements for the year ended December 31, 2021, or previous fiscal years, may be consulted at its registered office pursuant to the legal and regulatory provisions in force, as well as on TotalEnergies' website.

In addition, TotalEnergies SE's Reference Documents or Universal Registration Documents (including the annual financial reports) and the interim financial reports filed with the French Financial Markets Authority (*Autorité des marchés financiers*) for each of the past 10 financial years are available on the Corporation's website (under Investors/Publications and regulated information). The Company's half-yearly results and outlook presentations, as well as the quarterly financial information, are also available on the TotalEnergies website.

Furthermore, in order to meet its obligations related to the listing of its shares in the United States, the Corporation also files an annual report on Form 20-F, in English, with the SEC. This report is also available on the Corporation's website.

6.6.2 Relationships with institutional investors, financial analysts and individual shareholders

Members of the Company's General Management and Investor Relations regularly meet with institutional investors and financial analysts in the leading financial centers throughout the world.

In 2021, despite the health context, the Company kept up a sustained rate of meetings, mainly held by videoconference. Approximately 1,500 meetings were held.

Each year, two main presentations are given to the financial community: one in February following the publication of the results for the previous fiscal year, and the other in September to present the Company's outlook and objectives. A series of meetings is held after each of these presentations. In addition, each year the Chief Financial Officer hosts three conference calls to discuss results for the first, second and third quarters of the year. The information presented and broadcast at these events are available on the TotalEnergies website.

With a dedicated team, the Company also maintains an ongoing dialogue with investors, extra-financial analysts and extra-financial rating agencies on ESG (Environment Social Governance) issues. In all, more than 200 ESG meetings were organized in France and abroad in 2021. In this context, the Lead Independent Director participated in a roadshow in March 2021 during which he met with several investors. The Lead Independent Director also took part with the Chairman and Chief Executive Officer in a meeting with the Climate Action 100+ investor coalition in October 2021.

In accordance with the resolution approved by the shareholders in May 2021, regarding TotalEnergies' ambitions for sustainable development and energy transition toward carbon neutrality, the Board of Directors will report on the progress made in implementing these ambitions at the Shareholders' Meeting on May 25, 2022. With this in mind, the Board of Directors will adopt a 'Sustainability & Climate - Progress Report 2022', which will be submitted to a shareholder advisory vote at the Annual Shareholders' Meeting on May 25, 2022. It will be published and presented on March 24, 2022, during a Strategy, Sustainability & Climate investor meeting.

In addition, the Company has an ISO 9001 certified team dedicated to relationships with individual shareholders and offering a comprehensive communication package, featuring:

- a direct-line, email address, and postal address (refer to point 6.6.6 of this chapter);
- documentation and material provided for individual shareholders (e.g., the shareholders' newsletter, e-newsletter, etc.);
- shareholder meetings and fairs in France and abroad;
- the Shareholders' Club, which organizes visits to industrial facilities, cultural events sponsored by the TotalEnergies Foundation and conferences about the Company;
- the Shareholders' e-Advisory Committee, which expresses its views on the communication service as a whole.

The documentation on relationships with individual shareholders is available on the TotalEnergies website (under Investors/Individual shareholders).

This team also organizes the Annual Shareholders' Meeting. In the context of the COVID-19 pandemic and the fight against its spread, and in view of the state of sanitary emergency declared until June 1, 2021, in order to avoid exposing shareholders to health risks, the Board of Directors decided to hold the Annual Shareholders' Meeting on May 28, 2021 behind closed doors, i.e., without the physical presence of shareholders and other members and persons entitled to attend.

No admission card was therefore issued and shareholders were invited to exercise their voting rights prior to the Shareholders' Meeting, either by Internet via the secure Votaccess platform, by returning their postal voting form or by giving a proxy. As the Company is particularly committed to preserving this key moment in the expression of shareholder democracy, it took care to implement the necessary means to facilitate remote participation by shareholders. They were able to follow the meeting in full and live, thanks to its broadcast on the Company's website and on the Twitter and LinkedIn networks. Shareholders also had the opportunity to ask questions online via a dedicated platform accessible from the Company's website four days before the Meeting and live. More than 500 questions were received. As every year, the Chairman and Chief Executive Officer spent an hour answering them after the questions had been classified by major themes. The replay of the Shareholders' Meeting remains accessible on the TotalEnergies website.

6.6.3 Registered shareholding

TotalEnergies shares can be held in bearer form or registered form. In the latter case, shareholders are identified by TotalEnergies SE, in its capacity as the issuer, or by its agent, Société Générale Securities Services, which is responsible for keeping the register of shareholders' registered shares.

REGISTERED SHARES

There are two forms of registration:

- administered registered shares: shares are registered with TotalEnergies through the Corporation's agent, but the holder's financial intermediary continues to administer them (sales, purchases, coupons, etc.);
- pure registered shares: TotalEnergies holds and directly administers shares on behalf of the holder through the Corporation's agent (sales, purchases, coupons, Shareholders' Meeting notices, etc.), so that the shareholder does not need to appoint a financial intermediary.

MAIN ADVANTAGES OF REGISTERED SHARES

The advantages of registered shares include:

- double voting rights if the shares are held continuously for more than two successive years (refer to point 7.2.4.1 of chapter 7);
- a customer relations center, Nomilia, available in six languages 24/7 by phone on +33 (0)2 51 85 67 89 (local call rate) with access to an advisor from Société Générale Securities Services, from Monday to Friday (business days) from 8.30 a.m. to 6.00 p.m., Paris time.
- registration as a recipient of all information published by the TotalEnergies for its shareholders;
- the ability to join the TotalEnergies Shareholders' Club by holding at least 50 shares.

The advantages of pure registered shares, in addition to those of administered registered shares, include:

- no custodial fees;
- easier placement of market orders(1) (phone, mail, fax, Internet);
- brokerage fees of 0.19% (incl. tax) of the gross amount of the trade, with no minimum charge and up to €1,000 per trade;
- the option to view and manage shareholdings online via the Sharinbox site.

To convert TotalEnergies shares into pure registered shares, shareholders must fill out a form that can be obtained upon request from the Individual Shareholder Relations Department and send it to their financial intermediary.

6.6.4 Forecast financial calendar for 2022

February 10	Results of the fourth quarter and full year 2021 and Investors' Day
March 22	Ex-dividend date for the third 2021 interim dividend
March 24	Investors' meeting Strategy, Sustainability & Climate
April 28	Results of the first quarter of 2022
May 25	2022 Annual Shareholders' Meeting in Paris
June 21	Ex-dividend date for the 2021 final dividend[a]
July 28	Results of the second quarter and first half of 2022
September 21	Ex-dividend date for the first 2022 interim dividend[b]
September 27	Investors' Day (outlook and objectives)
October 27	Results of the third quarter and first nine months of 2022

(a) Subject to approval at the Annual Shareholders' Meeting on May 25, 2022.
(b) Subject to the Board of Directors' decision.

The full calendar including Shareholders' Meetings and investor fairs is available on the TotalEnergies website (under Investors).

6.6.5 Forecast financial calendar for 2023

January 2	Ex-dividend date for the second 2022 interim dividend [a]
March 22	Ex-dividend date for the third 2022 interim dividend[a]
May 26	2023 Annual Shareholders' Meeting in Paris
June 21	Ex-dividend date for the final 2022 dividend[b]

(a) Subject to the Board of Directors' decision.
(b) Subject to approval at the Annual Shareholders' Meeting on May 26, 2023.

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(1) Provided the subscriber has signed the market service agreement. Signing this agreement is free of charge.

6.6.6 Contacts

Mr. Renaud Lions
Senior Vice President of Investor Relations, TotalEnergies SE

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Tel: +1 (713) 483-5070

Mr. Vincent Granier
Head of Individual Shareholder Relations

TotalEnergies SE Individual Shareholder Relations Department
Tour Coupole 2, Place Jean Millier
92078 Paris La Défense Cedex, France
Email address: actionnaires@totalenergies.com

Tel. (Monday to Friday from 9:00 a.m. to 12:30 p.m. and from 1:30 p.m. to 5:00 p.m., Paris time):

- from France: 0800 039 039 (toll-free number from a landline);
- from Belgium: 02 288 3309;
- from the United Kingdom: 020 7719 6084;
- from Germany: 30 2027 7700;
- from other countries: +33 1 47 44 24 02.

7

General information

[REDACTED SECTION: CERTAIN TEXT HAS BEEN REDACTED.]

7.1 Share capital

7.1.1 Amount of share capital

On February 9, 2022, the Board of Directors decided to decrease the share capital of TotalEnergies SE by way of cancellation of 30,665,526 treasury shares. As of February 9, 2022, the share capital of the Corporation thus amounts to €6,524,409,507.50 and is divided into 2,609,763,803 shares.

As of December 31, 2021, the share capital amounted to €6,601,073,322.50, divided into 2,640,429,329(1) ordinary shares, each with a par value of €2.50. All the shares issued have been fully paid up.

7.1.2 Features of the shares

There is a single category of shares. The shares are registered or in bearer form, at the shareholder's discretion. Double voting rights are granted to registered shares under the conditions set out in point 7.2.4.1 of this chapter.

The shares are in book-entry form and registered in an account.

7.1.3 Potential capital as of December 31, 2021

The potential share capital consists of the existing share capital to which are added the new TotalEnergies shares that could be issued in the event of (i) the conversion or reimbursement in shares of all the securities giving access to the share capital, or (ii) the exercise of all the share subscription options.

As of December 31, 2021, there were no financial instruments likely to result in the creation of new TotalEnergies shares.

7.1.4 History of changes in share capital since 2019

Transaction acknowledgment date	**Shares created/ (canceled)** *(number of shares)*	**Type of transaction** *(share capital increase/reduction)*	**Nominal amount of the transaction** *(euros)*	**Issuance/ share premium per share** *(euros)*	**Share capital after the transaction** *(euros)*	**Shares composing the capital after the transaction** *(number of shares)*
Fiscal year 2019						
January 14, 2019	2,096,571	Increase - Exercise of share subscription options in fiscal year 2018	5,241,427.50	n/a(a)	6,601,505,017.50	2,640,602,007
January 14, 2019	1,212,767	Increase - Payment of the 2018 second interim dividend	3,031,917.50	45.77	6,604,536,935.00	2,641,814,774
April 8, 2019	14,864,169	Increase - Payment of the 2018 third interim dividend	37,160,422.50	46.80	6,641,697,357.50	2,656,678,943
June 6, 2019	10,047,337	Share capital increase reserved for employees	25,118,342.50	37.60(b)	6,666,815,700.00	2,666,726,280
October 29, 2019	264,230	Increase - Exercise of share subscription options in fiscal year 2019	660,575.00	30.5(c)	6,667,476,275.00	2,666,990,510
December 11, 2019	(65,109,435)	Reduction – Cancellation of treasury shares	(162,773,587.50)	n/a	6,504,702,687.50	2,601,881,075

(a) The shares created result from the exercise of share subscription options in fiscal year 2018 under the 2010 and 2011 share subscription options plans.

(b) Only the 9,845,111 shares subscribed by the employees as part of the share capital increase included an issuance premium. The 202,226 shares created for the matching contribution, in the form of free shares, pursuant to Article L. 3332-21 of the French Labor Code, did not include an issuance premium.

(c) The shares created result from the exercise of share subscription options in fiscal year 2019 under the 2011 share subscription options plan.

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(1) Based on the number of shares composing the capital, published by the Corporation in accordance with Article 223-16 of the General Regulation of the French Financial Markets Authority.

Transaction acknowledgment date	**Shares created/ (canceled)** *(number of shares)*	**Type of transaction** *(share capital increase/reduction)*	**Nominal amount of the transaction** *(euros)*	**Issuance/share premium per share** *(euros)*	**Share capital after the transaction** *(euros)*	**Shares composing the capital after the transaction** *(number of shares)*
Fiscal year 2020						
April 27, 2020	18,879	Increase - Deferred contribution pursuant to the 2015 capital increase reserved for employees	47,197.50	n/a[a]	6,504,749,885.00	2,601,899,954
June 11, 2020	13,160,383	Share capital increase reserved for employees	32,900,957.50	23.70[b]	6,537,650,842.50	2,615,060,337
July 16, 2020	38,063,688	Increase - Payment of the 2019 final dividend	95,159,220.00	26.30	6,632,810,062.50	2,653,124,025

(a) The creation of 18,879 shares as deferred contribution to the 2015 capital increase reserved for employees, in the form of free shares pursuant to Article L. 225-197-1 of the French Commercial Code, did not include an issuance premium.

(b) Only the 12,952,925 shares subscribed by the employees as part of the share capital increase included an issuance premium. The 207,458 shares created for the matching contribution, in the form of free shares pursuant to Article L. 3332-21 of the French Labor Code, did not include an issuance premium.

Transaction acknowledgment date	**Shares created/ (canceled)** *(number of shares)*	**Type of transaction** *(share capital increase/reduction)*	**Nominal amount of the transaction** *(euros)*	**Issuance/share premium per share** *(euros)*	**Share capital after the transaction** *(euros)*	**Shares composing the capital after the transaction** *(number of shares)*
Fiscal year 2021						
February 8, 2021	(23,284,409)	Reduction – Cancellation of treasury shares	(58,211,022.5)	n/a	6,574,599,040.00	2,629,839,616
June 9, 2021	10,589,713	Share capital increase reserved for employees	26,474,282.50	28.00[a]	6,601,073,322.50	2,640,429,329

(a) Only the 10,376,190 shares subscribed by the employees as part of the share capital increase included an issuance premium. The 213,523 shares created for the matching contribution, in the form of free shares pursuant to Article L. 3332-21 of the French Labor Code, did not include an issuance premium.

On February 9, 2022, the Board of Directors decided to decrease the share capital of TotalEnergies SE by way of cancellation of 30,665,526 treasury shares. As of February 9, 2022, the share capital of the Corporation thus amounts to €6,524,409,507.50 and is divided into 2,609,763,803 shares.

7.2 Articles of Association; other information

The Annual Shareholders' Meeting on May 29, 2020, approved to transform TOTAL S.A. into a European company *(Societas Europaea* or SE). The legal status of a European company is common to all the countries in the European Union and is used by an increasing number of companies in France and in Europe. This status better reflects the economic and social reality of TotalEnergies and ensures that its European dimension is fully recognized.

The Corporation officially became a European company on the date it was registered under its new status in the Nanterre Trade and Companies Register, on July 16, 2020. The process was completed without the creation of a new legal entity and will have no impact on the Company's governance, activities, tax affairs or organization, where it is listed or the location of the head office, which remained in France.

The Shareholders' Meeting on May 28, 2021 decided to change the corporate name to TotalEnergies SE, thereby anchoring Corporation's transformation into a multi-energy company.

7.2.1 General information concerning the Corporation

The Corporation's name is TotalEnergies SE.

TotalEnergies SE is a European company governed by French law. The headquarters are located at 2, Place Jean Millier, La Défense 6, 92400 Courbevoie, France. It is registered in the Nanterre Trade and Companies Register under No. 542 051 180.

The Corporation's term was extended until March 28, 2119, i.e., it will expire on March 28, 2119, unless dissolved prior to this date or extended.

Fiscal year: from January 1 to December 31 of each year.

LEI (Legal Entity Identifier): 529900S21EQ1BO4ESM68.

EC Registration Number: FR 59 542 051 180.

APE Code (NAF): 111Z until January 7, 2008; 7010Z since January 8, 2008.

The Corporation's Articles of Association are on file with K.L. Associés, Notaries in Paris.

The telephone number is +33 (0)1 47 44 45 46 and its Internet address is totalenergies.com.

7.2.2 Corporate purpose

The purpose of the Corporation, directly and indirectly and in all countries, is:

1. All activities relating to production and distribution of all forms of energy, including electricity from renewables;
2. The search for and extraction of mining deposits, particularly all forms of hydrocarbons, and the production, refining, transportation, processing and trading in said materials as well as their derivatives and by-products;
3. All activities relating to the chemicals sector in all its forms and to the rubber sector;

And in general, all financial, commercial, industrial, securities or real estate transactions, and acquisitions of interests or holdings in any form whatsoever, in any business or company existing or to be created that may relate, directly or indirectly, to the above-mentioned purposes or to any similar or related purposes, of such nature as to promote the Company's expansion or its development.

7.2.3 Provisions of the Articles of Association governing the administration and management bodies

7.2.3.1 ELECTION OF DIRECTORS AND TERM OF OFFICE

Directors are elected by the Shareholders' Meeting, which determines the duration of their term of office not to exceed three years, up to a maximum number of directors authorized by law (currently 18), subject to the legal provisions that allow the term to be extended until the next Ordinary Shareholders' Meeting called to approve the financial statements for the previous fiscal year.

In addition, one director representing the employee shareholders is elected by the Shareholders' Meeting for a three-year term from a list of at least two candidates preselected by the employee shareholders under the conditions provided for by the laws, regulations and Articles of Association in force. However, his or her term shall expire automatically once this director is no longer an employee or a shareholder. The Board of Directors may meet and conduct valid deliberations until the date his or her replacement is named.

In addition, a director representing the employees is designated by the Corporation's Central Social and Economic Committee. Where the number of directors appointed by the Shareholders' Meeting is greater than eight(1), a second director representing the employees is designated by the TotalEnergies European Works Council (the SE Committee). In accordance with applicable legal provisions, the director elected by the Central Social and Economic Committee must have held an employment contract with the Corporation or one of its direct or indirect subsidiaries, whose registered office is based in mainland France, for at least two years prior to appointment. By way of derogation, the second director elected by the SE Committee must have held an employment contract with the Corporation or one of its direct or indirect subsidiaries for at least two years prior to appointment. The term of office for a director representing the employees is three years. However, the term of office ends following the Ordinary Shareholders' Meeting called to approve the financial statements for the last fiscal year and held in the year during which the said director's term of office expires.

7.2.3.2 AGE LIMIT OF DIRECTORS

On the closing date of each fiscal year, the number of individual directors over the age of 70 may not be greater than one third of the directors in office. If that number is exceeded, the oldest Board member is automatically considered to have resigned. The permanent representative of a legal entity director must be less than 70 years old.

7.2.3.3 AGE LIMIT OF THE CHAIRPERSON OF THE BOARD AND THE CHIEF EXECUTIVE OFFICER

The office of the Chairperson of the Board of Directors automatically ceases on his or her 70th birthday at the latest.

To hold this office, the Chief Executive Officer must be under the age of 67. When the age limit is reached during his or her duties, such duties automatically cease, and the Board of Directors elects a new Chief Executive Officer. However, his or her duties as Chief Executive Officer will continue until the date of the Board of Directors' meeting aimed at electing his or her successor. Subject to the age limit specified above, the Chief Executive Officer can always be re-elected.

The age limits specified above are stipulated in the Corporation's Articles of Association.

7.2.3.4 MINIMUM INTEREST IN THE COMPANY HELD BY DIRECTORS

Each director (other than the director representing employee shareholders or the directors representing employees) must own at least 1,000 shares during his or her term of office. If, however, any director ceases to own the required number of shares, they may adjust their position subject to the conditions set by law. The director representing employee shareholders must hold, during his or her term of office, either individually or through a Company Savings Plan (*Fonds Commun de Placement d'Entreprise*, FCPE) governed by Article L. 214-165 of the French Monetary and Financial Code, at least one share or a number of units in said fund equivalent to at least one share. The directors representing employees are not required to be shareholders.

7.2.3.5 MAJORITY RULES FOR BOARD MEETINGS

Decisions are adopted by a majority vote of the directors present or represented. In the event of a tie vote, the person chairing the meeting shall cast the deciding vote.

When permitted by applicable regulations, directors participating in the meeting by means of video conferencing or telecommunications as defined by decree shall be deemed present for the calculation of the quorum and the majority.

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(1) Neither the director representing employee shareholders, elected by the Annual Shareholders' Meeting, nor the director(s) representing employees are taken into consideration when calculating the eight-member threshold, which is assessed on the date on which the employee director(s) is/are elected.

7.2.3.6 RULESOFPROCEDURE AND COMMITTEES OF THE BOARD OF DIRECTORS

Refer to point 4.1.2 of chapter 4.

7.2.3.7 FORM OF MANAGEMENT

Management of the Corporation is assumed either by the Chairperson of the Board of Directors (who then holds the title of the Chairman and Chief Executive Officer), or by another person appointed by the Board of Directors with the title of Chief Executive Officer. It is the responsibility of the Board of Directors to choose between these two forms of management under the majority rules described above.

At its meeting on December 16, 2015, the Board of Directors decided to reunify the positions of Chairperson and Chief Executive Officer of the Company as from December 19, 2015. Since that date, Mr. Pouyanné has held the position of Chairman and Chief Executive Officer of TotalEnergies SE. After his term of office as director was renewed for a three-year period at the Shareholders' Meeting on May 28, 2021, the Board of Directors reappointed Mr. Pouyanné as Chairman and Chief Executive Officer for the same period, expiring at the end of the 2024 Shareholders' Meeting called to approve the financial statements for fiscal year 2023. For additional information on the governance structure, refer to point 4.1.5.1 of chapter 4.

7.2.4 Rights, privileges and restrictions attached to the shares

In addition to the voting right, each share entitles the holder to a portion of the corporate assets, distributions of profits and liquidation dividend that is proportional to the number of shares issued, subject to the laws and regulations in force, as well as the Articles of Association.

With the exception of double voting rights, no privilege is attached to a specific class of shares or to a specific class of shareholders.

7.2.4.1 DOUBLE VOTING RIGHTS

Double voting rights, in relation to the portion of share capital they represent, are granted to all fully paid-up registered shares held continuously in the name of the same shareholder for at least two years(1), and to registered shares allotted free of charge to a shareholder in the case of a share capital increase by means of capitalization of reserves, profits or premiums on the basis of existing shares which entitle the shareholder to a double voting right.

7.2.4.2 LIMITATION OF VOTING RIGHTS

Article 18 of the Corporation's Articles of Association provides that at Shareholders' Meetings, no shareholder may cast, by himself or through his agent, on the basis of the single voting rights attached to the shares he holds directly or indirectly and the shares for which he holds powers, more than 10% of the total number of voting rights attached to the shares of the Corporation. In the case of double voting rights, by himself or through his agent, this limit may be exceeded, taking only the resulting additional voting rights into account, provided that the total voting rights that he exercises do not exceed 20% of the total voting rights associated with the shares of the Corporation.

Additionally, Article 18 of the Articles of Association also provides that the limitation on voting rights no longer applies, absent any decision of the Shareholders' Meeting, if an individual or a legal entity acting solely or together with one or more individuals or entities acquires at least two thirds of the shares of the Corporation following a public tender offer for all the shares of the Corporation. In that case, the Board of Directors acknowledges that the limitation no longer applies and carries out the necessary procedure to modify the Corporation's Articles of Association accordingly.

Once acknowledged, the fact that the limitation no longer applies is final and applies to all Shareholders' Meetings following the public tender offer under which the purchase of at least two thirds of the overall number of shares of the Corporation was made possible, and not solely to the first meeting following that public tender offer.

Since in such circumstances the limitation no longer applies, such limitation on voting rights cannot prevent or delay any takeover of the Corporation, except in case of a public tender offer where the bidder does not acquire at least two thirds of the Corporation's shares.

7.2.4.3 FRACTIONAL RIGHTS

Whenever it is necessary to own several shares in order to exercise a right, a number of shares less than the number required does not give the owners any right with respect to the Corporation; in such case, the shareholders are responsible for aggregating the required number of shares.

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(1) This term is not interrupted and the right acquired is retained in case of a conversion of bearer to bearer pursuant to intestate or testamentary succession, share of community property between spouses or donation to the spouse or relatives entitled to inherit (Article 18 § 6 of the Articles of Association).

7.2.4.4 STATUTORY ALLOCATION OF PROFITS

The Corporation may distribute dividends under the conditions provided for by the French Commercial Code and the Corporation's Articles of Association.

The net profit for the period is equal to the net income minus general expenses and other personnel expenses, all amortization and depreciation of the assets, as well as all provisions for commercial and industrial contingencies.

From this profit, minus prior losses, if any, the following items are deducted in the order indicated:

- 5% to constitute the legal reserve fund, until said fund reaches 10% of the share capital;
- the amounts set by the Shareholders' Meeting in order to fund reserves for which it determines the allocation or use; and
- the amounts that the Shareholders' Meeting decides to retain.

The remainder is paid to the shareholders as dividends.

The Board of Directors may pay interim dividends.

The Shareholders' Meeting held to approve the financial statements for the fiscal year may decide to grant shareholders an option, for all or part of the dividend or interim dividends, between payment of the dividend in cash or in shares.

The Shareholders' Meeting may decide at any time, but only based on a proposal by the Board of Directors, to make a full or partial distribution of the amounts in the reserve accounts, either in cash or in shares of the Corporation.

Dividends that have not been claimed at the end of a five-year period are forfeited to the French State.

7.2.5 Amending shareholders' rights

Any amendment to the Articles of Association must be approved or authorized by the Shareholders' Meeting voting with the quorum and majority required by the laws and regulations governing Extraordinary Shareholders' Meetings.

7.2.6 Shareholders' Meetings

Refer to point 4.4.3 of chapter 4 for the terms and conditions of the notice of and admission to Shareholders' Meetings.

7.2.7 Identification of the holders of bearer shares

In accordance with Article 9 of its Articles of Association, TotalEnergies SE is entitled to make use of the legal provisions regarding the identification of holders of securities that grant an immediate or future voting right at the Corporation's Shareholders' Meetings.

Law No. 2019-486 of May 22, 2019, on the growth and transformation of businesses amended Article L. 228-2 of the French Commercial Code to stipulate that this ability to make use of the procedure is a matter of law, and any provision of the Articles of Association to the contrary shall be deemed unwritten.

7.2.8 Thresholds to be declared according to the Articles of Association

Any individual or entity who directly or indirectly acquires a percentage of the share capital, voting rights or rights giving future access to the share capital of the Corporation that is equal to or greater than 1%, or a multiple of this percentage, is required to notify the Corporation within 15 days of crossing each threshold, by registered mail with return receipt requested, and to declare the number of securities held.

In the event that the shares above these thresholds are not declared, as specified in the preceding paragraph, any shares held in excess of the threshold that should have been declared will be deprived of voting rights at Shareholders' Meetings if, at a Shareholders' Meeting, the failure to make a declaration is acknowledged and if one or more shareholders holding collectively at least 3% of the Corporation's share capital or voting rights so request at that meeting.

All individuals and entities are also required to notify the Corporation, in due form and within the time limits stated above, when their direct or indirect holdings fall below each of the thresholds mentioned in the first paragraph.

7.2.9 Changes in the share capital

The Corporation's share capital may be changed only under the conditions stipulated by the legal and regulatory provisions in force. No provision of the Articles of Association, charter, or internal regulations provide for more stringent conditions than the law governing changes in the Corporation's share capital.

The French Commercial Code stipulates that shareholders hold, in proportion to their number of shares, a preemptive subscription right to shares issued for cash to increase the share capital. The Extraordinary Shareholders' Meeting can decide, under the conditions provided for by law, to remove this preemptive subscription right.

9

Supplemental oil and gas information (unaudited)

9.1 Oil and gas information pursuant to FASB Accounting Standards Codification 932

Proved reserves estimates are calculated according to the Securities and Exchange Commission (SEC) Rule 4-10 of Regulation S-X set forth in the "Modernization of Oil and Gas Reporting" release (SEC Release n° 33-8995) and the Financial Accounting Standard Board (FASB) Accounting Standards Update regarding Extractive Activities – Oil and Gas (ASC 932), which provide definitions and disclosure requirements.

9.1.1 Assessment process for reserves

Reserves estimations are performed by experienced geoscientists, engineers and economists under the supervision of each subsidiary's General Management. Staff involved in reserves evaluation are trained to follow SEC-compliant internal guidelines and policies regarding criteria that must be met before reserves can be considered as proved. All of the Company's proved reserves held in consolidated subsidiaries and equity affiliates are estimated within the affiliates of the Company with the exception of the proved reserves held by the equity affiliate PAO Novatek. The assessment of the net proved liquids and natural gas reserves of certain properties owned by PAO Novatek was completed as of December 31, 2021, in accordance with the standards applied by the Company, based on an independent third-party report from DeGolyer & MacNaughton. These independently assessed reserves account for 58% of the total net proved reserves TotalEnergies held in Russia as of December 31, 2021.

The technical validation process relies on a Technical Reserves Committee that is responsible for approving proved reserves variations above a certain threshold and technical evaluations of reserves associated with an investment decision that requires approval from the Exploration & Production Executive Committee. The Chairman of the Technical Reserves Committee is appointed by the President of Exploration & Production and the President of the OneTech Branch, and its members have expertise in reservoir engineering, production geology, production geophysics, reserves methodology, drilling and development studies.

An internal control process related to reserves estimation is formalized and involves the following elements:

- a central Reserves Entity the role of which is to consolidate, document and archive the Company's reserves; to ensure coherence of evaluations worldwide; to maintain the Corporate Reserves Guidelines Standards in line with SEC guidelines and policies; to deliver training on reserves evaluation and classification; and to conduct periodically in-depth technical review of reserves for each affiliate;
- an annual review of affiliate reserves conducted by an internal group of specialists selected for their expertise in geosciences and engineering and their knowledge of the affiliates. All members of this group, chaired by the Reserves Vice-President of the Company and composed of at least three Technical Reserves Committee members, are knowledgeable in the SEC guidelines for proved reserves evaluation. Their responsibility is to provide an independent review of significant reserves changes proposed by affiliates and ensure that reserves are estimated using appropriate standards and procedures;
- Following the annual review of the reserves, a SEC Reserves Committee chaired by the Exploration & Production Senior Vice President Finance and Economics and comprised of the North Sea-Russia & EP New Business, the Legal EP, the Finance EP, the Reserves Vice Presidents as well as the Chairman of the Technical Reserves Committee, approves the elements of the SEC reserves booking proposals concerning criteria that are not dependent upon technical expertise (reservoir, geosciences, etc.). The results of the annual review and the proposals for including revisions or additions of SEC Proved Reserves are presented to the Exploration & Production Executive Committee for approval before final validation by the Company's General Management and Chief Financial Officer.

The reserves evaluation and control process are audited periodically by the Company's internal auditors.

The Reserves Vice-President in charge of the central Reserves Entity is appointed by the President of Exploration & Production. As Reserves Vice-President, he supervises the Reserves Entity, chairs the annual review of reserves, and is member of the Technical Reserves Committee and the SEC Reserves Committee. The Reserves Vice-President is also member of the OneTech Development Committee. The current Reserves Vice-President has over 32 years of experience in the oil and gas industry, with skills in geosciences and reservoir engineering, as well as in the field of reserves evaluation and control process. He holds an engineering degree from Ecole Nationale Supérieure de Géologie de Nancy, France and a Master of Science from Stanford University, California. He is an active member of the SPE (Society of Petroleum Engineers) for more than 30 years.

9.1.2 Proved developed reserves

As of December 31, 2021, TotalEnergies' proved developed reserves of hydrocarbons (oil, bitumen and gas) were 7,980 Mboe and represented 66% of the proved reserves. As of December 31, 2020, proved developed reserves of hydrocarbons were 7,985 Mboe and represented 65% of the proved reserves. As of December 31, 2019, proved developed reserves of hydrocarbons were 8,532 Mboe and represented 67% of the proved reserves.

9.1.3 Proved undeveloped reserves

As of December 31, 2021, TotalEnergies' proved undeveloped reserves (PUDs) of hydrocarbons were 4,082 Mboe compared to 4,343 Mboe as of December 31, 2020 and 4,149 Mboe as of December 31, 2019.

The variation between December 31, 2020 and December 31, 2021 is due to -503 Mboe converted from PUDs to proved developed reserves, -365 Mboe of net revisions of previous estimates, -37 Mboe from sales, +620 Mboe related to extensions and discoveries and +24 Mboe from acquisitions.

The revisions of previous estimates consist of +30 Mboe due to change of economic factor, -95 Mboe due to technical revisions mainly in Russia, and +181 Mboe due to improved recovery mainly in Brazil, Qatar and Norway. In addition, the context of sanctions against Russia that will be implemented by the Company, regardless of the consequences on its asset management, has led the Corporation not to qualify anymore as proved reserves as of December 31, 2021 the resources associated with the Arctic LNG 2 project, given the uncertainties of technological and financial sanctions on the ability to complete the Arctic LNG 2 project under construction, resulting in a revision of -481 Mboe.

Extensions and discoveries are mainly in Uganda, Russia and Oman.

Sales are mainly in Venezuela.

In 2021, out of 503 Mboe converted from PUDs to proved developed reserves, 430 Mboe of PUDs were converted to proved developed within the scope of development activity in Russia, Norway, United Arab Emirates, Australia, Brazil, Qatar and United States. This confirms once again the Company's ability to develop and bring into production large scale and complex projects.

In 2021, the costs incurred to develop proved undeveloped reserves were $4.7 billion, which represented 64% of 2021 development costs incurred, and were related to projects located for the most part in Norway, the United States, Nigeria, Qatar, Russia, Mozambique and Uganda.

The Company's PUDs that may remain undeveloped for five years or more after first disclosure (PUD5+) correspond to the remaining PUD on large scale and complex development projects and to field development projects the implementation of which is dependent on capacity constraints.

Although the Company has converted significant amount of reserves associated to large scale and complex projects from PUD5+ into developed reserves in the last years, those projects still hold PUD5+ that are expected to be developed over time as part of initial field development plans or additional development phases.

In addition, some projects are designed and optimized for a given production capacity that controls the pace at which the field is developed and the wells are drilled. At production start-up, only a portion of the proved reserves is developed to meet capacity constraints and contractual obligations.

Under these specific circumstances, the Company believes that it is justified to report those PUDs as proved reserves, despite the fact that some of these PUDs may remain undeveloped for more than five years.

9.1.4 Estimated proved reserves of oil, bitumen and gas

The following tables present, for oil, bitumen and gas reserves, an estimate of the Company's oil, bitumen and gas quantities by geographic areas as of December 31, 2021, 2020 and 2019.

Quantities shown correspond to proved developed and undeveloped reserves together with changes in quantities for 2021, 2020 and 2019.

The definitions used for proved, proved developed and proved undeveloped oil and gas reserves are in accordance with the revised Rule 4-10 of SEC Regulation S-X.

All references in the following tables to reserves or production are to the Company's entire share of such reserves or production. TotalEnergies's worldwide proved reserves include the proved reserves of its consolidated subsidiaries as well as its proportionate share of the proved reserves of equity affiliates.

Significant changes in proved reserves between 2020 and 2021 are in 9.1.3 paragraph and complemented below.

For consolidated subsidiaries, the revisions of +578 Mboe for the year 2021 were due to:

- +247 Mboe due to new information obtained from drilling and production history, notably underpinned by production ramp up for recent developments, mainly in United Arab Emirates, Norway, and Kazakhstan, as well as improved recovery mainly in Brazil;
- +490 Mboe linked to change of economic factor leading to extended economic life mainly in North America and in mature assets in North Sea and Gulf of Guinea;
- -159 Mboe resulting from contractual and royalty effects linked to high prices in 2021.

For consolidated subsidiaries, the acquisitions correspond to the recognition of proved reserves in Algeria and Brazil. The sales were completed in Nigeria and Gabon.

For equity affiliates, the revisions of -394 Mboe for the year 2021 were due to:

- -473 Mboe in Russia, mainly due to Arctic LNG 2;
- +79 Mboe due to new information obtained from drilling and production history and improved recovery projects mainly in Qatar.

For equity affiliates, the sales were completed in Venezuela.

9.1.4.1 CHANGES IN OIL, BITUMEN AND GAS RESERVES

	Consolidated subsidiaries						
Proved developed and undeveloped reserves *(in million barrels of oil equivalent)*	Europe (excl. Russia)	Russia	Africa (excl. North Africa)	Middle East and North Africa	Americas	Asia-Pacific	Total
BALANCE AS OF DECEMBER 31, 2018 – BRENT AT 71.43$/b	**1,381**	**10**	**1,613**	**1,962**	**1,799**	**1,358**	**8,123**
Revisions of previous estimates	52	2	113	211	76	40	494
Extensions, discoveries and other	–	–	1	1	76	41	119
Acquisitions of minerals in place	40	–	421	17	–	–	478
Sales of minerals in place	(3)	–	–	–	(1)	–	(4)
Production for the year	(170)	(2)	(249)	(175)	(131)	(106)	(833)
BALANCE AS OF DECEMBER 31, 2019 – BRENT T 62.74$/b	**1,300**	**10**	**1,899**	**2,016**	**1,819**	**1,333**	**8,377**
Revisions of previous estimates	106	4	61	175	(131)	61	276
Extensions, discoveries and other	–	–	19	<1	13	25	57
Acquisitions of minerals in place	–	–	–	206	–	–	206
Sales of minerals in place	(10)	–	–	(3)	–	(8)	(21)
Production for the year	(177)	(2)	(222)	(149)	(129)	(111)	(790)
BALANCE AS OF DECEMBER 31, 2020 – BRENT AT 41.32$/b	**1,219**	**12**	**1,757**	**2,245**	**1,572**	**1,300**	**8,105**
Revisions of previous estimates	231	(3)	134	51	132	33	578
Extensions, discoveries and other	17	<1	285	100	24	7	433
Acquisitions of minerals in place	–	–	–	41	12	–	53
Sales of minerals in place	–	–	(16)	–	–	–	(16)
Production for the year	(162)	(1)	(187)	(164)	(135)	(113)	(762)
BALANCE AS OF DECEMBER 31, 2021 – BRENT AT 69.23$/b	**1,305**	**8**	**1,973**	**2,273**	**1,605**	**1,227**	**8,391**

Minority interest in proved developed and undeveloped reserves as of							
December 31, 2019 – Brent at 62.74$/b	–	–	86	–	–	–	86
December 31, 2020 – Brent at 41.32$/b	–	–	52	–	–	–	52
DECEMBER 31, 2021 – BRENT AT 69.23$/b	**–**	**–**	**61**	**–**	**–**	**–**	**61**

	Equity affiliates						
Proved developed and undeveloped reserves *(in million barrels of oil equivalent)*	Europe (excl. Russia)	Russia	Africa (excl. North Africa)	Middle East and North Africa	Americas	Asia-Pacific	Total
BALANCE AS OF DECEMBER 31, 2018 – BRENT AT 71.43$/b	**–**	**2,525**	**55**	**1,209**	**138**	–	**3,927**
Revisions of previous estimates	–	85	–	41	(38)	–	88
Extensions, discoveries and other	–	538	–	18	–	–	556
Acquisitions of minerals in place	–	–	–	–	–	–	–
Sales of minerals in place	–	–	–	–	–	–	–
Production for the year	–	(175)	(8)	(82)	(2)	–	(267)
BALANCE AS OF DECEMBER 31, 2019 – BRENT AT 62.74$/b	**–**	**2,973**	**47**	**1,186**	**98**	–	**4,304**
Revisions of previous estimates	–	54	41	10	(19)	–	86
Extensions, discoveries and other	–	89	–	5	–	–	94
Acquisitions of minerals in place	–	–	–	–	–	–	–
Sales of minerals in place	–	–	–	–	–	–	–
Production for the year	–	(173)	(9)	(79)	(<1)	–	(261)
BALANCE AS OF DECEMBER 31, 2020 – BRENT AT 41.32$/b	–	**2,943**	**79**	**1,122**	**79**	–	**4,223**
Revisions of previous estimates	–	(473)	(3)	82	(<1)	–	(394)
Extensions, discoveries and other	–	187	–	–	–	–	187
Acquisitions of minerals in place	–	–	–	–	–	–	–
Sales of minerals in place	–	–	–	–	(78)	–	(78)
Production for the year	–	(180)	(7)	(79)	(1)	–	(267)
BALANCE AS OF DECEMBER 31, 2021 – BRENT AT 69.23$/b	**–**	**2,477**	**69**	**1,125**	**–**	**–**	**3,671**

Proved developed and undeveloped reserves *(in million barrels of oil equivalent)*	Consolidated subsidiaries and equity affiliates						
	Europe (excl. Russia)	Russia	Africa (excl. North Africa)	Middle East and North Africa	Americas	Asia-Pacific	Total
AS OF DECEMBER 31, 2019 – BRENT AT 62.74$/b							
Proved developed and undeveloped reserves	**1,300**	**2,983**	**1,946**	**3,202**	**1,917**	**1,333**	**12,681**
Consolidated subsidiaries	1,300	10	1,899	2,016	1,819	1,333	8,377
Equity affiliates	–	2,973	47	1,186	98	–	4,304
Proved developed reserves	**951**	**1,506**	**1,217**	**2,628**	**1,225**	**1,005**	**8,532**
Consolidated subsidiaries	951	8	1,211	1,604	1,181	1,005	5,960
Equity affiliates	–	1,498	6	1,024	44	–	2,572
Proved undeveloped reserves	**349**	**1,477**	**729**	**574**	**692**	**328**	**4,149**
Consolidated subsidiaries	349	2	688	412	638	328	2,417
Equity affiliates	–	1,475	41	162	54	–	1,732
AS OF DECEMBER 31, 2020 – BRENT AT 41.32$/b							
Proved developed and undeveloped reserves	**1,219**	**2,955**	**1,836**	**3,367**	**1,651**	**1,300**	**12,328**
Consolidated subsidiaries	1,219	12	1,757	2,245	1,572	1,300	8,105
Equity affiliates	–	2,943	79	1,122	79	–	4,223
Proved developed reserves	**816**	**1,470**	**1,083**	**2,763**	**859**	**994**	**7,985**
Consolidated subsidiaries	816	8	1,070	1,803	816	994	5,507
Equity affiliates	–	1,462	13	960	43	–	2,478
Proved undeveloped reserves	**403**	**1,485**	**753**	**604**	**792**	**306**	**4,343**
Consolidated subsidiaries	403	4	687	442	756	306	2,598
Equity affiliates	–	1,481	66	162	36	–	1,745
AS OF DECEMBER 31, 2021 – BRENT AT 69.23$/b							
Proved developed and undeveloped reserves	**1,305**	**2,485**	**2,042**	**3,398**	**1,605**	**1,227**	**12,062**
Consolidated subsidiaries	1,305	8	1,973	2,273	1,605	1,227	8,391
Equity affiliates	–	2,477	69	1,125	–	–	3,671
Proved developed reserves	**907**	**1,543**	**1,010**	**2,740**	**823**	**957**	**7,980**
Consolidated subsidiaries	907	7	1,005	1,789	823	957	5,488
Equity affiliates	–	1,536	5	951	–	–	2,492
Proved undeveloped reserves	**398**	**942**	**1,032**	**658**	**782**	**270**	**4,082**
Consolidated subsidiaries	398	1	968	484	782	270	2,903
Equity affiliates	–	941	64	174	–	–	1,179

9.1.4.2 CHANGES IN OIL & BITUMEN RESERVES

The oil reserves include crude oil, condensates and natural gas liquids reserves.

	Consolidated subsidiaries							
	Oil							Bitumen
Proved developed and undeveloped reserves *(in million barrels)*	Europe (excl. Russia)	Russia	Africa (excl. North Africa)	Middle East and North Africa	Americas	Asia-Pacific	Total	Americas
BALANCE AS OF DECEMBER 31, 2018 – BRENT T 71.43$/b	**654**	**8**	**1,129**	**1,687**	**280**	**580**	**4,338**	**843**
Revisions of previous estimates	40	2	97	206	51	14	410	(1)
Extensions, discoveries and other	–	–	1	1	62	9	73	–
Acquisitions of minerals in place	20	–	7	16	–	–	43	–
Sales of minerals in place	(2)	–	–	–	–	–	(2)	–
Production for the year	(79)	(2)	(202)	(152)	(23)	(38)	(496)	(36)
BALANCE AS OF DECEMBER 31, 2019 – BRENT AT 62.74$/b	**633**	**8**	**1,032**	**1,758**	**370**	**565**	**4,366**	**806**
Revisions of previous estimates	34	4	50	164	169	56	477	(309)
Extensions, discoveries and other	–	–	1	1	4	<1	6	–
Acquisitions of minerals in place	–	–	–	169	–	–	169	–
Sales of minerals in place	(10)	–	–	(3)	–	(8)	(21)	–
Production for the year	(88)	(2)	(177)	(128)	(28)	(38)	(461)	(30)
BALANCE AS OF DECEMBER 1, 2020 – BRENT AT 41.32$/b	**569**	**10**	**906**	**1,961**	**515**	**575**	**4,536**	**467**
Revisions of previous estimates	104	(2)	89	39	45	22	297	(17)
Extensions, discoveries and other	6	<1	272	8	5	<1	291	–
Acquisitions of minerals in place	–	–	–	11	12	–	23	–
Sales of minerals in place	–	–	(14)	–	–	–	(14)	–
Production for the year	(82)	(1)	(144)	(141)	(31)	(40)	(439)	(33)
BALANCE AS OF DECEMBER 31, 2021 – BRENT T 69.23$/b	**597**	**7**	**1,109**	**1,878**	**546**	**557**	**4,694**	**417**
Minority interest in proved developed and undeveloped reserves as of								
December 31, 2019 – Brent at 62.74$/b	–	–	77	–	–	–	77	–
December 31, 2020 – Brent at 41.32$/b	–	–	46	–	–	–	46	–
DECEMBER 31, 2021 – BRENT AT 69.23$/b	**–**	**–**	**54**	**–**	**–**	**–**	**54**	**–**

	Equity affiliates*						
	Oil						
Proved developed and undeveloped reserves *(in million barrels)*	Europe (excl. Russia)	Russia	Africa (excl. North Africa)	Middle East and North Africa	Americas	Asia-Pacific	Total
BALANCE AS OF DECEMBER 31, 2018 – BRENT AT 71.43$/b	**–**	**317**	**9**	**413**	**129**	**–**	**868**
Revisions of previous estimates	–	6	–	32	(35)	–	3
Extensions, discoveries and other	–	24	–	18	–	–	42
Acquisitions of minerals in place	–	–	–	–	–	–	–
Sales of minerals in place	–	–	–	–	–	–	–
Production for the year	–	(27)	(2)	(48)	(2)	–	(79)
BALANCE AS OF DECEMBER 31, 2019 – BRENT AT 62.74$/b	**–**	**320**	**7**	**415**	**92**	**–**	**834**
Revisions of previous estimates	–	24	6	9	(16)	–	23
Extensions, discoveries and other	–	13	–	5	–	–	18
Acquisitions of minerals in place	–	–	–	–	–	–	–
Sales of minerals in place	–	–	–	–	–	–	–
Production for the year	–	(27)	(2)	(45)	–	–	(74)
BALANCE AS OF DECEMBER 31, 2020 – BRENT AT 41.32$/b	**–**	**330**	**11**	**384**	**76**	**–**	**801**
Revisions of previous estimates	–	(24)	1	71	(1)	–	47
Extensions, discoveries and other	–	34	–	–	–	–	34
Acquisitions of minerals in place	–	–	–	–	–	–	–
Sales of minerals in place	–	–	–	–	(75)	–	(75)
Production for the year	–	(26)	(2)	(47)	(<1)	–	(75)
BALANCE AS OF DECEMBER 31, 2021 – BRENT AT 69.23$/b	**–**	**314**	**10**	**408**	**–**	**–**	**732**

* There are no bitumen reserves for equity affiliates.

Proved developed and undeveloped reserves *(in million barrels)*	Consolidated subsidiaries and equity affiliates*							
	Oil							Bitumen
	Europe (excl. Russia)	Russia	Africa (excl. North Africa)	Middle East and North Africa	Americas	Asia-Pacific	Total	Americas
AS OF DECEMBER 31, 2019 – BRENT AT 62.74$/b								
Proved developed and undeveloped reserves[(a)]	**634**	**328**	**1,039**	**2,173**	**462**	**564**	**5,200**	**806**
Consolidated subsidiaries	634	8	1,032	1,758	370	564	4,366	806
Equity affiliates	–	320	7	415	92	–	834	–
Proved developed reserves	**470**	**199**	**900**	**1,718**	**155**	**503**	**3,945**	**497**
Consolidated subsidiaries	470	7	899	1,402	113	503	3,394	497
Equity affiliates	–	192	1	316	42	–	551	–
Proved undeveloped reserves	**164**	**129**	**139**	**455**	**307**	**61**	**1,255**	**309**
Consolidated subsidiaries	164	1	133	356	257	61	972	309
Equity affiliates	–	128	6	99	50	–	283	–
AS OF DECEMBER 31, 2020 – BRENT AT 41.32$/b								
Proved developed and undeveloped reserves[(a)]	**569**	**340**	**917**	**2,345**	**591**	**575**	**5,337**	**467**
Consolidated subsidiaries	569	10	906	1,961	515	575	4,536	467
Equity affiliates	–	330	11	384	76	–	801	–
Proved developed reserves	**427**	**195**	**781**	**1,882**	**205**	**488**	**3,978**	**136**
Consolidated subsidiaries	427	8	779	1,589	162	488	3,453	136
Equity affiliates	–	187	2	293	43	–	525	–
Proved undeveloped reserves	**142**	**145**	**136**	**463**	**386**	**87**	**1,359**	**331**
Consolidated subsidiaries	142	2	127	372	353	87	1,083	331
Equity affiliates	–	143	9	91	33	–	276	–
AS OF DECEMBER 31, 2021 – BRENT AT 69.23$/b								
Proved developed and undeveloped reserves[(a)]	**597**	**321**	**1,119**	**2,286**	**546**	**557**	**5,426**	**417**
Consolidated subsidiaries	597	7	1,109	1,878	546	557	4,694	417
Equity affiliates	–	314	10	408	–	–	732	–
Proved developed reserves	**438**	**189**	**731**	**1,885**	**183**	**479**	**3,905**	**136**
Consolidated subsidiaries	438	6	730	1,582	183	479	3,418	136
Equity affiliates	–	183	1	303	–	–	487	–
Proved undeveloped reserves	**159**	**132**	**388**	**401**	**363**	**78**	**1,521**	**281**
Consolidated subsidiaries	159	1	379	296	363	78	1,276	281
Equity affiliates	–	131	9	105	–	–	245	–

(a) The tables do not include separate figures for NGL reserves because they represented less than 8.5% of the Company's proved developed and undeveloped oil reserves in each of the years 2019, 2020 and 2021.

* There are no bitumen reserves for equity affiliates.

9.1.4.3 CHANGES IN GAS RESERVES

Proved developed and undeveloped reserves *(in billion cubic feet)*	Consolidated subsidiaries Europe (excl. Russia)	Russia	Africa (excl. North Africa)	Middle East and North Africa	Americas	Asia-Pacific	Total
BALANCE AS OF DECEMBER 31, 2018 – BRENT AT 71.43$/b	**3,919**	**8**	**2,399**	**1,503**	**3,824**	**4,141**	**15,794**
Revisions of previous estimates	69	–	76	40	142	160	487
Extensions, discoveries and other	–	–	–	–	79	182	261
Acquisitions of minerals in place	104	–	2,272	5	–	–	2,381
Sales of minerals in place	(10)	–	–	–	(2)	–	(12)
Production for the year	(489)	(1)	(236)	(129)	(405)	(393)	(1,653)
BALANCE AS OF DECEMBER 31, 2019 – BRENT AT 62.74$/b	**3,593**	**7**	**4,511**	**1,419**	**3,638**	**4,090**	**17,258**
Revisions of previous estimates	381	1	59	63	10	72	586
Extensions, discoveries and other	–	–	92	–	50	142	284
Acquisitions of minerals in place	–	–	–	216	–	–	216
Sales of minerals in place	(3)	–	–	–	–	(2)	(5)
Production for the year	(484)	(1)	(227)	(123)	(401)	(410)	(1,646)
BALANCE AS OF DECEMBER 31, 2020 – BRENT AT 41.32$/b	**3,487**	**7**	**4,435**	**1,575**	**3,297**	**3,892**	**16,693**
Revisions of previous estimates	691	(2)	235	46	582	27	1,579
Extensions, discoveries and other	60	–	69	499	106	37	771
Acquisitions of minerals in place	–	–	–	156	–	–	156
Sales of minerals in place	–	–	(8)	–	–	–	(8)
Production for the year	(432)	(<1)	(219)	(126)	(396)	(418)	(1,591)
BALANCE AS OF DECEMBER 31, 2021 – BRENT AT 69.23$/b	**3,806**	**5**	**4,512**	**2,150**	**3,589**	**3,538**	**17,600**

Minority interest in proved developed and undeveloped reserves as of							
December 31, 2019 – Brent at 62.74$/b	–	–	44	–	–	–	44
December 31, 2020 – Brent at 41.32$/b	–	–	25	–	–	–	25
DECEMBER 31, 2021 – BRENT AT 69.23$/b	**–**	**–**	**33**	**–**	**–**	**–**	**33**

Proved developed and undeveloped reserves *(in billion cubic feet)*	Equity affiliates						
	Europe (excl. Russia)	Russia	Africa (excl. North Africa)	Middle East and North Africa	Americas	Asia-Pacific	Total
BALANCE AS OF DECEMBER 31, 2018 – BRENT AT 71.43$/b	**–**	**11,886**	**237**	**4,357**	**51**	–	**16,531**
Revisions of previous estimates	–	425	(1)[(a)]	45	(14)	–	455
Extensions, discoveries and other	–	2,786	–	–	–	–	2,786
Acquisitions of minerals in place	–	–	–	–	–	–	–
Sales of minerals in place	–	–	–	–	–	–	–
Production for the year	–	(798)	(33)[(a)]	(184)	–	–	(1,015)
BALANCE AS OF DECEMBER 31, 2019 – BRENT AT 62.74$/b	**–**	**14,299**	**203**	**4,218**	**37**	**–**	**18,757**
Revisions of previous estimates	–	202	186	3	(16)	–	375
Extensions, discoveries and other	–	401	–	–	–	–	401
Acquisitions of minerals in place	–	–	–	–	–	–	–
Sales of minerals in place	–	–	–	–	–	–	–
Production for the year	–	(788)	(35)	(183)	–	–	(1,006)
BALANCE AS OF DECEMBER 31, 2020 – BRENT AT 41.32$/b	**–**	**14,114**	**354**	**4,038**	**21**	–	**18,527**
Revisions of previous estimates	–	(2,473)	(9)	53	<1	–	(2,429)
Extensions, discoveries and other	–	810	–	–	–	–	810
Acquisitions of minerals in place	–	–	–	–	–	–	–
Sales of minerals in place	–	–	–	–	(21)	–	(21)
Production for the year	–	(828)	(29)	(180)	(<1)	–	(1,037)
BALANCE AS OF DECEMBER 31, 2021 – BRENT AT 69.23$/b	**–**	**11,623**	**316**	**3,911**	**–**	**–**	**15,850**

(a) Data restated.

	Consolidated subsidiaries and equity affiliates						
Proved developed and undeveloped reserves *(in billion cubic feet)*	Europe (excl. Russia)	Russia	Africa (excl. North Africa)	Middle East and North Africa	Americas	Asia-Pacific	Total
AS OF DECEMBER 31, 2019 – BRENT AT 62.74$/b							
Proved developed and undeveloped reserves	**3,592**	**14,306**	**4,714**	**5,637**	**3,675**	**4,091**	**36,015**
Consolidated subsidiaries	3,592	7	4,511	1,419	3,638	4,091	17,258
Equity affiliates	–	14,299	203	4,218	37	–	18,757
Proved developed reserves	**2,606**	**7,018**	**1,547**	**5,009**	**3,237**	**2,683**	**22,100**
Consolidated subsidiaries	2,606	4	1,526	1,141	3,219	2,683	11,179
Equity affiliates	–	7,014	21	3,868	18	–	10,921
Proved undeveloped reserves	**986**	**7,288**	**3,167**	**628**	**438**	**1,408**	**13,915**
Consolidated subsidiaries	986	3	2,985	278	419	1,408	6,079
Equity affiliates	–	7,285	182	350	19	–	7,836
AS OF DECEMBER 31, 2020 – BRENT AT 41.32$/b							
Proved developed and undeveloped reserves	**3,487**	**14,121**	**4,789**	**5,613**	**3,319**	**3,891**	**35,220**
Consolidated subsidiaries	3,487	7	4,435	1,575	3,298	3,891	16,693
Equity affiliates	–	14,114	354	4,038	21	–	18,527
Proved developed reserves	**2,083**	**6,864**	**1,470**	**4,862**	**2,915**	**2,731**	**20,925**
Consolidated subsidiaries	2,083	5	1,429	1,224	2,908	2,731	10,380
Equity affiliates	–	6,859	41	3,638	7	–	10,545
Proved undeveloped reserves	**1,404**	**7,257**	**3,319**	**751**	**404**	**1,160**	**14,295**
Consolidated subsidiaries	1,404	2	3,006	351	390	1,160	6,313
Equity affiliates	–	7,255	313	400	14	–	7,982
AS OF DECEMBER 31, 2021 – BRENT AT 69.23$/b							
Proved developed and undeveloped reserves	**3,806**	**11,628**	**4,828**	**6,061**	**3,589**	**3,538**	**33,450**
Consolidated subsidiaries	3,806	5	4,512	2,150	3,589	3,538	17,600
Equity affiliates	–	11,623	316	3,911	–	–	15,850
Proved developed reserves	**2,523**	**7,272**	**1,366**	**4,682**	**2,833**	**2,517**	**21,193**
Consolidated subsidiaries	2,523	4	1,349	1,150	2,833	2,517	10,376
Equity affiliates	–	7,268	17	3,532	–	–	10,817
Proved undeveloped reserves	**1,283**	**4,356**	**3,462**	**1,379**	**756**	**1,021**	**12,257**
Consolidated subsidiaries	1,283	1	3,163	1,000	756	1,021	7,224
Equity affiliates	–	4,355	299	379	–	–	5,033

9.1.5 Results of operations for oil and gas producing activities

The following tables do not include revenues and expenses related to oil and gas transportation activities and LNG liquefaction and transportation.

	Consolidated subsidiaries						
	Europe (excl. Russia)	Russia	Africa (excl. North Africa)	Middle East and North Africa	Americas	Asia-Pacific	Total
2019							
Revenues Non-Company sales	983	–	1,260	1,686	972	2,199	7,100
TotalEnergies sales	5,286	83	11,286	7,369	2,110	1,487	27,621
Total Revenues	**6,269**	**83**	**12,546**	**9,055**	**3,082**	**3,686**	**34,721**
Production costs	(1,338)	(12)	(1,249)	(639)	(873)	(422)	(4,533)
Exploration expenses	(230)	(2)	(65)	(24)	(392)	(72)	(785)
Depreciation, depletion and amortization and valuation allowances	(1,719)	(100)	(5,556)	(798)	(1,924)	(1,538)	(11,635)
Other expenses[a]	(410)	(12)	(918)	(5,560)	(392)	(219)	(7,511)
Pre-tax income from producing activities[b]	**2,572**	**(43)**	**4,758**	**2,034**	**(499)**	**1,435**	**10,257**
Income tax	(1,427)	13	(2,004)	(814)	309	(245)	(4,168)
Results of oil and gas producing activities[b]	**1,145**	**(30)**	**2,754**	**1,220**	**(190)**	**1,190**	**6,089**

(a) Including production taxes and accretion expense as provided by IAS 37 ($615 million in 2019).

(b) Including adjustment items applicable to ASC 932 perimeter, amounting to a net charge of $899 million before tax and $392 million after tax, related to asset impairments.

2020							
Revenues Non-Company sales	608	–	677	981	708	1,805	4,779
TotalEnergies sales	3,268	24	5,540	4,229	1,068	935	15,064
Total Revenues	**3,876**	**24**	**6,217**	**5,210**	**1,776**	**2,740**	**19,843**
Production costs	(1,185)	(11)	(1,097)	(624)	(774)	(373)	(4,064)
Exploration expenses	(157)	(1)	(159)	(53)	(305)	(56)	(731)
Depreciation, depletion and amortization and valuation allowances	(1,933)	(51)	(4,565)	(697)	(7,950)	(2,135)	(17,331)
Other expenses[a]	(357)	(8)	(614)	(2,778.00)	(339)	(133)	(4,229)
Pre-tax income from producing activities[b]	**244**	**(47)**	**(218)**	**1,058**	**(7,592)**	**43**	**(6,512)**
Income tax	(144)	2	270	(269)	384	(111)	132
Results of oil and gas producing activities[b]	**100**	**(45)**	**52**	**789**	**(7,208)**	**(68)**	**(6,380)**

(a) Including production taxes and accretion expense as provided by IAS 37 ($548 million in 2020).

(b) Including adjustment items applicable to ASC 932 perimeter, amounting to a net charge of $7,911 million before tax and $7,450 million after tax, related to asset impairments.

2021

Revenues Non-Company sales	1,368	–	809	1,676	896	2,089	6,838
TotalEnergies sales	9,420	53	8,881	7,995	3,133	1,834	31,316
Total Revenues	**10,788**	**53**	**9,690**	**9,671**	**4,029**	**3,923**	**38,154**
Production costs	(1,156)	(11)	(1,076)	(620)	(856)	(353)	(4,072)
Exploration expenses	(161)	(1)	(170)	(30)	(250)	(128)	(740)
Depreciation, depletion and amortization and valuation allowances	(2,371)	(21)	(3,457)	(771)	(1,533)	(1,309)	(9,462)
Other expenses(a)	(370)	(14)	(722)	(6,076)	(494)	(204)	(7,880)
Pre-tax income from producing activities(b)	**6,730**	**6**	**4,265**	**2,174**	**896**	**1,929**	**16,000**
Income tax	(3,953)	(14)	(1,537)	(795)	(183)	(822)	(7,304)
Results of oil and gas producing activities(b)	**2,777**	**(8)**	**2,728**	**1,379**	**713**	**1,107**	**8,696**

(a) Including production taxes and accretion expense as provided by IAS 37 ($434 million in 2021).

(b) Including adjustment items applicable to ASC 932 perimeter, amounting to a net charge of $771 million before tax and $763 million after tax, related to asset impairments.

	Equity affiliates						
(M$)	Europe (excl. Russia)	Russia	Africa (excl. North Africa)	Middle East and North Africa	Americas	Asia-Pacific	Total
2019							
Revenues Non-Company sales	–	2,317	67	3,128	41	–	5,553
TotalEnergies sales	–	–	–	606	–	–	606
Total Revenues	**–**	**2,317**	**67**	**3,734**	**41**	**–**	**6,159**
Production costs	–	(182)	–	(311)	(19)	–	(512)
Exploration expenses	–	(30)	–	–	–	–	(30)
Depreciation, depletion and amortization and valuation allowances	–	(254)	–	(227)	(23)	–	(504)
Other expenses	–	(230)	(9)	(2,086)	(39)	–	(2,364)
Pre-tax income from producing activities	**–**	**1,621**	**58**	**1,110**	**(40)**	**–**	**2,749**
Income tax	–	(222)	–	(469)	13	–	(678)
Results of oil and gas producing activities	**–**	**1,399**	**58**	**641**	**(27)**	**–**	**2,071**
2020							
Revenues Non-Company sales	–	1,608	–	1,505	–	–	3,113
TotalEnergies sales	–	–	–	607	–	–	607
Total Revenues	**–**	**1,608**	**–**	**2,112**	**–**	**–**	**3,720**
Production costs	–	(179)	–	(251)	(6)	–	(436)
Exploration expenses	–	(29)	–	–	–	–	(29)
Depreciation, depletion and amortization and valuation allowances	–	(222)	–	(246)	(4)	–	(472)
Other expenses	–	(186)	(20)	(970)	10	–	(1,166)
Pre-tax income from producing activities	**–**	**992**	**(20)**	**645**	**–**	**–**	**1,617**
Income tax	–	(149)	–	(241)	–	–	(390)
Results of oil and gas producing activities	**–**	**843**	**(20)**	**404**	**–**	**–**	**1,227**

2021							
Revenues Non-Company sales	–	3,702	278	3,236	–	–	7,216
TotalEnergies sales	–	23	35	1,061	–	–	1,119
Total Revenues	**–**	**3,725**	**313**	**4,297**	**–**	**–**	**8,335**
Production costs	–	(189)	–	(268)	(7)	–	(464)
Exploration expenses	–	(16)	–	–	–	–	(16)
Depreciation, depletion and amortization and valuation allowances	–	(276)	–	(258)	(1,013)	–	(1,547)
Other expenses	–	(301)	(139)	(2,295)	5	–	(2,730)
Pre-tax income from producing activities	**–**	**2,943**	**174**	**1,476**	**(1,015)**	**–**	**3,578**
Income tax	–	(446)	–	(573)	(10)	–	(1,029)
Results of oil and gas producing activities	**–**	**2,497**	**174**	**903**	**(1,025)**	**–**	**2,549**

9.1.6 Cost incurred

The following tables set forth the costs incurred in the Group's oil and gas property acquisition, exploration and development activities, including both capitalized and expensed amounts. They do not include costs incurred related to oil and gas transportation and LNG liquefaction and transportation activities.

	Consolidated subsidiaries						
(M$)	Europe (excl. Russia)	Russia	Africa (excl. North Africa)	Middle East and North Africa	Americas	Asia-Pacific	Total
2019(a)							
Proved property acquisition	–	–	244	10	14	16	284
Unproved property acquisition	7	–	3,124	42	509	3	3,685
Exploration costs	262	2	198	78	469	84	1,093
Development costs(b)	2,170	28	2,724	1,074	1,547	701	8,244
TOTAL COST INCURRED	**2,439**	**30**	**6,290**	**1,204**	**2,539**	**804**	**13,306**
2020(c)							
Proved property acquisition	–	–	3	3	–	15	21
Unproved property acquisition	–	–	1,016	13	15	–	1,044
Exploration costs	182	1	312	118	485	58	1,156
Development costs(b)	2,279	31	1,215	1,024	1,042	369	5,960
TOTAL COST INCURRED	**2,461**	**32**	**2,546**	**1,158**	**1,542**	**442**	**8,181**
2021							
Proved property acquisition	–	–	94	50	39	10	193
Unproved property acquisition	–	–	142	66	124	–	332
Exploration costs	215	1	302	62	523	19	1,122
Development costs(b)	1,836	30	1,508	991	1,591	603	6,559
TOTAL COST INCURRED	**2,051**	**31**	**2,046**	**1,169**	**2,277**	**632**	**8,206**

(a) Including costs incurred relating to acquisitions of Anadarko in Mozambique.
(b) Including asset retirement costs capitalized during the year and any gains or losses recognized upon settlement of asset retirement obligation during the year.
(c) Including costs incurred relating to acquisitions of Anadarko in South Africa, B20-21 in Angola and Tulow's interests in Uganda.

	Equity affiliates						
(M$)	Europe (excl. Russia)	Russia	Africa (excl. North Africa)	Middle East and North Africa	Americas	Asia-Pacific	Total
2019							
Proved property acquisition	–	–	–	–	–	–	–
Unproved property acquisition	–	1,673	–	–	–	–	1,673
Exploration costs	–	–	–	5	–	–	5
Development costs[a]	–	390	–	400	4	–	794
TOTAL COST INCURRED	**–**	**2,063**	**–**	**405**	**4**	**–**	**2,472**
2020							
Proved property acquisition	–	120	–	–	–	–	120
Unproved property acquisition	–	–	–	–	–	–	–
Exploration costs	–	–	–	5	–	–	5
Development costs[a]	–	455	–	479	–	–	934
TOTAL COST INCURRED	**–**	**575**	**–**	**484**	**–**	**–**	**1,059**
2021							
Proved property acquisition	–	–	–	–	–	–	–
Unproved property acquisition	–	–	–	–	–	–	–
Exploration costs	–	–	–	6	–	–	6
Development costs[a]	–	362	–	523	1	–	886
TOTAL COST INCURRED	**–**	**362**	**–**	**529**	**1**	**–**	**892**

(a) Including asset retirement costs capitalized during the year and any gains or losses recognized upon settlement of asset retirement obligation during the year.

9.1.7 Capitalized costs related to oil and gas producing activities

Capitalized costs represent the amount of capitalized proved and unproved property costs, including support equipment and facilities, along with the related accumulated depreciation, depletion and amortization. The following tables do not include capitalized costs related to oil and gas transportation and LNG liquefaction and transportation activities.

	Consolidated subsidiaries						
(M$)	Europe (excl. Russia)	Russia	Africa (excl. North Africa)	Middle East and North Africa	Americas	Asia-Pacific	Total
As of December 31, 2019							
Proved properties	49,489	669	84,170	16,773	29,580	37,772	218,453
Unproved properties	2,656	4	8,253	2,998	8,987	1,856	24,754
TOTAL CAPITALIZED COSTS	**52,145**	**673**	**92,423**	**19,771**	**38,567**	**39,628**	**243,207**
Accumulated depreciation, depletion and amortization	(35,245)	(551)	(55,686)	(10,720)	(15,414)	(19,215)	(136,831)
Net capitalized costs	**16,900**	**122**	**36,737**	**9,051**	**23,153**	**20,413**	**106,376**
As of December 31, 2020							
Proved properties	53,752	700	84,556	17,913	31,235	37,840	225,996
Unproved properties	2,594	4	10,253	2,762	8,758	1,760	26,131
TOTAL CAPITALIZED COSTS	**56,346**	**704**	**94,809**	**20,675**	**39,993**	**39,600**	**252,127**
Accumulated depreciation, depletion and amortization	(38,653)	(602)	(60,270)	(11,260)	(23,525)	(22,050)	(156,360)
NET CAPITALIZED COSTS	**17,693**	**102**	**34,539**	**9,415**	**16,468**	**17,550**	**95,767**
As of December 31, 2021							
Proved properties	54,294	730	86,489	18,618	32,124	38,289	230,544
Unproved properties	2,321	4	8,248	2,641	6,523	1,699	21,436
TOTAL CAPITALIZED COSTS	**56,615**	**734**	**94,737**	**21,259**	**38,647**	**39,988**	**251,980**
Accumulated depreciation, depletion and amortization	(39,805)	(623)	(62,223)	(11,645)	(21,686)	(22,249)	(158,231)
NET CAPITALIZED COSTS	**16,810**	**111**	**32,514**	**9,614**	**16,961**	**17,739**	**93,749**

	Equity affiliates						
(M$)	Europe (excl. Russia)	Russia	Africa (excl. North Africa)	Middle East and North Africa	Americas	Asia-Pacific	Total
As of December 31, 2019							
Proved properties	–	9,004	–	3,791	1,699	–	14,494
Unproved properties	–	110	–	–	–	–	110
TOTAL CAPITALIZED COSTS	**–**	**9,114**	**–**	**3,791**	**1,699**	**–**	**14,604**
Accumulated depreciation, depletion and amortization	–	(1,995)	–	(2,036)	(681)	–	(4,712)
Net capitalized costs	**–**	**7,119**	**–**	**1,755**	**1,018**	**–**	**9,892**
As of December 31, 2020							
Proved properties	–	8,749	–	4,282	1,699	–	14,730
Unproved properties	–	62	–	–	–	–	62
TOTAL CAPITALIZED COSTS	**–**	**8,811**	**–**	**4,282**	**1,699**	**–**	**14,792**
Accumulated depreciation, depletion and amortization	–	(2,034)	–	(2,249)	(686)	–	(4,969)
NET CAPITALIZED COSTS	**–**	**6,777**	**–**	**2,033**	**1,013**	**–**	**9,823**
As of December 31, 2021							
Proved properties	–	6,979	–	4,892	–	–	11,871
Unproved properties	–	2,142	–	–	–	–	2,142
TOTAL CAPITALIZED COSTS	**–**	**9,121**	**–**	**4,892**	**–**	**–**	**14,013**
Accumulated depreciation, depletion and amortization	–	(2,381)	–	(2,398)	–	–	(4,779)
NET CAPITALIZED COSTS	**–**	**6,740**	**–**	**2,494**	**–**	**–**	**9,234**

9.1.8 Standardized measure of discounted future net cash flows (excluding transportation)

The standardized measure of discounted future net cash flows relating to proved oil and gas reserve quantities was developed as follows:

- estimates of proved reserves and the corresponding production profiles are based on existing technical and economic conditions;
- the estimated future cash flows are determined based on prices used in estimating the Company’s proved oil and gas reserves;
- the future cash flows incorporate estimated production costs (including production taxes), future development costs and asset retirement costs. All cost estimates are based on year-end technical and economic conditions;
- future income taxes are computed by applying the year-end statutory tax rate to future net cash flows after consideration of permanent differences and future income tax credits; and
- future net cash flows are discounted at a standard discount rate of 10%.

These principles applied are those required by ASC 932 and do not reflect the expectations of real revenues from these reserves, nor their present value; hence, they do not constitute criteria for investment decisions. An estimate of the fair value of reserves should also take into account, among other things, the recovery of reserves not presently classified as proved, anticipated future changes in prices and costs and a discount factor more representative of the time value of money and the risks inherent in reserves estimates.

	Consolidated subsidiaries						
(M$)	Europe (excl. Russia)	Russia	Africa (excl. North Africa)	Middle East and North Africa	Americas	Asia-Pacific	Total
As of December 31, 2019							
Future cash inflows	47,679	436	70,854	110,796	50,810	43,142	323,717
Future production costs	(14,526)	(224)	(18,940)	(85,511)	(20,843)	(9,618)	(149,662)
Future development costs	(14,734)	(107)	(14,942)	(7,865)	(9,171)	(3,948)	(50,767)
Future income taxes	(10,846)	(46)	(12,341)	(4,887)	(1,790)	(3,953)	(33,863)
Future net cash flows, after income taxes	**7,573**	**59**	**24,631**	**12,533**	**19,006**	**25,623**	**89,425**
Discount at 10%	(1,341)	(11)	(10,004)	(5,143)	(10,061)	(12,276)	(38,836)
Standardized measure of discounted future net cash flows	**6,232**	**48**	**14,627**	**7,390**	**8,945**	**13,347**	**50,589**
As of December 31, 2020							
Future cash inflows	27,290	341	39,525	85,550	32,649	28,961	214,316
Future production costs	(10,264)	(208)	(13,333)	(65,377)	(14,028)	(7,303)	(110,513)
Future development costs	(11,924)	(110)	(13,150)	(7,948)	(8,873)	(4,268)	(46,273)
Future income taxes	(2,912)	(16)	(4,682)	(2,741)	(859)	(985)	(12,195)
Future net cash flows, after income taxes	**2,190**	**7**	**8,360**	**9,484**	**8,889**	**16,405**	**45,335**
Discount at 10%	(506)	7	(4,124)	(3,705)	(4,885)	(7,690)	(20,903)
Standardized measure of discounted future net cash flows	**1,684**	**14**	**4,236**	**5,779**	**4,004**	**8,715**	**24,432**
As of December 31, 2021							
Future cash inflows	81,227	400	88,082	132,166	58,716	47,667	408,258
Future production costs	(16,328)	(202)	(24,040)	(103,307)	(20,512)	(8,397)	(172,786)
Future development costs	(14,541)	(86)	(15,412)	(9,191)	(9,542)	(4,118)	(52,890)
Future income taxes	(30,532)	(50)	(14,474)	(5,116)	(3,415)	(5,520)	(59,107)
Future net cash flows, after income taxes	**19,826**	**62**	**34,156**	**14,552**	**25,247**	**29,632**	**123,475**
Discount at 10%	(6,941)	(10)	(16,610)	(6,331)	(12,913)	(14,259)	(57,064)
Standardized measure of discounted future net cash flows	**12,885**	**52**	**17,546**	**8,221**	**12,334**	**15,373**	**66,411**
Minority interests in future net cash flows as of							
December 31, 2019	–	–	968	–	–	–	968
December 31, 2020	–	–	61	–	–	–	61
DECEMBER 31, 2021	**–**	**–**	**740**	**–**	**–**	**–**	**740**

	Equity affiliates						
(M$)	Europe (excl. Russia)	Russia	Africa (excl. North Africa)	Middle East and North Africa	Americas	Asia-Pacific	Total
As of December 31, 2019							
Future cash inflows	–	43,959	326	39,513	3,970	–	87,768
Future production costs	–	(9,904)	(44)	(17,392)	(2,062)	–	(29,402)
Future development costs	–	(1,894)	(44)	(3,272)	(242)	–	(5,452)
Future income taxes	–	(4,499)	–	(9,852)	(996)	–	(15,347)
Future net cash flows, after income taxes	**–**	**27,662**	**238**	**8,997**	**670**	**–**	**37,567**
Discount at 10%	–	(16,507)	(156)	(4,626)	(406)	–	(21,695)
Standardized measure of discounted future net cash flows	**–**	**11,155**	**82**	**4,371**	**264**	**–**	**15,872**
As of December 31, 2020							
Future cash inflows	–	29,006	45	23,121	1,915	–	54,087
Future production costs	–	(8,505)	(38)	(15,457)	(964)	–	(24,964)
Future development costs	–	(1,881)	–	(3,321)	(208)	–	(5,410)
Future income taxes	–	(1,875)	–	(571)	(657)	–	(3,103)
Future net cash flows, after income taxes	**–**	**16,745**	**7**	**3,772**	**86**	**–**	**20,610**
Discount at 10%	–	(9,752)	13	(2,160)	(119)	–	(12,018)
Standardized measure of discounted future net cash flows	**–**	**6,993**	**20**	**1,612**	**(33)**	**–**	**8,592**
As of December 31, 2021							
Future cash inflows	–	49,015	2,793	49,049	–	–	100,857
Future production costs	–	(13,769)	(114)	(29,100)	–	–	(42,983)
Future development costs	–	(984)	(1)	(3,626)	–	–	(4,611)
Future income taxes	–	(4,836)	(454)	(3,263)	–	–	(8,553)
Future net cash flows, after income taxes	**–**	**29,426**	**2,224**	**13,060**	–	–	**44,710**
Discount at 10%	–	(15,626)	(1,044)	(7,193)	–	–	(23,863)
Standardized measure of discounted future net cash flows	**–**	**13,800**	**1,180**	**5,867**	**–**	**–**	**20,847**

9.1.9 Changes in the standardized measure of discounted future net cash flows

Consolidated subsidiaries *(M$)*	**2019**	**2020**	**2021**
Discounted future net cash flsows at January 1	57,805	50,589	24,432
Sales and transfers, net of production costs	(23,292)	(12,095)	(26,636)
Net change in sales and transfer prices and in production costs and other expenses	(15,484)	(55,732)	86,421
Extensions, discoveries and improved recovery	558	335	5,128
Changes in estimated future development costs	(1,735)	(1,000)	(2,057)
Previously estimated development costs incurred during the year	6,755	7,419	6,367
Revisions of previous quantity estimates	7,845	13,635	(5,189)
Accretion of 10% discount	5,780	5,059	2,443
Net change in income taxes	12,146	15,919	(24,718)
Purchases of reserves in place	266	329	218
Sales of reserves in place	(55)	(26)	2
END OF YEAR	**50,589**	**24,432**	**66,411**

Equity affiliates *(M$)*	**2019**	**2020**	**2021**
Discounted future net cash flows at January 1	18,752	15,872	8,592
Sales and transfers, net of production costs	(3,160)	(2,133)	(5,154)
Net change in sales and transfer prices and in production costs and other expenses	(8,191)	(12,705)	18,084
Extensions, discoveries and improved recovery	4,386	234	1,365
Changes in estimated future development costs	(736)	(172)	(525)
Previously estimated development costs incurred during the year	845	851	880
Revisions of previous quantity estimates	(104)	(1,868)	(574)
Accretion of 10% discount	1,875	1,587	859
Net change in income taxes	2,205	6,926	(2,343)
Purchases of reserves in place	–	–	–
Sales of reserves in place	–	–	(337)
END OF YEAR	**15,872**	**8,592**	**20,847**

9.2 Other information

9.2.1 Natural Gas Production available for sale

	Consolidated subsidiaries						
	Europe (excl. Russia)	Russia	Africa (excl. North Africa)	Middle East and North Africa	Americas	Asia-Pacific	Total
2019							
Natural Gas production available for sale[(a)] (Bcf)	455	–	177	110	395	369	1,506
2020							
Natural Gas production available for sale[(a)] (Bcf)	453	–	185	107	389	396	1,530
2021							
Natural Gas production available for sale[(a)] (Bcf)	406	–	180	110	386	403	1,485

(a) The reported volumes are different from those shown in the reserves table due to gas consumed in operations.

	Equity affiliates						
	Europe (excl. Rusia)	Russia	Africa (excl. North Africa)	Middle East and North Africa	Americas	Asia-Pacific	Total
2019							
Natural Gas production available for sale[(a)] (Bcf)	–	747	31[(b)]	175	–	–	953[(b)]
2020							
Natural Gas production available for sale[(a)] (Bcf)	–	735	30	174	–	–	939
2021							
Natural Gas production available for sale[(a)] (Bcf)	–	768	25	171	–	–	964

(a) The reported volumes are different from those shown in the reserves table due to gas consumed in operations.

(b) Data restated.

9.2.2 Production prices

	Consolidated subsidiaries						
	Europe (excl. Russia)	Russia	Africa (excl. North Africa)	Middle East and North Africa	Americas	Asia-Pacific	Total
2019[(a)]							
Oil ($/b)[(b)]	56.65	52.11	60.97	63.42	43.09	50.09	59.25
Bitumen ($/b)	–	–	–	–	30.53	–	30.53
Natural Gas ($/kcf)	3.85	–	1.83	2.54	2.49	4.83	3.42
2020[(a)]							
Oil ($/b)(b)	33.76	33.59	36.44	39.14	31.33	29.66	35.73
Bitumen ($/b)	–	–	–	–	11.29	–	11.29
Natural Gas ($/kcf)	2.18	–	1.28	2.10	1.76	4.49	2.54
2021[(a)]							
Oil ($/b)[(b)]	63.63	59.18	65.98	66.73	54.47	56.50	64.07
Bitumen ($/b)	–	–	–	–	40.52	–	40.52
Natural Gas ($/kcf)	13.87	–	1.60	2.45	2.56	4.52	6.08

(a) The volumes used for calculation of the average sales prices are the ones sold from the Company's own production.

(b) The reported price represents an average aggregate price of prices for crude oil, condensates and NGL. The table does not include separate figures for NGL production prices because the production of NGL represented less than 7.5% of the Company's total liquids production in each of the years 2018, 2019 and 2020.

	Equity affiliates						
	Europe (excl. Russia)	Russia	Africa (excl. North Africa)	Middle East and North Africa	Americas	Asia-Pacific	Total
2019[(a)]							
Oil ($/b)[(b)]	–	35.15	–	60.30	19.36	–	50.15
Bitumen ($/b)	–	–	–	–	–	–	–
Natural Gas ($/kcf)	–	2.07	3.83	6.55	–	–	2.74
2020[(a)]							
Oil ($/b)[(b)]	–	21.91	–	39.95	–	–	32.84
Bitumen ($/b)	–	–	–	–	–	–	–
Natural Gas ($/kcf)	–	1.80	–	3.05	–	–	1.91
2021[(a)]							
Oil ($/b)[(b)]	–	32.17	–	67.43	–	–	54.89
Bitumen ($/b)	–	–	–	–	–	–	–
Natural Gas ($/kcf)	–	4.41	1.83	7.94	–	–	4.51

(a) The volumes used for calculation of the average sales prices are the ones sold from the Company's own production.

(b) The reported price represents an average aggregate price of prices for crude oil, condensates and NGL. The table does not include separate figures for NGL production prices because the production of NGL represented less than 7.5% of the Company's total liquids production in each of the years 2018, 2019 and 2020.

9.2.3 Production costs

	Consolidated subsidiaries						
(in $/boe)	Europe (excl. Russia)	Russia	Africa (excl. North Africa)	Middle East and North Africa	Americas	Asia-Pacific	Total
2019[(a)]							
Oil, bitumen and natural gas	8.19	7.81	5.19	3.73	6.75	4.12	5.6
Of which bitumen	–	–	–	–	15.28	–	15.28
2020[(a)]							
Oil, bitumen and natural gas	6.90	6.91	5.14	4.27	6.1	3.46	5.29
Of which bitumen	–	–	–	–	15.41	–	15.41
2021[(a)]							
Oil, bitumen and natural gas	7.35	7.47	6	3.86	6.42	3.23	5.49
Of which bitumen	–	–	–	–	15.93	–	15.93

(a) The volumes of oil used for this computation are shown in the proved reserves tables of this report. The reported volumes for natural gas are different from those shown in the reserves table due to gas consumed in operations.

	Equity affiliates						
(in $/boe)	Europe (excl. Russia)	Russia	Africa (excl. North Africa)	Middle East and North Africa	Americas	Asia-Pacific	Total
2019[(a)]							
Oil, bitumen and natural gas	–	1.1	–	3.9	8.96	–	2.01
Of which bitumen	–	–	–	–	–	–	–
2020[(a)]							
Oil, bitumen and natural gas	–	1.10	–	3.26	25.75	–	1.76
Of which bitumen	–	–	–	–	–	–	–
2021[(a)]							
Oil, bitumen and natural gas	–	1.12	–	3.41	12.05	–	1.83
Of which bitumen	–	–	–	–	–	–	–

(a) The volumes of oil used for this computation are shown in the proved reserves tables of this report. The reported volumes for natural gas are different from those shown in the reserves table due to gas consumed in operations.

9.3 Report on the payments made to governments (Article L. 22-10-37 of the French Commercial Code)

Article L. 22-10-37 of the French Commercial Code[1] requires large undertakings and public-interest entities that are active in the extractive industry or logging of primary forests to disclose in an annual report payments of at least 100,000 euros made to governments in the countries in which they operate.

The consolidated report of TotalEnergies is presented pursuant to the aforementioned provisions. This report covers the aforementioned payments made in 2021 by the Company's Extractive Companies as defined below, for the benefit of each government of states or territories in which TotalEnergies carries out its activities, by detailing the total amount of payments made, the total amount by payment type, the total amount by project and the total amount by payment type for each project. When payments were made in kind, valuated hydrocarbons' volumes are specified.

This report has been approved by the Board of Directors of TotalEnergies SE.

DEFINITIONS

The meaning of certain terms used in this report are set forth below:

Extractive Companies: TotalEnergies SE and any company or undertaking fully consolidated by TotalEnergies SE, the activities of which consist, in whole or in part, of exploration, prospection, discovery, development and extraction of minerals, crude oil and natural gas, among others.

Payment: a single payment or multiple interconnected payments of an amount equal to, or in excess of, 100,000 euros (or its equivalent) paid, whether in money or in kind, for extractive activities.

Payment types included in this report are the following:

- **Taxes**:
  - **Income taxes:** corporate income taxes based on taxable profits of Extractive Companies**.**
  - **Other Taxes:** other taxes and levies (other than Income taxes). Other Taxes include those based on revenues or production of Extractive Companies, and exclude taxes levied on consumption such as added value taxes, customs duties, personal income taxes and sales taxes.
- **Royalties**: percentage of production payable to the owner of mineral rights.
- **License Fees**: license fees, surface or rental fees, and other consideration for licenses and /or concessions that are paid for access to the area where the extractive activities are conducted.
- **License bonuses**: bonuses paid for and in consideration of signature, discovery, production, awards, grants and transfers of extraction rights; bonuses related to the achievement or failure to achieve certain production levels or certain targets, and discovery of additional mineral reserves /deposits.
- **Dividends**: dividends paid to a host government holding an interest in an Extractive Company.
- **Payments for Infrastructure Improvements**: payments for local development, including the improvement of infrastructure, not directly necessary for the conduct of extractive activities but mandatory pursuant to the terms of a production sharing contract or to the terms of a law relating to oil and gas activities.
- **Production entitlement**: host Government's share of production. This payment is generally made in kind.

Government: any national, regional or local authority of a country or territory, or any department, agency or undertaking controlled by that authority.

Project: operational activities governed by a single contract, license, lease, concession or similar legal agreement and that form the basis for payment liabilities with a Government. If multiple such agreements are substantially interconnected, they shall be considered as a single Project. Payments (such as company income tax when it concerns several projects which cannot be separated in application of the fiscal regulations) unable to be attributed to a Project are disclosed under the item "non-attributable".

REPORTING PRINCIPLES

This report sets forth all Payments as booked in the Extractive Companies' accounts. They are presented based on the Company's share in each Project, whether the Payments have been made directly by the Extractive Companies of TotalEnergies as operator or indirectly through third-party operating companies.

Production entitlement and Royalties that are mandatorily paid in kind and that are owed to host Governments pursuant to legal or contractual provisions (not booked in the Extractive Companies' accounts pursuant to accounting standards) are reported in proportion of the interest held by the Extractive Company in the Project as of the date on which such Production entitlements and Royalties are deemed to be acquired.

Payments in kind are estimated at fair value.

Fair value corresponds to the contractual price of hydrocarbons used to calculate Production entitlement, market price (if available) or an appropriate benchmark price. These prices might be calculated on an averaged basis over a given period.

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(1) Article L. 22-10-37 of the French Commercial Code transposes certain provisions set out in Directive 2013/24/UE of the European Parliament and of the Council of June 26, 2013 (chapter 10).

9.3.1 Reporting by country and type of Payment

9.3.1.1 PAID IN CASH

paid in cash (in thousands of dollars)	*Income taxes*	*Other Taxes*	Taxes (Total)	Royalties	License fees	License bonuses	Dividends	Infrastructure improvements	Production entitlements	Total of Payments
Europe	***1,219,989***	***86,610***	**1,306,599**	**–**	**21,298**	**–**	**–**	**–**	**43,581**	**1,371,478**
Bulgaria	*–*	*–*	–	–	239	–	–	–	–	239
Denmark	*(12,694)*	*860*	(11,834)	–	7,150	–	–	–	–	(4,684)
Greece	*–*	*–*	–	–	503	–	–	–	–	503
Italy	*–*	*30,480*	30,480	–	1,106	–	–	–	–	31,586
Netherlands	*(13,217)*	*–*	(13,217)	–	757	–	–	–	–	(12,460)
Norway	*619,139*	*46,464*	665,603	–	5,033	–	–	–	–	670,636
Russia	*11,117*	*8,806*	19,923	–	79	–	–	–	43,581	63,583
United Kingdom	*615,644*	*–*	615,644	–	6,431	–	–	–	–	622,075
Africa	***1,053,703***	***245,671***	**1,299,374**	**–**	**153,466**	**28,684**	**5,063**	**43,582**	**–**	**1,530,169**
Angola	*504,375*	*104,129*	608,504	–	10,876	3,489	–	10,000	–	632,869
Côte d'Ivoire	*–*	*–*	–	–	2,945	–	–	–	–	2,945
Gabon	*102*	*107,665*	107,767	–	4,712	–	5,063	11,228	–	128,770
Kenya	*–*	*–*	–	–	382	–	–	54	–	436
Mauritania	*–*	*–*	–	–	11,328	–	–	–	–	11,328
Mozambique	*–*	*–*	–	–	1,060	–	–	–	–	1,060
Namibia	*–*	*–*	–	–	517	–	–	–	–	517
Nigeria	*548,587*	*2,871*	551,458	–	12,557	–	–	22,183	–	586,198
Republic of the Congo	*639*	*31,006*	31,645	–	106,243	25,195	–	–	–	163,083
São Tomé and Principe	*–*	*–*	–	–	766	–	–	–	–	766
Senegal	*–*	*–*	–	–	447	–	–	117	–	564
South Africa	*–*	*–*	–	–	360	–	–	–	–	360
Uganda	*–*	*–*	–	–	1,273	–	–	–	–	1,273
Middle East and North Africa	***10,497***	***5,033,744***	**5,044,241**	**–**	**13,201**	**4,098**	**–**	**–**	**–**	**5,061,540**
Algeria		*152,876*	152,876	–	3,125	4,994	–	–	–	160,995
Cyprus	*–*	*–*	–	–	1,025	–	–	–	–	1,025
Egypt	*–*	*–*	–	–	226	–	–	–	–	226
Iraq	*5,940*	*–*	5,940	–	–	–	–	–	–	5,940
Lebanon	*–*	*–*	–	–	116	–	–	–	–	116
Libya	*–*	*–*	–	–	–	–	–	–	–	–
Oman	*4,557*	*301,527*	306,084	–	280	(896)	–	–	–	305,468
Qatar	*–*	*8,027*	8,027	–	–	–	–	–	–	8,027
United Arab Emirates	*–*	*4,571,314*	4,571,314	–	8,429	–	–	–	–	4,579,743
Americas	***37,727***	***399,311***	**437,038**	**107,544**	**57,777**	**3,320**	**–**	**21**	**–**	**605,700**
Argentina	*21,727*	*68,816*	90,543	–	5,157	–	–	–	–	95,700
Bolivia	*–*	*190,216*	190,216	–	1,297	3,320	–	21	–	194,854
Brazil	*–*	*123,140*	123,140	–	19,491	–	–	–	–	142,631
Canada	*–*	*–*	–	59,830	24,571	–	–	–	–	84,401
Guyana	*–*	*–*	–	–	285	–	–	–	–	285
Mexico	*–*	*4,217*	4,217	–	3,271	–	–	–	–	7,488
United States	*16,000*	*12,922*	28,922	47,714	3,705	–	–	–	–	80,341
Asia Pacific	***384,287***	***74,609***	**458,896**	**–**	**5,173**	**48,017**	**–**	**9,766**	**97,909**	**619,761**
Australia	*–*	*12,371*	12,371	–	–	–	–	–	–	12,371
Brunei	*39,237*	*8,233*	47,470	–	5	–	–	–	6,173	53,648
China	*19,178*	*1,596*	20,774	–	–	–	–	–	–	20,774
Indonesia	*7,558*	*–*	7,558	–	–	–	–	–	–	7,558
Kazakhstan	*–*	*23,237*	23,237	–	74	504	–	9,766	19,607	53,188
Myanmar	*17,200*	*27,919*	45,119	–	–	–	–	–	72,129	117,248
Papua New Guinea	*–*	*–*	–	–	546	–	–	–	–	546
Philippines	*–*	*–*	–	–	4,548	–	–	–	–	4,548
Thailand	*301,114*	*1,253*	302,367	–	–	47,513	–	–	–	349,880
Total	***2,706,203***	***5,839,945***	**8,546,148**	**107,544**	**250,915**	**84,119**	**5,063**	**53,369**	**141,490**	**9,188,648**

9.3.1.2 PAID IN KIND

paid in kind (in kboe)	*Income taxes*	*Other Taxes*	Taxes (Total)	Royalties	License fees	License bonuses	Dividends	Infrastructure improvements	Production entitlements	Total of Payments
Europe	–	–	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**
Africa	***3,402***	***4,759***	**8,161**	**–**	**0**	**–**	**–**	**–**	**26,433**	**34,594**
Angola	–	–	–	–	–	–	–	–	25,505	25,505
Gabon	*381*	–	381	–	–	–	–	–	–	381
Nigeria	*477*	*953*	1,430	–	0	–	–	–	918	2,348
Republic of the Congo	*2,544*	*3,806*	6,350	–	–	–	–	–	9	6,359
Middle East and North Africa	***14,344***	***2,469***	**16,813**	**–**	**–**	**–**	**–**	**–**	**51,676**	**68,489**
Algeria	*2,683*	*1,431*	4,114	–	–	–	–	–	–	4,114
Iraq	–	*268*	268	–	–	–	–	–	–	268
Libya	*7,724*	*771*	8,495	–	–	–	–	–	20,415	28,910
Qatar	*3,937*	–	3,937	–	–	–	–	–	31,261	35,198
Americas	–	–	**–**	**–**	**–**	**–**	**–**	**–**	**1,308**	**1,308**
Bolivia	–	–	–	–	–	–	–	–	1,069	1,069
Brazil	–	–	–	–	–	–	–	–	240	240
Asia Pacific	–	***560***	**560**	**–**	**–**	**–**	**–**	**–**	**4,132**	**4,692**
China	–	*560*	560	–	–	–	–	–	877	1,437
Indonesia	–	–	–	–	–	–	–	–	71	71
Kazakhstan	–	–	–	–	–	–	–	–	508	508
Myanmar	–	–	–	–	–	–	–	–	2,676	2,676
Total	***17,746***	***7,787***	**25,533**	**–**	**0**	**–**	**–**	**–**	**83,549**	**109,083**

9.3.1.3 PAID IN CASH AND IN KIND (INCLUDING VALUATION OF IN-KIND PAYMENTS)

In application of the regulation imposing a disclosure of the value of the total Payments, the table presented herebelow shows the sum of payments done in cash and in kind valuated as indicated in the footnotes presented below each table of 9.3.2.

all payments (in thousands of dollars)	*Income taxes*	*Other Taxes*	Taxes (Total)	Royalties	License fees	License bonuses	Dividends	Infrastructure improvements	Production entitlements	Total of Payments
Europe	***1,219,989***	***86,610***	**1,306,599**	**–**	**21,298**	**–**	**–**	**–**	**43,581**	**1,371,478**
Bulgaria	–	–	–	–	239	–	–	–	–	239
Denmark	*(12,694)*	*860*	(11,834)	–	7,150	–	–	–	–	(4,684)
Greece	–	–	–	–	503	–	–	–	–	503
Italy	–	*30,480*	30,480	–	1,106	–	–	–	–	31,586
Netherlands	*(13,217)*	–	(13,217)	–	757	–	–	–	–	(12,460)
Norway	*619,139*	*46,464*	665,603	–	5,033	–	–	–	–	670,636
Russia	*11,117*	*8,806*	19,923	–	79	–	–	–	43,581	63,583
United Kingdom	*615,644*	–	615,644	–	6,431	–	–	–	–	622,075
Africa	***1,287,195***	***575,104***	**1,862,299**	**–**	**153,493**	**28,684**	**5,063**	**43,582**	**1,880,421**	**3,973,542**
Angola	*504,375*	*104,129*	608,504	–	10,876	3,489	–	10,000	1,815,067	2,447,936
Côte d'Ivoire	–	–	–	–	2,945	–	–	–	–	2,945
Gabon	*24,504*	*107,665*	132,169	–	4,712	–	5,063	11,228	–	153,172
Kenya	–	–	–	–	382	–	–	54	–	436
Mauritania	–	–	–	–	11,328	–	–	–	–	11,328
Mozambique	–	–	–	–	1,060	–	–	–	–	1,060
Namibia	–	–	–	–	517	–	–	–	–	517
Nigeria	*582,681*	*70,615*	653,296	–	12,584	–	–	22,183	64,704	752,767
Republic of the Congo	*175,635*	*292,695*	468,330	–	106,243	25,195	–	–	650	600,418
São Tomé and Principe	–	–	–	–	766	–	–	–	–	766
Senegal	–	–	–	–	447	–	–	117	–	564
South Africa	–	–	–	–	360	–	–	–	–	360
Uganda	–	–	–	–	1,273	–	–	–	–	1,273
Middle East and North Africa	***845,617***	***5,203,635***	**6,049,252**	**–**	**13,201**	**4,098**	**–**	**–**	**2,166,627**	**8,233,178**
Algeria	*185,948*	*252,800*	438,748	–	3,125	4,994	–	–	–	446,867
Cyprus	–	–	–	–	1,025	–	–	–	–	1,025
Egypt	–	–	–	–	226	–	–	–	–	226
Iraq	*5,940*	*17,098*	23,038	–	–	–	–	–	–	23,038
Lebanon	–	–	–	–	116	–	–	–	–	116
Libya	*529,988*	*52,869*	582,857	–	–	–	–	–	1,409,265	1,992,122
Oman	*4,557*	*301,527*	306,084	–	280	(896)	–	–	–	305,468
Qatar	*119,184*	*8,027*	127,211	–	–	–	–	–	757,362	884,573
United Arab Emirates	–	*4,571,314*	4,571,314	–	8,429	–	–	–	–	4,579,743
Americas	***37,727***	***399,311***	**437,038**	**107,544**	**57,777**	**3,320**	**–**	**21**	**36,078**	**641,778**
Argentina	*21,727*	*68,816*	90,543	–	5,157	–	–	–	–	95,700
Bolivia	–	*190,216*	190,216	–	1,297	3,320	–	21	18,355	213,209
Brazil	–	*123,140*	123,140	–	19,491	–	–	–	17,723	160,354
Canada	–	–	–	59,830	24,571	–	–	–	–	84,401
Guyana	–	–	–	–	285	–	–	–	–	285
Mexico	–	*4,217*	4,217	–	3,271	–	–	–	–	7,488
United States	*16,000*	*12,922*	28,922	47,714	3,705	–	–	–	–	80,341
Asia Pacific	***384,287***	***91,891***	**476,178**	**–**	**5,173**	**48,017**	**–**	**9,766**	**222,938**	**762,072**
Australia	–	*12,371*	12,371	–	–	–	–	–	–	12,371
Brunei	*39,237*	*8,233*	47,470	–	5	–	–	–	6,173	53,648
China	*19,178*	*18,878*	38,056	–	–	–	–	–	27,137	65,193
Indonesia	*7,558*	–	7,558	–	–	–	–	–	2,304	9,862
Kazakhstan	–	*23,237*	23,237	–	74	504	–	9,766	46,652	80,233
Myanmar	*17,200*	*27,919*	45,119	–	–	–	–	–	140,672	185,791
Papua New Guinea	–	–	–	–	546	–	–	–	–	546
Philippines	–	–	–	–	4,548	–	–	–	–	4,548
Thailand	*301,114*	*1,253*	302,367	–	–	47,513	–	–	–	349,880
Total	***3,774,815***	***6,356,551***	**10,131,366**	**107,544**	**250,942**	**84,119**	**5,063**	**53,369**	**4,349,645**	**14,982,048**

9.3.2 Reporting of Payments by Project and by type of Payment, and by Government and by type of Payment

	Income taxes	*Other Taxes*	Taxes (Total)	Royalties	License fees	License bonuses	Dividends	Infrastructure improvements	Production entitlements	Total of Payments
Algeria (paid in cash (kusd))										
Payments per Project										
Groupement Berkine	–	–	–	–	–	–	–	–	–	–
Organisation Orhoud	–	–	–	–	–	–	–	–	–	–
Timimoun	–	*6,333*	6,333	–	1,842	–	–	–	–	8,175
Tin Fouyé Tabankort II	–	*146,543*	146,543	–	1,118	1,255	–	–	–	148,916
Tin Fouyé Tabankort Sud	–	–	–	–	165	3,739	–	–	–	3,904
Total	**–**	***152,876***	**152,876**	**–**	**3,125**	**4,994**	**–**	**–**	**–**	**160,995**
Payments per Government										
Direction Générale des Impôts, Direction des Grandes Entreprises c/o Sonatrach	–	–	–	–	–	–	–	–	–	–
Direction Générale des Impôts, Direction des Grandes Entreprises	–	*110,707*	110,707	–	3,125	–	–	–	–	113,832
Agence Nationale pour Valorisation des Ressources en Hydrocarbures (ALNAFT)	–	*42,169*	42,169	–	–	–	–	–	–	42,169
Sonatrach	–	–	–	–	–	4,994	–	–	–	4,994
Total	**–**	***152,876***	**152,876**	**–**	**3,125**	**4,994**	**–**	**–**	**–**	**160,995**
Algeria (paid in kind (kboe))										
Payments per Project										
Groupement Berkine	*2,267*	*1,282*	3,550	–	–	–	–	–	–	3,550
Organisation Orhoud	*416*	*148*	564	–	–	–	–	–	–	564
Timimoun	–	–	–	–	–	–	–	–	–	–
Tin Fouyé Tabankort II	–	–	–	–	–	–	–	–	–	–
Tin Fouyé Tabankort Sud	–	–	–	–	–	–	–	–	–	–
Total	***2,683***	***1,431***	**4,114**	**–**	**–**	**–**	**–**	**–**	**–**	**4,114**
Payments per Government										
Direction Générale des Impôts, Direction des Grandes Entreprises c/o Sonatrach	*2,683*	*1,431*	4,114	–	–	–	–	–	–	4,114
Direction Générale des Impôts, Direction des Grandes Entreprises	–	–	–	–	–	–	–	–	–	–
Agence Nationale pour Valorisation des Ressources en Hydrocarbures (ALNAFT)	–	–	–	–	–	–	–	–	–	–
Sonatrach	–	–	–	–	–		–	–	–	–
Total	***2,683***	***1,431***	**4,114**	**–**	**–**	**–**	**–**	**–**	**–**	**4,114**

In application of the regulation imposing a disclosure of the value of the total Payments, the table presented herebelow shows the sum of payments done in cash and in kind valuated as indicated in the footnotes.

Algeria (all payments (kusd) - including valuation of in-kind payments)

	Income taxes	*Other Taxes*	Taxes (Total)	Royalties	License fees	License bonuses	Dividends	Infrastructure improvements	Production entitlements	Total of Payments
Payments per Project										
Groupement Berkine	*156,515(a)*	*89,670(b)*	246,185	–	–	–	–	–	–	246,185
Organisation Orhoud	*29,433(c)*	*10,254(d)*	39,687	–	–	–	–	–	–	39,687
Timimoun	–	*6,333*	6,333	–	1,842	–	–	–	–	8,175
Tin Fouyé Tabankort II	–	*146,543*	146,543	–	1,118	1,255	–	–	–	148,916
Tin Fouyé Tabankort Sud	–	–	–	–	165	3,739	–	–	–	3,904
Total	***185,948***	***252,800***	**438,748**	**–**	**3,125**	**4,994**	**–**	**–**	**–**	**446,867**
Payments per Government										
Direction Générale des Impôts, Direction des Grandes Entreprises c/o Sonatrach	*185,948(e)*	*99,924(f)*	285,872	–	–	–	–	–	–	285,872
Direction Générale des Impôts, Direction des Grandes Entreprises	–	*110,707*	110,707	–	3,125	–	–	–	–	113,832
Agence Nationale pour Valorisation des Ressources en Hydrocarbures (ALNAFT)	–	*42,169*	42,169	–	–	–	–	–	–	42,169
Sonatrach	–	–	–	–	–	4,994	–	–	–	4,994
Total	***185,948***	***252,800***	**438,748**	**–**	**3,125**	**4,994**	**–**	**–**	**–**	**446,867**

(a) Corresponds to the valuation of 2,267 kboe at fiscal selling prices for income taxes.
(b) Corresponds to the valuation of 1,282 kboe at fiscal selling prices for taxes of different natures.
(c) Corresponds to the valuation of 416 kboe at fiscal selling prices for income taxes.
(d) Corresponds to the valuation of 148 kboe at fiscal selling prices for taxes of different natures.
(e) Corresponds to the valuation of 2,683 kboe at fiscal selling prices for income taxes.
(f) Corresponds to the valuation of 1,431 kboe at fiscal selling prices for taxes of different natures.

Angola (paid in cash (kusd))

	Income taxes	*Other Taxes*	Taxes (Total)	Royalties	License fees	License bonuses	Dividends	Infrastructure improvements	Production entitlements	Total of Payments
Payments per Project										
Block 0	*67,950*	*104,129*	172,079	–	908	–	–	–	–	172,987
Block 14	*14,541*	–	14,541	–	538	–	–	–	–	15,079
Block 14k	*639*	–	639	–	20	19	–	–	–	678
Block 16	*36*	–	36	–	327	–	–	–	–	363
Block 17	*297,163*	–	297,163	–	6,259	–	–	–	–	303,422
Block 17/06	*2*	–	2	–	116	–	–	–	–	118
Block 21	–	–	–	–	22	–	–	–	–	22
Block 25	*3*	–	3	–	–	–	–	–	–	3
Block 29	–	–	–	–	–	1,070	–	–	–	1,070
Block 32	*124,041*	–	124,041	–	2,377	–	–	–	–	126,418
Block 48	–	–	–	–	309	2,400	–	10,000	–	12,709
Total	***504,375***	***104,129***	**608,504**	**–**	**10,876**	**3,489**	**–**	**10,000**	**–**	**632,869**
Payments per Government										
Caixa do Tesouro Nacional	*504,375*	*104,129*	608,504	–	537	–	–	–	–	609,041
Sonangol P&P - Pesquisa e Produção, SARL	–	–	–	–	–	2,400	–	–	–	2,400
Ministério dos Recursos Minerais, Petróleo e Gás	–	–	–	–	10,339	19	–	–	–	10,358
ANPG - Agência Nacional de Petróleo, Gás e Biocombustíveis	–	–	–	–	–	1,070	–	10,000	–	11,070
Total	***504,375***	***104,129***	**608,504**	**–**	**10,876**	**3,489**	**–**	**10,000**	**–**	**632,869**

	Income taxes	*Other Taxes*	Taxes (Total)	Royalties	License fees	License bonuses	Dividends	Infrastructure improvements	Production entitlements	Total of Payments
Angola (paid in kind (kboe))										
Payments per Project										
Block 0	–	–	–	–	–	–	–	–	–	–
Block 14	–	–	–	–	–	–	–	–	1,059	1,059
Block 14k	–	–	–	–	–	–	–	–	9	9
Block 16	–	–	–	–	–	–	–	–	–	–
Block 17	–	–	–	–	–	–	–	–	23,552	23,552
Block 17/06	–	–	–	–	–	–	–	–	–	–
Block 21	–	–	–	–	–	–	–	–	–	–
Block 25	–	–	–	–	–	–	–	–	–	–
Block 29	–	–	–	–	–	–	–	–	–	–
Block 32	–	–	–	–	–	–	–	–	884	884
Block 48	–	–	–	–	–	–	–	–	–	–
Total	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**25,505**	**25,505**
Payments per Government										
Caixa do Tesouro Nacional	–	–	–	–	–	–	–	–	–	–
Sonangol P&P - Pesquisa e Produção, SARL	–	–	–	–	–	–	–	–	–	–
Ministério dos Recursos Minerais, Petróleo e Gás	–	–	–	–	–	–	–	–	–	–
ANPG - Agência Nacional de Petróleo, Gás e Biocombustíveis	–	–	–	–	–	–	–	–	25,505	25,505
Total	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**25,505**	**25,505**

In application of the regulation imposing a disclosure of the value of the total Payments, the table presented herebelow shows the sum of payments done in cash and in kind valuated as indicated in the footnotes.

	Income taxes	*Other Taxes*	Taxes (Total)	Royalties	License fees	License bonuses	Dividends	Infrastructure improvements	Production entitlements	Total of Payments
Angola (all payments (kusd) - including valuation of in-kind payments)										
Payments per Project										
Block 0	*67,950*	*104,129*	172,079	–	908	–	–	–	–	172,987
Block 14	*14,541*	–	14,541	–	538	–	–	–	74,828[a]	89,907
Block 14k	*639*	–	639	–	20	19	–	–	650[b]	1,328
Block 16	*36*	–	36	–	327	–	–	–	–	363
Block 17	*297,163*	–	297,163	–	6,259	–	–	–	1,678,115[c]	1,981,537
Block 17/06	*2*	–	2	–	116	–	–	–	–	118
Block 21	–	–	–	–	22	–	–	–	–	22
Block 25	*3*	–	3	–	–	–	–	–	–	3
Block 29	–	–	–	–	–	1,070	–	–	–	1,070
Block 32	*124,041*	–	124,041	–	2,377	–	–	–	61,474[d]	187,892
Block 48	–	–	–	–	309	2,400	–	10,000	–	12,709
Total	***504,375***	***104,129***	**608,504**	**–**	**10,876**	**3,489**	**–**	**10,000**	**1,815,067**	**2,447,936**
Payments per Government										
Caixa do Tesouro Nacional	*504,375*	*104,129*	608,504	–	537	–	–	–	–	609,041
Sonangol P&P - Pesquisa e Produção, SARL	–	–	–	–	–	2,400	–	–	–	2,400
Ministério dos Recursos Minerais, Petróleo e Gás	–	–	–	–	10,339	19	–	–	–	10,358
ANPG - Agência Nacional de Petróleo, Gás e Biocombustíveis	–	–	–	–	–	1,070	–	10,000	1,815,067[e]	1,826,137
Total	***504,375***	***104,129***	**608,504**	**–**	**10,876**	**3,489**	**–**	**10,000**	**1,815,067**	**2,447,936**

(a) Corresponds to the valuation of 1,059 kboe at the weighted average fiscal price of the year.
(b) Corresponds to the valuation of 9 kboe at the weighted average fiscal price of the year.
(c) Corresponds to the valuation of 23,552 kboe at the weighted average fiscal price of the year.
(d) Corresponds to the valuation of 884 kboe at the weighted average fiscal price of the year.
(e) Corresponds to the valuation of 25,505 kboe at the weighted average fiscal price of the year.

	Income taxes	*Other Taxes*	Taxes (Total)	Royalties	License fees	License bonuses	Dividends	Infrastructure improvements	Production entitlements	Total of Payments
Argentina (paid in cash (kusd))										
Payments per Project										
Cuenca Argentina Norte - Block 111	–	–	–	–	59	–	–	–	–	59
Cuenca Argentina Norte - Block 113	–	–	–	–	62	–	–	–	–	62
Malvinas Ocidental - Block 123	–	–	–	–	27	–	–	–	–	27
Neuquen	–	*23,859*	23,859	–	553	–	–	–	–	24,412
Santa Cruz	–	–	–	–	311	–	–	–	–	311
Tierra del Fuego	–	*44,957*	44,957	–	4,145	–	–	–	–	49,102
Non-attributable	*21,727*	–	21,727	–	–	–	–	–	–	21,727
Total	***21,727***	***68,816***	**90,543**	**–**	**5,157**	**–**	**–**	**–**	**–**	**95,700**
Payments per Government										
Administracion Federal de Ingresos Publicos	*21,727*	–	21,727	–	–	–	–	–	–	21,727
Secretaria de Energia, Republica Argentina	–	*26,246*	26,246	–	768	–	–	–	–	27,014
Provincia del Neuquen	–	*23,859*	23,859	–	553	–	–	–	–	24,412
Provincia de Tierra del Fuego	–	*18,711*	18,711	–	3,836	–	–	–	–	22,547
Total	***21,727***	***68,816***	**90,543**	**–**	**5,157**	**–**	**–**	**–**	**–**	**95,700**
Australia (paid in cash (kusd))										
Payments per Project										
GLNG	–	*12,371*	12,371	–	–	–	–	–	–	12,371
Total	**–**	***12,371***	**12,371**	**–**	**–**	**–**	**–**	**–**	**–**	**12,371**
Payments per Government										
Queensland Government, Office of State Revenue	–	*12,371*	12,371	–	–	–	–	–	–	12,371
Total	**–**	***12,371***	**12,371**	**–**	**–**	**–**	**–**	**–**	**–**	**12,371**
Bolivia (paid in cash (kusd))										
Payments per Project										
Aquio	–	*23,370*	23,370	–	145	–	–	–	–	23,515
Azero	–	–	–	–	703	–	–	–	–	703
Ipatí	–	*119,803*	119,803	–	229	–	–	21	–	120,053
Itaú	–	*5,772*	5,772	–	125	–	–	–	–	5,897
San Alberto	–	*7,455*	7,455	–	32	3,320	–	–	–	10,807
San Antonio	–	*33,816*	33,816	–	63	–	–	–	–	33,879
Total	**–**	***190,216***	**190,216**	**–**	**1,297**	**3,320**	**–**	**21**	**–**	**194,854**
Payments per Government										
Yacimientos Petroliferos Fiscales Bolivianos (YPFB)	–	–	–	–	1,297	3,320	–	–	–	4,617
Servicio de Impuestos Nacionales (SIN) c/o YPFB	–	*121,738*	121,738	–	–	–	–	–	–	121,738
Departamentos c/o YPFB	–	*68,478*	68,478	–	–	–	–	–	–	68,478
Fundesoc c/o Indigeneous Communities	–	–	–	–	–	–	–	21	–	21
Total	**–**	***190,216***	**190,216**	**–**	**1,297**	**3,320**	**–**	**21**	**–**	**194,854**

Bolivia (paid in kind (kboe))

	Income taxes	*Other Taxes*	Taxes (Total)	Royalties	License fees	License bonuses	Dividends	Infrastructure improvements	Production entitlements	Total of Payments
Payments per Project										
Aquio	–	–	–	–	–	–	–	–	–	–
Azero	–	–	–	–	–	–	–	–	–	–
Ipatí	–	–	–	–	–	–	–	–	–	–
Itaú	–	–	–	–	–	–	–	–	–	–
San Alberto	–	–	–	–	–	–	–	–	145	145
San Antonio	–	–	–	–	–	–	–	–	924	924
Total	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**1,069**	**1,069**
Payments per Government										
Yacimientos Petroliferos Fiscales Bolivianos (YPFB)	–	–	–	–	–	–	–	–	1,069	1,069
Servicio de Impuestos Nacionales (SIN) c/o YPFB	–	–	–	–	–	–	–	–	–	–
Departamentos c/o YPFB	–	–	–	–	–	–	–	–	–	–
Fundesoc c/o Indigeneous Communities	–	–	–	–	–	–	–	–	–	–
Total	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**1,069**	**1,069**

In application of the regulation imposing a disclosure of the value of the total Payments, the table presented herebelow shows the sum of payments done in cash and in kind valuated as indicated in the footnotes.

Bolivia (all payments (kusd) - including valuation of in-kind payments)

	Income taxes	*Other Taxes*	Taxes (Total)	Royalties	License fees	License bonuses	Dividends	Infrastructure improvements	Production entitlements	Total of Payments
Payments per Project										
Aquio	–	*23,370*	23,370	–	145	–	–	–	–	23,515
Azero	–	–	–	–	703	–	–	–	–	703
Ipatí	–	*119,803*	119,803	–	229	–	–	21	–	120,053
Itaú	–	*5,772*	5,772	–	125	–	–	–	–	5,897
San Alberto	–	*7,455*	7,455	–	32	3,320	–	–	2,422(a)	13,229
San Antonio	–	*33,816*	33,816	–	63	–	–	–	15,933(b)	49,812
Total	**–**	***190,216***	**190,216**	**–**	**1,297**	**3,320**	**–**	**21**	**18,355**	**213,209**
Payments per Government										
Yacimientos Petroliferos Fiscales Bolivianos (YPFB)	–	–	–	–	1,297	3,320	–	–	18,355(c)	22,972
Servicio de Impuestos Nacionales (SIN) c/o YPFB	–	*121,738*	121,738	–	–	–	–		–	121,738
Departamentos c/o YPFB	–	*68,478*	68,478	–	–	–	–	–	–	68,478
Fundesoc c/o Indigeneous Communities	–	–	–	–	–	–	–	21	–	21
Total	**–**	***190,216***	**190,216**	**–**	**1,297**	**3,320**	**–**	**21**	**18,355**	**213,209**

(a) Corresponds to the valuation of 145 kboe for production entitlements at a fixed regulated price for condensates and on a net-back regulated price for gas.

(b) Corresponds to the valuation of 924 kboe for production entitlements at a fixed regulated price for condensates and on a net-back regulated price for gas.

(c) Corresponds to the valuation of 1,069 kboe for production entitlements at a fixed regulated price for condensates and on a net-back regulated price for gas.

	Income taxes	*Other Taxes*	Taxes (Total)	Royalties	License fees	License bonuses	Dividends	Infrastructure improvements	Production entitlements	Total of Payments
Brazil **(paid in cash (kusd))**										
Payments per Project										
Barreirinhas	–	–	–	–	43	–	–	–	–	43
BM-S-54	–	–	–	–	56	–	–	–	–	56
BMC-30	–	–	–	–	154	–	–	–	–	154
BMC-32	–	–	–	–	115	–	–	–	–	115
Ceara (CE-M-661)	–	–	–	–	66	–	–	–	–	66
C-M-541	–	–	–	–	446	–	–	–	–	446
Espirito Santo	–	–	–	–	17	–	–	–	–	17
Foz de Amazonas	–	–	–	–	29	–	–	–	–	29
Iara	–	*61,823*	61,823	–	–	–	–	–	–	61,823
Lapa	–	*46,509*	46,509	–	805	–	–	–	–	47,314
Libra	–	*14,808*	14,808	–	–	–	–	–	–	14,808
Pelotas	–	–	–	–	17,538	–	–	–	–	17,538
Xerelete (BC-2)	–	–	–	–	26	–	–	–	–	26
Non-attributable	–	–	–	–	196	–	–	–	–	196
Total	**–**	***123,140***	**123,140**	**–**	**19,491**	**–**	**–**	**–**	**–**	**142,631**
Payments per Government										
Agencia National de Petroleo, Gas Natural eBiocombustiveis	–	–	–	–	18,940	–	–	–	–	18,940
Fundo de Compensação Ambiental (FCA)	–	–	–	–	551	–	–	–	–	551
Receita Federal	–	*123,140*	123,140	–	–	–	–	–	–	123,140
Pré-sal Petroleo (PPSA)	–	–	–	–	–	–	–	–	–	–
Total	**–**	***123,140***	**123,140**	**–**	**19,491**	**–**	**–**	**–**	**–**	**142,631**
Brazil **(paid in kind (kboe))**										
Payments per Project										
Barreirinhas	–	–	–	–	–	–	–	–	–	–
BM-S-54	–	–	–	–	–	–	–	–	–	–
BMC-30	–	–	–	–	–	–	–	–	–	–
BMC-32	–	–	–	–	–	–	–	–	–	–
Ceara (CE-M-661)	–	–	–	–	–	–	–	–	–	–
C-M-541	–	–	–	–	–	–	–	–	–	–
Espirito Santo	–	–	–	–	–	–	–	–	–	–
Foz de Amazonas	–	–	–	–	–	–	–	–	–	–
Iara	–	–	–	–	–	–	–	–	–	–
Lapa	–	–	–	–	–	–	–	–	–	–
Libra	–	–	–	–	–	–	–	–	240	240
Pelotas	–	–	–	–	–	–	–	–	–	–
Xerelete (BC-2)	–	–	–	–	–	–	–	–	–	–
Non-attributable	–	–	–	–	–	–	–	–	–	–
Total	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**240**	**240**
Payments per Government										
Agencia National de Petroleo, Gas Natural e Biocombustiveis	–	–	–	–	–	–	–	–	–	–
Fundo de Compensação Ambiental (FCA)	–	–	–	–	–	–	–	–	–	–
Receita Federal	–	–	–	–	–	–	–	–	–	–
Pré-sal Petroleo (PPSA)	–	–	–	–	–	–	–	–	240	240
Total	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**240**	**240**

In application of the regulation imposing a disclosure of the value of the total Payments, the table presented herebelow shows the sum of payments done in cash and in kind valuated as indicated in the footnotes.

Brazil **(all payments (kusd) - including valuation of in-kind payments)**

	Income taxes	*Other Taxes*	Taxes (Total)	Royalties	License fees	License bonuses	Dividends	Infrastructure improvements	Production entitlements	Total of Payments
Payments per Project										
Barreirinhas	–	–	–	–	43	–	–	–	–	43
BM-S-54	–	–	–	–	56	–	–	–	–	56
BMC-30	–	–	–	–	154	–	–	–	–	154
BMC-32	–	–	–	–	115	–	–	–	–	115
Ceara (CE-M-661)	–	–	–	–	66	–	–	–	–	66
C-M-541	–	–	–	–	446	–	–	–	–	446
Espirito Santo	–	–	–	–	17	–	–	–	–	17
Foz de Amazonas	–	–	–	–	29	–	–	–	–	29
Iara	–	*61,823*	61,823	–	–	–	–	–	–	61,823
Lapa	–	*46,509*	46,509	–	805	–	–	–	–	47,314
Libra	–	*14,808*	14,808	–	–	–	–	–	17,723(a)	32,531
Pelotas	–	–	–	–	17,538	–	–	–	–	17,538
Xerelete (BC-2)	–	–	–	–	26	–	–	–	–	26
Non-attributable	–	–	–	–	196	–	–	–	–	196
Total	**–**	***123,140***	**123,140**	**–**	**19,491**	**–**	**–**	**–**	**17,723**	**160,354**
Payments per Government										
Agencia National de Petroleo, Gas Natural e Biocombustiveis	–	–	–	–	18,940	–	–	–	–	18,940
Fundo de Compensação Ambiental (FCA)	–	–	–	–	551	–	–	–	–	551
Receita Federal	–	*123,140*	123,140	–	–	–	–	–	–	123,140
Pré-sal Petroleo (PPSA)	–	–	–	–	–	–	–	–	17,723(a)	17,723
Total	**–**	***123,140***	**123,140**	**–**	**19,491**	**–**	**–**	**–**	**17,723**	**160,354**

(a) Corresponds to the valuation of 240 kboe at the fiscal reference price determined by ANP (Agencia National de Petroleo) for production entitlements.

Brunei **(paid in cash (kusd))**

	Income taxes	*Other Taxes*	Taxes (Total)	Royalties	License fees	License bonuses	Dividends	Infrastructure improvements	Production entitlements	Total of Payments
Payments per Project										
Block B	*39,237*	*8,233*	47,470	–	5	–	–	–	6,173(a)	53,648
Total	***39,237***	***8,233***	**47,470**	**–**	**5**	**–**	**–**	**–**	**6,173**	**53,648**
Payments per Government										
Brunei Government	*39,237*	*8,233*	47,470	–	5	–	–	–	6,173(a)	53,648
Total	***39,237***	***8,233***	**47,470**	**–**	**5**	**–**	**–**	**–**	**6,173**	**53,648**

(a) Corresponds to the payment related to Domestic Gas Supply Obligation.

Bulgaria **(paid in cash (kusd))**

	Income taxes	*Other Taxes*	Taxes (Total)	Royalties	License fees	License bonuses	Dividends	Infrastructure improvements	Production entitlements	Total of Payments
Payments per Project										
Khan Asparuh	–	–	–	–	239	–	–	–	–	239
Total	**–**	**–**	**–**	**–**	**239**	**–**	**–**	**–**	**–**	**239**
Payments per Government										
Ministry of Energy of Bulgaria	–	–	–	–	239	–	–	–	–	239
Total	**–**	**–**	**–**	**–**	**239**	**–**	**–**	**–**	**–**	**239**

Canada **(paid in cash (kusd))**

	Income taxes	*Other Taxes*	Taxes (Total)	Royalties	License fees	License bonuses	Dividends	Infrastructure improvements	Production entitlements	Total of Payments
Payments per Project										
Fort Hills	–	–	–	13,469	11,452	–	–	–	–	24,921
Northern Lights	–	–	–	–	82	–	–	–	–	82
Surmont	–	–	–	46,361	13,032	–	–	–	–	59,393
Other oil sands projects	–	–	–	–	5	–	–	–	–	5
Total	**–**	**–**	**–**	**59,830**	**24,571**	**–**	**–**	**–**	**–**	**84,401**
Payments per Government										
Province of Alberta	–	–	–	59,830	3,329	–	–	–	–	63,159
Municipality of Wood Buffalo (Alberta)	–	–	–	–	20,947	–	–	–	–	20,947
Fort McKay First Nations (FMFN)	–	–	–	–	295	–	–	–	–	295
Total	**–**	**–**	**–**	**59,830**	**24,571**	**–**	**–**	**–**	**–**	**84,401**

	Income taxes	Other Taxes	Taxes (Total)	Royalties	License fees	License bonuses	Dividends	Infrastructure improvements	Production entitlements	Total of Payments
China (paid in cash (kusd))										
Payments per Project										
Sulige	19,178	1,596	20,774	–	–	–	–	–	–	20,774
Total	**19,178**	**1,596**	**20,774**	**–**	**–**	**–**	**–**	**–**	**–**	**20,774**
Payments per Government										
China National Petroleum Company	–	1,596	1,596	–	–	–	–	–	–	1,596
Etoke Tax Bureau	9,422	–	9,422	–	–	–	–	–	–	9,422
Guangzhou Offshore Oil Tax Bureau	167	–	167	–	–	–	–	–	–	167
Tianjin Offshore Oil Tax Bureau	9,589	–	9,589	–	–	–	–	–	–	9,589
Total	**19,178**	**1,596**	**20,774**	**–**	**–**	**–**	**–**	**–**	**–**	**20,774**
China (paid in kind (kboe))										
Payments per Project										
Sulige	–	560	560	–	–	–	–	–	877	1,437
Total	**–**	**560**	**560**	**–**	**–**	**–**	**–**	**–**	**877**	**1,437**
Payments per Government										
China National Petroleum Company	–	560	560	–	–	–	–	–	877	1,437
Etoke Tax Bureau	–	–	–	–	–	–	–	–	–	–
Guangzhou Offshore Oil Tax Bureau	–	–	–	–	–	–	–	–	–	–
Tianjin Offshore Oil Tax Bureau	–	–	–	–	–	–	–	–	–	–
Total	**–**	**560**	**560**	**–**	**–**	**–**	**–**	**–**	**877**	**1,437**

In application of the regulation imposing a disclosure of the value of the total Payments, the table presented herebelow shows the sum of payments done in cash and in kind valuated as indicated in the footnotes.

	Income taxes	Other Taxes	Taxes (Total)	Royalties	License fees	License bonuses	Dividends	Infrastructure improvements	Production entitlements	Total of Payments
China (all payments (kusd) - including valuation of in-kind payments)										
Payments per Project										
Sulige	19,178	18,878[a]	38,056	–	–	–	–	–	27,137[b]	65,193
Total	**19,178**	**18,878**	**38,056**	**–**	**–**	**–**	**–**	**–**	**27,137**	**65,193**
Payments per Government										
China National Petroleum Company	–	18,878[a]	18,878	–	–	–	–	–	27,137[b]	46,015
Etoke Tax Bureau	9,422	–	9,422	–	–	–	–	–	–	9,422
Guangzhou Offshore Oil Tax Bureau	167	–	167	–	–	–	–	–	–	167
Tianjin Offshore Oil Tax Bureau	9,589	–	9,589	–	–	–	–	–	–	9,589
Total	**19,178**	**18,878**	**38,056**	**–**	**–**	**–**	**–**	**–**	**27,137**	**65,193**

(a) Includes the valuation for 17,282 k$ of 560 kboe for taxes of different natures.

(b) Corresponds to the valuation of 877 kboe for production entitlements.

	Income taxes	Other Taxes	Taxes (Total)	Royalties	License fees	License bonuses	Dividends	Infrastructure improvements	Production entitlements	Total of Payments
Côte d'Ivoire (paid in cash (kusd))										
Payments per Project										
CI-605	–	–	–	–	2,213	–	–	–	–	2,213
CI-705	–	–	–	–	382	–	–	–	–	382
CI-706	–	–	–	–	350	–	–	–	–	350
Total	**–**	**–**	**–**	**–**	**2,945**	**–**	**–**	**–**	**–**	**2,945**
Payments per Government										
République de Côte d'Ivoire, Direction Générale des Hydrocarbures	–	–	–	–	2,945	–	–	–	–	2,945
Total	**–**	**–**	**–**	**–**	**2,945**	**–**	**–**	**–**	**–**	**2,945**

	Income taxes	*Other Taxes*	Taxes (Total)	Royalties	License fees	License bonuses	Dividends	Infrastructure improvements	Production entitlements	Total of Payments
Cyprus **(paid in cash (kusd))**										
Payments per Project										
Block 2	–	–	–	–	71	–	–	–	–	71
Block 3	–	–	–	–	96	–	–	–	–	96
Block 6	–	–	–	–	168	–	–	–	–	168
Block 7	–	–	–	–	187	–	–	–	–	187
Block 8	–	–	–	–	174	–	–	–	–	174
Block 9	–	–	–	–	66	–	–	–	–	66
Block 11	–	–	–	–	263	–	–	–	–	263
Total	**–**	**–**	**–**	**–**	**1,025**	**–**	**–**	**–**	**–**	**1,025**
Payments per Government										
Ministry of Energy, Commerce, Industry and Tourism	–	–	–	–	1,025	–	–	–	–	1,025
Total	**–**	**–**	**–**	**–**	**1,025**	**–**	**–**	**–**	**–**	**1,025**
Denmark **(paid in cash (kusd))**										
Payments per Project										
Sole Concession Area	*(12,694)[(a)]*	*860*	(11,834)	–	7,150	–	–	–	–	(4,684)
Total	***(12,694)***	***860***	**(11,834)**	**–**	**7,150**	**–**	**–**	**–**	**–**	**(4,684)**
Payments per Government										
Arbejdstilsynet	–	–	–	–	353	–	–	–	–	353
Energistyrelsen	–	–	–	–	137	–	–	–	–	137
Dansk Teknisk Universitet	–	–	–	–	6,660	–	–	–	–	6,660
Skat	*(12,694)[(a)]*	*860*	(11,834)	–	–	–	–	–	–	(11,834)
Total	***(12,694)***	***860***	**(11,834)**	**–**	**7,150**	**–**	**–**	**–**	**–**	**(4,684)**

(a) Net refunds of income taxes linked to the evolution of extractive activities in Denmark in 2020 and 2021 and the outcome of a tax audit on 2017 fiscal year.

	Income taxes	*Other Taxes*	Taxes (Total)	Royalties	License fees	License bonuses	Dividends	Infrastructure improvements	Production entitlements	Total of Payments
Egypt **(paid in cash (kusd))**										
Payments per Project										
North Ras El Kanyis Offshore	–	–	–	–	226	–	–	–	–	226
Total	**–**	**–**	**–**	**–**	**226**	**–**	**–**	**–**	**–**	**226**
Payments per Government										
Egyptian Natural Gas Holding Company	–	–	–	–	226	–	–	–	–	226
Total	**–**	**–**	**–**	**–**	**226**	**–**	**–**	**–**	**–**	**226**
Gabon **(paid in cash (kusd))**										
Payments per Project										
Baudroie-Mérou CEPP	–	*6,929*	6,929	–	1,443	–	–	–	–	8,372
Concessions (périmètre Convention d'Etablissement)	*102*	*1,960*	2,062	–	2,869	–	–	11,228	–	16,159
Concession Anguille	–	*31,230*	31,230	–	–	–	–	–	–	31,230
Concession Grondin	–	*36,634*	36,634	–	–	–	–	–	–	36,634
Concession Torpille	–	*29,429*	29,429	–	–	–	–	–	–	29,429
Hylia II CEPP	–	*1,483*	1,483	–	400	–	–	–	–	1,883
Non-attributable	–	–	–	–	–	–	5,063	–	–	5,063
Total	***102***	***107,665***	**107,767**	**–**	**4,712**	**–**	**5,063**	**11,228**	**–**	**128,770**
Payments per Government										
Trésor Public gabonais	*102*	*107,665*	107,767	–	996	–	–	–	–	108,763
Direction Générale des Hydrocarbures	–	–	–	–	2,961	–	–	–	–	2,961
République du Gabon	–	–	–	–	–	–	5,063	6,164	–	11,227
Direction Générale des Impôts	–	–	–	–	658	–	–	–	–	658
Ville de Port-Gentil	–	–	–	–	97	–	–	1,528	–	1,625
Miscellaneous PID beneficiaries	–	–	–	–	–	–	–	1,920	–	1,920
Miscellaneous PIH beneficiaries	–	–	–	–	–	–	–	1,616	–	1,616
Total	***102***	***107,665***	**107,767**	**–**	**4,712**	**–**	**5,063**	**11,228**	**–**	**128,770**

	Income taxes	Other Taxes	Taxes (Total)	Royalties	License fees	License bonuses	Dividends	Infrastructure improvements	Production entitlements	Total of Payments
Gabon (paid in kind (kboe))										
Payments per Project										
Baudroie-Mérou CEPP	*358*	–	358	–	–	–	–	–	–	358
Concessions (périmètre Convention d'Etablissement)	–	–	–	–	–	–	–	–	–	–
Concession Anguille	–	–	–	–	–	–	–	–	–	–
Concession Grondin	–	–	–	–	–	–	–	–	–	–
Concession Torpille	–	–	–	–	–	–	–	–	–	–
Hylia II CEPP	*23*	–	23	–	–	–	–	–	–	23
Non-attributable	–	–	–	–	–	–	–	–	–	–
Total	***381***	**–**	**381**	**–**	**–**	**–**	**–**	**–**	**–**	**381**
Payments per Government										
Trésor Public gabonais	–	–	–	–	–	–	–	–	–	–
Direction Générale des Hydrocarbures	–	–	–	–	–	–	–	–	–	–
République du Gabon	*381*	–	381	–	–	–	–	–	–	381
Direction Générale des Impôts	–	–	–	–	–	–	–	–	–	–
Ville de Port-Gentil	–	–	–	–	–	–	–	–	–	–
Miscellaneous PID beneficiaries	–	–	–	–	–	–	–	–	–	–
Miscellaneous PIH beneficiaries	–	–	–	–	–	–	–	–	–	–
Total	***381***	**–**	**381**	**–**	**–**	**–**	**–**	**–**	**–**	**381**

In application of the regulation imposing a disclosure of the value of the total Payments, the table presented herebelow shows the sum of payments done in cash and in kind valuated as indicated in the footnotes.

	Income taxes	Other Taxes	Taxes (Total)	Royalties	License fees	License bonuses	Dividends	Infrastructure improvements	Production entitlements	Total of Payments
Gabon (all payments (kusd) - including valuation of in-kind payments)										
Payments per Project										
Baudroie-Mérou CEPP	22,873[(a)]	6,929	29,802	–	1,443	–	–	–	–	31,245
Concessions (périmètre Convention d'Etablissement)	*102*	*1,960*	2,062	–	2,869	–	–	11,228[(b)]	–	16,159
Concession Anguille	–	*31,230*	31,230	–	–	–	–	–	–	31,230
Concession Grondin	–	*36,634*	36,634	–	–	–	–	–	–	36,634
Concession Torpille	–	*29,429*	29,429	–	–	–	–	–	–	29,429
Hylia II CEPP	*1,529*[(c)]	*1,483*	3,012	–	400	–	–	–	–	3,412
Non-attributable	–	–	–	–	–	–	5,063	–	–	5,063
Total	***24,504***	***107,665***	**132,169**	**–**	**4,712**	**–**	**5,063**	**11,228**	**–**	**153,172**
Payments per Government										
Trésor Public gabonais	*102*	*107,665*	107,767	–	996	–	–	–	–	108,763
Direction Générale des Hydrocarbures	–	–	–	–	2,961	–	–	–	–	2,961
République du Gabon	*24,402*[(d)]	–	24,402	–	–	–	5,063	6,164	–	35,629
Direction Générale des Impôts	–	–	–	–	658	–	–	–	–	658
Ville de Port-Gentil	–	–	–	–	97	–	–	1,528	–	1,625
Miscellaneous PID beneficiaries	–	–	–	–	–	–	–	1,920	–	1,920
Miscellaneous PIH beneficiaries	–	–	–	–	–	–	–	1,616	–	1,616
Total	***24,504***	***107,665***	**132,169**	**–**	**4,712**	**–**	**5,063**	**11,228**	**–**	**153,172**

(a) Corresponds to the valuation of 358 kboe at the official selling price and applying the fiscal terms of the profit sharing agreements.

(b) Financing of projects (infrastructure, education, health) under joint control of the State and TotalEnergies within the framework of the *Provision pour Investissements Diversifiés* (PID - contribution to diversified investments) and of the *Provision pour Investissements dans les Hydrocarbures* (PIH - contribution to investments in hydrocarbons).

(c) Corresponds to the valuation of 23 kboe at the official selling price and applying the fiscal terms of the profit sharing agreements.

(d) Corresponds to the valuation of 381 kboe at the official selling price and applying the fiscal terms of the profit sharing agreements.

	Income taxes	*Other Taxes*	Taxes (Total)	Royalties	License fees	License bonuses	Dividends	Infrastructure improvements	Production entitlements	Total of Payments
Greece (paid in cash (kusd))										
Payments per Project										
Block SouthWest Crete	–	–	–	–	251	–	–	–	–	251
Block West Crete	–	–	–	–	252	–	–	–	–	252
Total	–	–	**–**	**–**	**503**	**–**	**–**	**–**	**–**	**503**
Payments per Government										
Hellenic Hydrocarbon Resources Management	–	–	–	–	503	–	–	–	–	503
Total	–	–	**–**	**–**	**503**	**–**	**–**	**–**	**–**	**503**
Guyana (paid in cash (kusd))										
Payments per Project										
Canje	–	–	–	–	51	–	–	–	–	51
Kanuku	–	–	–	–	123	–	–	–	–	123
Orinduik	–	–	–	–	111	–	–	–	–	111
Total	–	–	**–**	**–**	**285**	**–**	**–**	**–**	**–**	**285**
Payments per Government										
Guyana Geology and Mines Commission	–	–	–	–	285	–	–	–	–	285
Total	–	–	**–**	**–**	**285**	**–**	**–**	**–**	**–**	**285**
Indonesia (paid in cash (kusd))										
Payments per Project										
Sebuku PSC	*7,558*	–	7,558	–	–	–	–	–	–	7,558
Total	***7,558***	–	**7,558**	**–**	**–**	**–**	**–**	**–**	**–**	**7,558**
Payments per Government										
Directorate General of Taxation, Ministry of Finance	*7,558*	–	7,558	–	–	–	–	–	–	7,558
Satuan Khusus Kegiatan Usaha Hulu Minyak dan Gas umi (SKK Migas)	–	–	–	–	–	–	–	–	–	–
Total	***7,558***	–	**7,558**	**–**	**–**	**–**	**–**	**–**	**–**	**7,558**
Indonesia (paid in kind (kboe))										
Payments per Project										
Sebuku PSC	–	–	–	–	–	–	–	–	71	71
Total	–	–	**–**	**–**	**–**	**–**	**–**	**–**	**71**	**71**
Payments per Government										
Directorate General of Taxation, Ministry of Finance	–	–	–	–	–	–	–	–	–	–
Satuan Khusus Kegiatan Usaha Hulu Minyak dan Gas Bumi (SKK Migas)	–	–	–	–	–	–	–	–	71	71
Total	–	–	**–**	**–**	**–**	**–**	**–**	**–**	**71**	**71**

In application of the regulation imposing a disclosure of the value of the total Payments, the table presented herebelow shows the sum of payments done in cash and in kind valuated as indicated in the footnotes.

	Income taxes	*Other Taxes*	Taxes (Total)	Royalties	License fees	License bonuses	Dividends	Infrastructure improvements	Production entitlements	Total of Payments
Indonesia (all payments (kusd) - including valuation of in-kind payments)										
Payments per Project										
Sebuku PSC	*7,558*	–	7,558	–	–	–	–	–	2,304(a)	9,862
Total	***7,558***	–	**7,558**	**–**	**–**	**–**	**–**	**–**	**2,304**	**9,862**
Payments per Government										
Directorate General of Taxation, Ministry of Finance	*7,558*	–	7,558	–	–	–	–	–	–	7,558
Satuan Khusus Kegiatan Usaha Hulu Minyak dan Gas Bumi (SKK Migas)	–	–	–	–	–	–	–	–	2,304(a)	2,304
Total	***7,558***	–	**7,558**	**–**	**–**	**–**	**–**	**–**	**2,304**	**9,862**

(a) Corresponds to the valuation at net-back price of 71 kboe for production entitlements.

Iraq (paid in cash (kusd))

	Income taxes	*Other Taxes*	Taxes (Total)	Royalties	License fees	License bonuses	Dividends	Infrastructure improvements	Production entitlements	Total of Payments
Payments per Project										
Halfaya	*5,940*	–	5,940	–	–	–	–	–	–	5,940
Sarsang	–	–	–	–	–	–	–	–	–	–
Total	***5,940***	–	**5,940**	**–**	**–**	**–**	**–**	**–**	**–**	**5,940**
Payments per Government										
Ministry of Natural Resources, Erbil, Kurdistan region of Iraq	–	–	–	–	–	–	–	–	–	–
Ministry of Finance, General Commission of Taxation	*5,940*	–	5,940	–	–	–	–	–	–	5,940
Total	***5,940***	–	**5,940**	**–**	**–**	**–**	**–**	**–**	**–**	**5,940**

Iraq (paid in kind (kboe))

	Income taxes	*Other Taxes*	Taxes (Total)	Royalties	License fees	License bonuses	Dividends	Infrastructure improvements	Production entitlements	Total of Payments
Payments per Project										
Halfaya	–	–	–	–	–	–	–	–	–	–
Sarsang	–	*268*	268	–	–	–	–	–	–	268
Total	–	***268***	**268**	**–**	**–**	**–**	**–**	**–**	**–**	**268**
Payments per Government										
Ministry of Natural Resources, Erbil, Kurdistan region of Iraq	–	*268*	268	–	–	–	–	–	–	268
Ministry of Finance, General Commission of Taxation	–	–	–	–	–	–	–	–	–	–
Total	–	***268***	**268**	**–**	**–**	**–**	**–**	**–**	**–**	**268**

In application of the regulation imposing a disclosure of the value of the total Payments, the table presented herebelow shows the sum of payments done in cash and in kind valuated as indicated in the footnotes.

Iraq (all payments (kusd) - including valuation of in-kind payments)

	Income taxes	*Other Taxes*	Taxes (Total)	Royalties	License fees	License bonuses	Dividends	Infrastructure improvements	Production entitlements	Total of Payments
Payments per Project										
Halfaya	*5,940*	–	5,940	–	–	–	–	–	–	5,940
Sarsang	–	*17,098*(a)	17,098	–	–	–	–	–	–	17,098
Total	***5,940***	***17,098***	**23,038**	**–**	**–**	**–**	**–**	**–**	**–**	**23,038**
Payments per Government										
Ministry of Natural Resources, Erbil, Kurdistan region of Iraq	–	*17,098*(a)	17,098	–	–	–	–	–	–	17,098
Ministry of Finance, General Commission of Taxation	*5,940*	–	5,940	–	–	–	–	–	–	5,940
Total	***5,940***	***17,098***	**23,038**	**–**	**–**	**–**	**–**	**–**	**–**	**23,038**

(a) Corresponds to the valuation of 268 kboe based on market prices for taxes of different natures.

Italy (paid in cash (kusd))

	Income taxes	*Other Taxes*	Taxes (Total)	Royalties	License fees	License bonuses	Dividends	Infrastructure improvements	Production entitlements	Total of Payments
Payments per Project										
Gorgoglione Unified License	–	*30,480*(a)	30,480	–	1,106	–	–	–	–	31,586
Total	–	***30,480***	**30,480**	**–**	**1,106**	**–**	**–**	**–**	**–**	**31,586**
Payments per Government										
Regione Basilicata	–	*24,381*(a)	24,381	–	738	–	–	–	–	25,119
Comune Corleto Perticara	–	*340*	340	–	–	–	–	–	–	340
Comune Gorgoglione	–	*234*	234	–	–	–	–	–	–	234
Ministero dell'Economia e delle Finanze	–	–	–	–	368	–	–	–	–	368
Tesoreria dello Stato	–	*5,525*	5,525	–	–	–	–	–	–	5,525
Total	–	***30,480***	**30,480**	**–**	**1,106**	**–**	**–**	**–**	**–**	**31,586**

(a) Includes payment for the domestic gas supply obligation.

Kazakhstan (paid in cash (kusd))

	Income taxes	Other Taxes	Taxes (Total)	Royalties	License fees	License bonuses	Dividends	Infrastructure improvements	Production entitlements	Total of Payments
Payments per Project										
Dunga	–	–	–	–	74	–	–	–	19,607	19,681
Kashagan	–	*23,237*	23,237	–	–	504	–	9,766	–	33,507
Total	**–**	***23,237***	**23,237**	**–**	**74**	**504**	**–**	**9,766**	**19,607**	**53,188**
Payments per Government										
Atyrau region c/o North Caspian Operating Company	–	–	–	–	–	–	–	2,640	–	2,640
Mangistau region c/o North Caspian Operating Company	–	–	–	–	–	–	–	7,126	–	7,126
Ministry of Finance	–	*23,237*	23,237	–	74	504	–	–	19,607	43,422
Ministry of Energy	–	–	–	–	–	–	–	–	–	–
Total	**–**	***23,237***	**23,237**	**–**	**74**	**504**	**–**	**9,766**	**19,607**	**53,188**

Kazakhstan (paid in kind (kboe))

	Income taxes	Other Taxes	Taxes (Total)	Royalties	License fees	License bonuses	Dividends	Infrastructure improvements	Production entitlements	Total of Payments
Payments per Project										
Dunga	–	–	–	–	–	–	–	–	–	–
Kashagan	–	–	–	–	–	–	–	–	508	508
Total	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**508**	**508**
Payments per Government										
Atyrau region c/o North Caspian Operating Company	–	–	–	–	–	–	–	–	–	–
Mangistau region c/o North Caspian Operating Company	–	–	–	–	–	–	–	–	–	–
Ministry of Finance	–	–	–	–	–	–	–	–	–	–
Ministry of Energy	–	–	–	–	–	–	–	–	508	508
Total	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**508**	**508**

In application of the regulation imposing a disclosure of the value of the total Payments, the table presented herebelow shows the sum of payments done in cash and in kind valuated as indicated in the footnotes.

Kazakhstan (all payments (kusd) - including valuation of in-kind payments)

	Income taxes	Other Taxes	Taxes (Total)	Royalties	License fees	License bonuses	Dividends	Infrastructure improvements	Production entitlements	Total of Payments
Payments per Project										
Dunga	–	–	–	–	74	–	–	–	19,607	19,681
Kashagan	–	*23,237*	23,237	–	–	504	–	9,766	27,045[a]	60,552
Total	**–**	***23,237***	**23,237**	**–**	**74**	**504**	**–**	**9,766**	**46,652**	**80,233**
Payments per Government										
Atyrau region c/o North Caspian Operating Company	–	–	–	–	–	–	–	2,640	–	2,640
Mangistau region c/o North Caspian Operating Company	–	–	–	–	–	–	–	7,126	–	7,126
Ministry of Finance	–	*23,237*	23,237	–	74	504	–	–	19,607	43,422
Ministry of Energy	–	–	–	–	–	–	–	–	27,045[a]	27,045
Total	**–**	***23,237***	**23,237**	**–**	**74**	**504**	**–**	**9,766**	**46,652**	**80,233**

(a) Corresponds to the valuation of 508 kboe at average net-back prices for production entitlements.

Kenya (paid in cash (kusd))

	Income taxes	Other Taxes	Taxes (Total)	Royalties	License fees	License bonuses	Dividends	Infrastructure improvements	Production entitlements	Total of Payments
Payments per Project										
10BA	–	–	–	–	77	–	–	–	–	77
10BB	–	–	–	–	185	–	–	–	–	185
13T	–	–	–	–	26	–	–	–	–	26
L11A	–	–	–	–	32	–	–	18	–	50
L11B	–	–	–	–	31	–	–	18	–	49
L12	–	–	–	–	31	–	–	18	–	49
Total	**–**	**–**	**–**	**–**	**382**	**–**	**–**	**54**	**–**	**436**
Payments per Government										
Kenya Ministry of Energy	–	–	–	–	382	–	–	–	–	382
National Oil Corporation of Kenya	–	–	–	–	–	–	–	54	–	54
Total	**–**	**–**	**–**	**–**	**382**	**–**	**–**	**54**	**–**	**436**

	Income taxes	*Other Taxes*	Taxes (Total)	Royalties	License fees	License bonuses	Dividends	Infrastructure improvements	Production entitlements	Total of Payments
Lebanon (paid in cash (kusd))										
Payments per Project										
Block 4	–	–	–	–	58	–	–	–	–	58
Block 9	–	–	–	–	58	–	–	–	–	58
Total	–	–	**–**	**–**	**116**	**–**	**–**	**–**	**–**	**116**
Payments per Government										
Lebanese Petroleum Administration (LPA)	–	–	–	–	116	–	–	–	–	116
Total	–	–	**–**	**–**	**116**	**–**	**–**	**–**	**–**	**116**
Libya (paid in cash (kusd))										
Payments per Project										
Areas 15, 16 & 32 (Al Jurf)	–	–	–	–	–	–	–	–	–	–
Areas 129 & 130	–	–	–	–	–	–	–	–	–	–
Areas 130 & 131	–	–	–	–	–	–	–	–	–	–
Waha[(a)]	–	–	–	–	–	–	–	–	–	–
Total	–	–	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**
Payments per Government										
National Oil Corporation	–	–	–	–	–	–	–	–	–	–
Ministry of Finance c/o National Oil Corporation	–	–	–	–	–	–	–	–	–	–
Ministry of Oil and Gas[(a)]	–	–	–	–	–	–	–	–	–	–
Total	–	–	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**

(a) Following instructions of competent authorities, no payment related to Waha have been made in 2021. A payment of 890 MUSD has been made in January 2022.

	Income taxes	*Other Taxes*	Taxes (Total)	Royalties	License fees	License bonuses	Dividends	Infrastructure improvements	Production entitlements	Total of Payments
Libya (paid in kind (kboe))										
Payments per Project										
Areas 15, 16 & 32 (Al Jurf)	*2,303*	*244*	2,547	–	–	–	–	–	2,615	5,162
Areas 129 & 130	*4,043*	*383*	4,426	–	–	–	–	–	12,412	16,838
Areas 130 & 131	*1,378*	*144*	1,522	–	–	–	–	–	5,388	6,909
Waha	–	–	–	–	–	–	–	–	–	–
Total	***7,724***	***771***	**8,495**	**–**	**–**	**–**	**–**	**–**	**20,415**	**28,910**
Payments per Government										
National Oil Corporation	–	–	–	–	–	–	–	–	20,415	20,415
Ministry of Finance c/o National Oil Corporation	*7,724*	*771*	8,495	–	–	–	–	–	–	8,495
Ministry of Oil and Gas	–	–	–	–	–	–	–	–	–	–
Total	***7,724***	***771***	**8,495**	**–**	**–**	**–**	**–**	**–**	**20,415**	**28,910**

In application of the regulation imposing a disclosure of the value of the total Payments, the table presented herebelow shows the sum of payments done in cash and in kind valuated as indicated in the footnotes.

Libya (all payments (kusd) - including valuation of in-kind payments)

	Income taxes	Other Taxes	Taxes (Total)	Royalties	License fees	License bonuses	Dividends	Infrastructure improvements	Production entitlements	Total of Payments
Payments per Project										
Areas 15, 16 & 32 (Al Jurf)	*153,985*[a]	*16,334*[b]	170,319	–	–	–	–	–	174,888[c]	345,207
Areas 129 & 130	*280,758*[d]	*26,601*[e]	307,359	–	–	–	–	–	861,922[f]	1,169,281
Areas 130 & 131	*95,245*[g]	*9,934*[h]	105,179	–	–	–	–	–	372,455[i]	477,634
Waha[j]	–	–	–	–	–	–	–	–	–	–
Total	***529,988***	***52,869***	**582,857**	**–**	**–**	**–**	**–**	**–**	**1,409,265**	**1,992,122**
Payments per Government										
National Oil Corporation	–	–	–	–	–	–	–	–	1,409,265[k]	1,409,265
Ministry of Finance c/o National Oil Corporation	*529,988*[l]	*52,869*[m]	582,857	–	–	–	–	–	–	582,857
Ministry of Oil and Gas[j]	–	–	–	–	–	–	–	–	–	–
Total	***529,988***	***52,869***	**582,857**	**–**	**–**	**–**	**–**	**–**	**1,409,265**	**1,992,122**

(a) Corresponds to the valuation of 2,303 kboe at official selling prices and applying the fiscal terms of the profit sharing agreements.
(b) Corresponds to the valuation of 244 kboe at official selling prices and applying the fiscal terms of the profit sharing agreements.
(c) Corresponds to the valuation of 2,615 kboe at official selling prices and applying the profit sharing agreements, including the share of National Oil Corporation, as partner.
(d) Corresponds to the valuation of 4,043 kboe at official selling prices and applying the fiscal terms of the profit sharing agreements.
(e) Corresponds to the valuation of 383 kboe at official selling prices and applying the fiscal terms of the profit sharing agreements.
(f) Corresponds to the valuation of 12,412 kboe at official selling prices and applying the profit sharing agreements, including the share of National Oil Corporation, as partner.
(g) Corresponds to the valuation of 1,378 kboe at official selling prices and applying the fiscal terms of the profit sharing agreements.
(h) Corresponds to the valuation of 144 kboe at official selling prices and applying the fiscal terms of the profit sharing agreements.
(i) Corresponds to the valuation of 5,388 kboe at official selling prices and applying the profit sharing agreements, including the share of National Oil Corporation, as partner.
(j) Following instructions of competent authorities, no payment related to Waha have been made in 2021. A payment of 890 MUSD has been made in January 2022.
(k) Corresponds to the valuation of 20,415 kboe at official selling prices and applying the profit sharing agreements, including the share of National Oil Corporation, as partner.
(l) Corresponds to the valuation of 7,724 kboe at official selling prices and applying the fiscal terms of the profit sharing agreements.
(m) Corresponds to the valuation of 771 kboe at official selling prices and applying the fiscal terms of the profit sharing agreements.

Mauritania (paid in cash (kusd))

	Income taxes	Other Taxes	Taxes (Total)	Royalties	License fees	License bonuses	Dividends	Infrastructure improvements	Production entitlements	Total of Payments
Payments per Project										
Block C15	–	–	–	–	670	–	–	–	–	670
Block C18	–	–	–	–	10,000	–	–	–	–	10,000
Block C31	–	–	–	–	658	–	–	–	–	658
Total	**–**	**–**	**–**	**–**	**11,328**	**–**	**–**	**–**	**–**	**11,328**
Payments per Government										
Trésor Public de Mauritanie	–	–	–	–	10,428	–	–	–	–	10,428
SMHPM (Société Mauritanienne des Hydrocarbures et du Patrimoine Minier)	–	–	–	–	500	–	–	–	–	500
Commission Environnementale	–	–	–	–	400	–	–	–	–	400
Total	**–**	**–**	**–**	**–**	**11,328**	**–**	**–**	**–**	**–**	**11,328**

Mexico (paid in cash (kusd))

	Income taxes	Other Taxes	Taxes (Total)	Royalties	License fees	License bonuses	Dividends	Infrastructure improvements	Production entitlements	Total of Payments
Payments per Project										
AS-CS-06 (B33)	–	*282*	282	–	216	–	–	–	–	498
Block 15	–	*853*	853	–	654	–	–	–	–	1,507
G-CS-02 (B32)	–	*549*	549	–	459	–	–	–	–	1,008
G-CS-03 (B34)	–	*301*	301	–	231	–	–	–	–	532
Perdido Block 2	–	*134*	134	–	102	–	–	–	–	236
Salina 1	–	*881*	881	–	676	–	–	–	–	1,557
Salina 3	–	*1,217*	1,217	–	933	–	–	–	–	2,150
Total	**–**	***4,217***	**4,217**	**–**	**3,271**	**–**	**–**	**–**	**–**	**7,488**
Payments per Government										
Servicio de Administracion Tributaria	–	*4,217*	4,217	–	–	–	–	–	–	4,217
Fondo Mexicano del Petroleo	–	–	–	–	3,271	–	–	–	–	3,271
Total	**–**	***4,217***	**4,217**	**–**	**3,271**	**–**	**–**	**–**	**–**	**7,488**

	Income taxes	Other Taxes	Taxes (Total)	Royalties	License fees	License bonuses	Dividends	Infrastructure improvements	Production entitlements	Total of Payments
Mozambique (paid in cash (kusd))										
Payments per Project										
Area 1 Golfino-Atum	–	–	–	–	1,060	–	–	–	–	1,060
Total	–	–	**–**	**–**	**1,060**	**–**	**–**	**–**	**–**	**1,060**
Payments per Government										
Instituto Nacional de Petroleo	–	–	–	–	1,060	–	–	–	–	1,060
Total	–	–	**–**	**–**	**1,060**	**–**	**–**	**–**	**–**	**1,060**
Myanmar (paid in cash (kusd))										
Payments per Project										
Blocks M5 and M6	–	*27,919*	27,919	–	–	–	–	–	72,129	100,048
Non-attributable	*17,200*	–	17,200	–	–	–	–	–	–	17,200
Total	***17,200***	***27,919***	**45,119**	**–**	**–**	**–**	**–**	**–**	**72,129**	**117,248**
Payments per Government										
Myanmar Ministry of Finance	*17,200*	*27,919*	45,119	–	–	–	–	–	–	45,119
Myanmar Oil and Gas Enterprise	–	–	–	–	–	–	–	–	72,129	72,129
Total	***17,200***	***27,919***	**45,119**	**–**	**–**	**–**	**–**	**–**	**72,129**	**117,248**
Myanmar (paid in kind (kboe))										
Payments per Project										
Blocks M5 and M6	–	–	–	–	–	–	–	–	2,676	2,676
Non-attributable	–	–	–	–	–	–	–	–	–	–
Total	–	–	**–**	**–**	**–**	**–**	**–**	**–**	**2,676**	**2,676**
Payments per Government										
Myanmar Ministry of Finance	–	–	–	–	–	–	–	–	–	–
Myanmar Oil and Gas Enterprise	–	–	–	–	–	–	–	–	2,676	2,676
Total	–	–	**–**	**–**	**–**	**–**	**–**	**–**	**2,676**	**2,676**

In application of the regulation imposing a disclosure of the value of the total Payments, the table presented herebelow shows the sum of payments done in cash and in kind valuated as indicated in the footnotes.

	Income taxes	Other Taxes	Taxes (Total)	Royalties	License fees	License bonuses	Dividends	Infrastructure improvements	Production entitlements	Total of Payments
Myanmar (all payments (kusd) - including valuation of in-kind payments)										
Payments per Project										
Blocks M5 and M6	–	*27,919*	27,919	–	–	–	–	–	140,672[(a)]	168,591
Non-attributable	*17,200*	–	17,200	–	–	–	–	–	–	17,200
Total	***17,200***	***27,919***	**45,119**	**–**	**–**	**–**	**–**	**–**	**140,672**	**185,791**
Payments per Government										
Myanmar Ministry of Finance	*17,200*	*27,919*	45,119	–	–	–	–	–	–	45,119
Myanmar Oil and Gas Enterprise	–	–	–	–	–	–	–	–	140,672[(a)]	140,672
Total	***17,200***	***27,919***	**45,119**	**–**	**–**	**–**	**–**	**–**	**140,672**	**185,791**

(a) Those production entitlements include 2,676 kboe of gas delivered as per Domestic Market Obligations and valuated for 68,543 k$ at a net back price.

	Income taxes	Other Taxes	Taxes (Total)	Royalties	License fees	License bonuses	Dividends	Infrastructure improvements	Production entitlements	Total of Payments
Namibia (paid in cash (kusd))										
Payments per Government										
Block 2912	–	–	–	–	229	–	–	–	–	229
Block 2913B	–	–	–	–	288	–	–	–	–	288
Total	–	–	**–**	**–**	**517**	**–**	**–**	**–**	**–**	**517**
Payments per Government										
Ministry of Mines & Energy	–	–	–	–	376	–	–	–	–	376
Petrofund	–	–	–	–	141	–	–	–	–	141
Total	–	–	**–**	**–**	**517**	**–**	**–**	**–**	**–**	**517**

Netherlands (paid in cash (kusd))

	Income taxes	Other Taxes	Taxes (Total)	Royalties	License fees	License bonuses	Dividends	Infrastructure improvements	Production entitlements	Total of Payments
Payments per Project										
Offshore Blocks	–	–	–	–	757	–	–	–	–	757
Non-attributable	*(13,217)(a)*	–	(13,217)	–	–	–	–	–	–	(13,217)
Total	***(13,217)***	–	**(13,217)**	**–**	**757**	**–**	**–**	**–**	**–**	**(12,460)**
Payments per Government										
Belastingdienst Nederland	*(13,217)(a)*	–	(13,217)	–	757	–	–	–	–	(12,460)
Total	***(13,217)***	–	**(13,217)**	**–**	**757**	**–**	**–**	**–**	**–**	**(12,460)**

(a) Net refunds of income taxes linked to the evolution of extractive activities in the Netherlands in 2020 and 2021 and a carry back of losses to fiscal year 2018.

Nigeria (paid in cash (kusd))

	Income taxes	Other Taxes	Taxes (Total)	Royalties	License fees	License bonuses	Dividends	Infrastructure improvements	Production entitlements	Total of Payments
Payments per Project										
OML 58 (joint venture with NNPC, operated)	*24,006*	–	24,006	–	–	–	–	–	–	24,006
OML 99 Amenam-Kpono (joint venture with NNPC, operated)	*22,702*	–	22,702	–	–	–	–	–	–	22,702
OML 100 (joint venture with NNPC, operated)	*22,221*	–	22,221	–	–	–	–	–	–	22,221
OML 102 (joint venture with NNPC, operated)	*106,243*	–	106,243	–	–	–	–	–	–	106,243
OML 118 (Bonga)	*1,404*	–	1,404	–	–	–	–	2,876	–	4,280
OML 130 PSA (Akpo & Egina)	*22,401*	*2,871*	25,272	–	1,321	–	–	819	–	27,412
OML 138 (Usan)	*881*	–	881	–	–	–	–	1,094	–	1,975
Joint ventures with NNPC, operated - Non-attributable	–	–	–	–	6,852	–	–	11,454	–	18,306
Joint ventures with NNPC, non operated - Non-attributable	*75,818*	–	75,818	–	4,384	–	–	5,940	–	86,142
Non-attributable	*272,911*	–	272,911	–	–	–	–	–	–	272,911
Total	***548,587***	***2,871***	**551,458**	**–**	**12,557**	**–**	**–**	**22,183**	**–**	**586,198**
Payments per Government										
Federal Inland Revenue Service	*297,597*	–	297,597	–	–	–	–	–	–	297,597
Department of Petroleum Resources, Federal Government of Nigeria	*250,990*	*2,871*	253,861	–	10,998	–	–	–	–	264,859
Niger Delta Development Commission	–	–	–	–	–	–	–	22,183	–	22,183
Nigerian Maritime Administration & Safety Agency, Federal Government of Nigeria	–	–	–	–	1,559	–	–	–	–	1,559
Nigerian National Petroleum Corporation	–	–	–	–	–	–	–	–	–	–
Federal Inland Revenue Service c/o Nigerian National Petroleum Corporation	–	–	–	–	–	–	–	–	–	–
Department of Petroleum Resources c/o Nigerian National Petroleum Corporation	–	–	–	–	–	–	–	–	–	–
Total	***548,587***	***2,871***	**551,458**	**–**	**12,557**	**–**	**–**	**22,183**	**–**	**586,198**

	Income taxes	*Other Taxes*	Taxes (Total)	Royalties	License fees	License bonuses	Dividends	Infrastructure improvements	Production entitlements	Total of Payments
Nigeria **(paid in kind (kboe))**										
Payments per Project										
OML 58 (joint venture with NNPC, operated)	–	–	–	–	–	–	–	–	–	–
OML 99 Amenam-Kpono (joint venture with NNPC, operated)	–	–	–	–	–	–	–	–	–	–
OML 100 (joint venture with NNPC, operated)	–	–	–	–	–	–	–	–	–	–
OML 102 (joint venture with NNPC, operated)	–	–	–	–	–	–	–	–	–	–
OML 118 (Bonga)	*477*	*577*	1,054	–	–	–	–	–	490	1,543
OML 130 PSA (Akpo & Egina)	–	–	–	–	–	–	–	–	–	–
OML 138 (Usan)	–	*376*	376	–	0	–	–	–	428	805
Joint ventures with NNPC, operated - Non-attributable	–	–	–	–	–	–	–	–	–	–
Joint ventures with NNPC, non operated - Non-attributable	–	–	–	–	–	–	–	–	–	–
Non-attributable	–	–	–	–	–	–	–	–	–	–
Total	***477***	***953***	**1,430**	**–**	**0**	**–**	**–**	**–**	**918**	**2,348**
Payments per Government										
Federal Inland Revenue Service	–	–	–	–	–	–	–	–	–	–
Department of Petroleum Resources, Federal Government of Nigeria	–	–	–	–	–	–	–	–	–	–
Niger Delta Development Commission	–	–	–	–	–	–	–	–	–	–
Nigerian Maritime Administration & Safety Agency, Federal Government of Nigeria	–	–	–	–	–	–	–	–	–	–
Nigerian National Petroleum Corporation	–	–	–	–	–	–	–	–	918	918
Federal Inland Revenue Service c/o Nigerian National Petroleum Corporation	*477*	–	477	–	–	–	–	–	–	477
Department of Petroleum Resources c/o Nigerian National Petroleum Corporation	–	*953*	953	–	0	–	–	–	–	953
Total	***477***	***953***	**1,430**	**–**	**0**	**–**	**–**	**–**	**918**	**2,348**

In application of the regulation imposing a disclosure of the value of the total Payments, the table presented herebelow shows the sum of payments done in cash and in kind valuated as indicated in the footnotes.

Nigeria (all payments (kusd) - including valuation of in-kind payments)

	Income taxes	*Other Taxes*	Taxes (Total)	Royalties	License fees	License bonuses	Dividends	Infrastructure improvements	Production entitlements	Total of Payments
Payments per Project										
OML 58 (joint venture with NNPC, operated)	*24,006*	–	24,006	–	–	–	–	–	–	24,006
OML 99 Amenam-Kpono (joint venture with NNPC, operated)	*22,702*	–	22,702	–	–	–	–	–	–	22,702
OML 100 (joint venture with NNPC, operated)	*22,221*	–	22,221	–	–	–	–	–	–	22,221
OML 102 (joint venture with NNPC, operated)	*106,243*	–	106,243	–	–	–	–	–	–	106,243
OML 118 (Bonga)	*35,498*[a]	*40,880*[b]	76,378	–	–	–	–	2,876	34,083[c]	113,337
OML 130 PSA (Akpo & Egina)	*22,401*	*2,871*	25,272	–	1,321	–	–	819	–	27,412
OML 138 (Usan)	*881*	*26,864*[d]	27,745	–	27[e]	–	–	1,094	30,621[f]	59,487
Joint ventures with NNPC, operated - Non-attributable	–	–	–	–	6,852	–	–	11,454	–	18,306
Joint ventures with NNPC, non operated - Non-attributable	*75,818*	–	75,818	–	4,384	–	–	5,940	–	86,142
Non-attributable	*272,911*[g]	–	272,911	–	–	–	–	–	–	272,911
Total	***582,681***	***70,615***	**653,296**	**–**	**12,584**	**–**	**–**	**22,183**	**64,704**	**752,767**
Payments per Government										
Federal Inland Revenue Service	*297,597*	–	297,597	–	–	–	–	–	–	297,597
Department of Petroleum Resources, Federal Government of Nigeria	*250,990*	*2,871*	253,861	–	10,998	–	–	–	–	264,859
Niger Delta Development Commission	–	–	–	–	–	–	–	22,183	–	22,183
Nigerian Maritime Administration & Safety Agency, Federal Government of Nigeria	–	–	–	–	1,559	–	–	–	–	1,559
Nigerian National Petroleum Corporation	–	–	–	–	–	–	–	–	64,704[h]	64,704
Federal Inland Revenue Service c/o Nigerian National Petroleum Corporation	*34,094*[i]	–	34,094	–	–	–	–	–	–	34,094
Department of Petroleum Resources c/o Nigerian National Petroleum Corporation	–	*67,744*[j]	67,744	–	27[e]	–	–	–	–	67,771
Total	***582,681***	***70,615***	**653,296**	**–**	**12,584**	**–**	**–**	**22,183**	**64,704**	**752,767**

(a) Includes the valuation for 34,094 k$ of 477 kboe at average entitlement price and applying the fiscal terms of the profit sharing agreements.

(b) Corresponds to the valuation for 577 kboe at average entitlement price and applying the terms of the profit sharing agreements.

(c) Corresponds to the valuation for 490 kboe at average entitlement price and applying the terms of the profit sharing agreements.

(d) Corresponds to the valuation for 376 kboe at average entitlement price and applying the terms of the profit sharing agreements.

(e) Corresponds to the valuation of 496 boe at average entitlement price of the period of barrels allocation and applying the terms of the profits sharing agreements.

(f) Corresponds to the valuation for 428 kboe at average entitlement price and applying the terms of the profit sharing agreements.

(g) This amount includes the tax implications of the provisions of the Modified Carry Agreement (MCA). Under the MCA, TotalEnergies EP Nigeria is entitled to recover 85% of the Carry Capital Cost through claims of capital allowance, described in the MCA as “Carry Tax Relief”. The balance of 15% is to be recovered from NNPC’s share of crude oil produced.

(h) Corresponds to the valuation for 918 kboe at average entitlement price and applying the terms of the profit sharing agreements.

(i) Corresponds to the valuation for 477 kboe at average entitlement price and applying the fiscal terms of the profit sharing agreements.

(j) Corresponds to the valuation for 953 kboe at average entitlement price and applying the terms of the profit sharing agreements.

	Income taxes	*Other Taxes*	Taxes (Total)	Royalties	License fees	License bonuses	Dividends	Infrastructure improvements	Production entitlements	Total of Payments
Norway (paid in cash (kusd))										
Payments per Project										
Åsgard area	–	*6,913*	6,913	–	618	–	–	–	–	7,531
Ekofisk area	–	*25,980*	25,980	–	2,977	–	–	–	–	28,957
Heimdal area	–	*881*	881	–	39	–	–	–	–	920
Johan Sverdrup	–	*(16)*	(16)	–	66	–	–	–	–	50
Oseberg area	–	*10,606*	10,606	–	887	–	–	–	–	11,493
PL018C	–	–	–	–	85	–	–	–	–	85
Snøhvit area	–	*449*	449	–	228	–	–	–	–	677
Troll area	–	*1,651*	1,651	–	133	–	–	–	–	1,784
Non-attributable	*619,139*	–	619,139	–	–	–	–	–	–	619,139
Total	***619,139***	***46,464***	**665,603**	**–**	**5,033**	**–**	**–**	**–**	**–**	**670,636**
Payments per Government										
Norwegian Tax Administration	*619,139*	*46,464*	665,603	–	–	–	–	–	–	665,603
Norwegian Petroleum Directorate	–	–	–	–	5,033	–	–	–	–	5,033
Total	***619,139***	***46,464***	**665,603**	**–**	**5,033**	**–**	**–**	**–**	**–**	**670,636**
Oman (paid in cash (kusd))										
Payments per Project										
Block 6	–	*301,527*	301,527	–	–	–	–	–	–	301,527
Block 12	–	–	–	–	280	(896)[a]	–	–	–	(616)
Block 53	*4,557*	–	4,557	–	–	–	–	–	–	4,557
Total	***4,557***	***301,527***	**306,084**	**–**	**280**	**(896)**	**–**	**–**	**–**	**305,468**
Payments per Government										
Oman Ministry of Finance	*4,557*	*301,527*	306,084	–	200	–	–	–	–	306,284
Ministry of Energy and Minerals	–	–	–	–	80	(896)[a]	–	–	–	(816)
Total	***4,557***	***301,527***	**306,084**	**–**	**280**	**(896)**	**–**	**–**	**–**	**305,468**

(a) Refunds in 2021 of an overpayment on the signature bonus for Block 12 paid in 2020.

	Income taxes	*Other Taxes*	Taxes (Total)	Royalties	License fees	License bonuses	Dividends	Infrastructure improvements	Production entitlements	Total of Payments
Papua New Guinea (paid in cash (kusd))										
Payments per Project										
PPL-576	–	–	–	–	11	–	–	–	–	11
PRL-15	–	–	–	–	535	–	–	–	–	535
Total	**–**	**–**	**–**	**–**	**546**	**–**	**–**	**–**	**–**	**546**
Payments per Government										
Conservation & Environment Protection Authority	–	–	–	–	546	–	–	–	–	546
Total	**–**	**–**	**–**	**–**	**546**	**–**	**–**	**–**	**–**	**546**
Philippines (paid in cash (kusd))										
Payments per Project										
Block SC56	–	–	–	–	4,548	–	–	–	–	4,548
Total	**–**	**–**	**–**	**–**	**4,548**	**–**	**–**	**–**	**–**	**4,548**
Payments per Government										
Department of Energy	–	–	–	–	4,548	–	–	–	–	4,548
Total	**–**	**–**	**–**	**–**	**4,548**	**–**	**–**	**–**	**–**	**4,548**
Qatar (paid in cash (kusd))										
Payments per Project										
Al Khalij	–	*8,027*	8,027	–	–	–	–	–	–	8,027
Dolphin	–	–	–	–	–	–	–	–	–	–
Qatargas 1	–	–	–	–	–	–	–	–	–	–
Total	**–**	***8,027***	**8,027**	**–**	**–**	**–**	**–**	**–**	**–**	**8,027**
Payments per Government										
Qatar Petroleum	–	–	–	–	–	–	–	–	–	–
Qatar Ministry of Finance	–	*8,027*	8,027	–	–	–	–	–	–	8,027
Total	**–**	***8,027***	**8,027**	**–**	**–**	**–**	**–**	**–**	**–**	**8,027**

Qatar (paid in kind (kboe))

	Income taxes	*Other Taxes*	Taxes (Total)	Royalties	License fees	License bonuses	Dividends	Infrastructure improvements	Production entitlements	Total of Payments
Payments per Project										
Al Khalij	–	–	–	–	–	–	–	–	–	–
Dolphin	*3,308*	–	3,308	–	–	–	–	–	30,402	33,709
Qatargas 1	*629*	–	629	–	–	–	–	–	859	1,489
Total	***3,937***	**–**	**3,937**	**–**	**–**	**–**	**–**	**–**	**31,261**	**35,198**
Payments per Government										
Qatar Petroleum	–	–	–	–	–	–	–	–	31,261	31,261
Qatar Ministry of Finance	*3,937*	–	3,937	–	–	–	–	–	–	3,937
Total	***3,937***	**–**	**3,937**	**–**	**–**	**–**	**–**	**–**	**31,261**	**35,198**

In application of the regulation imposing a disclosure of the value of the total Payments, the table presented herebelow shows the sum of payments done in cash and in kind valuated as indicated in the footnotes.

Qatar (all payments (kusd) - including valuation of in-kind payments)

	Income taxes	*Other Taxes*	Taxes (Total)	Royalties	License fees	License bonuses	Dividends	Infrastructure improvements	Production entitlements	Total of Payments
Payments per Project										
Al Khalij	–	*8,027*	8,027	–	–	–	–	–	–	8,027
Dolphin	*75,881(a)*	–	75,881	–	–	–	–	–	698,417(b)	774,298
Qatargas 1	*43,303(c)*	–	43,303	–	–	–	–	–	58,945(d)	102,248
Total	***119,184***	***8,027***	**127,211**	**–**	**–**	**–**	**–**	**–**	**757,362**	**884,573**
Payments per Government										
Qatar Petroleum	–	–	–	–	–	–	–	–	757,362(e)	757,362
Qatar Ministry of Finance	*119,184(f)*	*8,027*	127,211	–	–	–	–	–	–	127,211
Total	***119,184***	***8,027***	**127,211**	**–**	**–**	**–**	**–**	**–**	**757,362**	**884,573**

(a) Corresponds to the valuation of 3,308 kboe based on the average price of production entitlements and as per the fiscal terms of the profit sharing agreements.
(b) Corresponds to the valuation of 30,402 kboe based on the average price of production entitlements.
(c) Corresponds to the valuation of 629 kboe based on the average price of production entitlements and as per the fiscal terms of the profit sharing agreements.
(d) Corresponds to the valuation of 859 kboe based on the average price of production entitlements.
(e) Corresponds to the valuation of 31,261 kboe based on the average price of production entitlements.
(f) Corresponds to the valuation of 3,937 kboe based on the average price of production entitlements and as per the fiscal terms of the profit sharing agreements.

Republic of the Congo (paid in cash (kusd))

	Income taxes	*Other Taxes*	Taxes (Total)	Royalties	License fees	License bonuses	Dividends	Infrastructure improvements	Production entitlements	Total of Payments
Payments per Project										
CPP Haute Mer - Zone A	–	*26,972*	26,972	–	1,810	–	–	–	–	28,782
CPP Haute Mer - Zone B	–	*4,034*	4,034	–	431	–	–	–	–	4,465
CPP Haute Mer - Zone D	–	–	–	–	16,210	25,176	–	–	–	41,386
CPP Pointe Noire Grands Fonds (PNGF)	–	–	–	–	1,525	–	–	–	–	1,525
Kombi, Likalala & Libondo	–	–	–	–	65,000	–	–	–	–	65,000
Lianzi	*639*	–	639	–	20	19	–	–		678
Madingo	–	–	–	–	20,470	–	–	–	–	20,470
Marine XX	–	–	–	–	141	–	–	–	–	141
Mokelembembe	–	–	–	–	327	–	–	–	–	327
Nanga	–	–	–	–	250	–	–	–	–	250
Pegase Nord (ex MTPS)	–	–	–	–	59	–	–	–	–	59
Total	***639***	***31,006***	**31,645**	**–**	**106,243**	**25,195**	**–**	**–**	**–**	**163,083**
Payments per Government										
Ministère des hydrocarbures	–	–	–	–	1,061	–	–	–	–	1,061
Trésor Public	–	*31,006*	31,006	–	105,182	25,195	–	–	–	161,383
Société Nationale des Pétroles Congolais	*639*	–	639	–	–	–	–	–	–	639
Total	***639***	***31,006***	**31,645**	**–**	**106,243**	**25,195**	**–**	**–**	**–**	**163,083**

Republic of the Congo (paid in kind (kboe))

	Income taxes	*Other Taxes*	Taxes (Total)	Royalties	License fees	License bonuses	Dividends	Infrastructure improvements	Production entitlements	Total of Payments
Payments per Project										
CPP Haute Mer - Zone A	*353*	*–*	353	–	–	–	–	–	–	353
CPP Haute Mer - Zone B	*161*	*–*	161	–	–	–	–	–	–	161
CPP Haute Mer - Zone D	*1,135*	*3,457*	4,592	–	–	–	–	–	–	4,592
CPP Pointe Noire Grands Fonds (PNGF)	*695*	*254*	949	–	–	–	–	–	–	949
Kombi, Likalala & Libondo	*–*	*–*	–	–	–	–	–	–	–	–
Lianzi	*–*	*–*	–	–	–	–	–	–	9	9
Madingo	*199*	*95*	294	–	–	–	–	–	–	294
Marine XX	*–*	*–*	–	–	–	–	–	–	–	–
Mokelembembe	*–*	*–*	–	–	–	–	–	–	–	–
Nanga	*–*	*–*	–	–	–	–	–	–	–	–
Pegase Nord (ex MTPS)	*–*	*–*	–	–	–	–	–	–	–	–
Total	***2,544***	***3,806***	**6,350**	**–**	**–**	**–**	**–**	**–**	**9**	**6,359**
Payments per Government										
Ministère des hydrocarbures	*2,544*	*3,806*	6,350	–	–	–	–	–	–	6,350
Trésor Public	*–*	*–*	–	–	–	–	–	–	–	–
Société Nationale des Pétroles Congolais	*–*	*–*	–	–	–	–	–	–	9	9
Total	***2,544***	***3,806***	**6,350**	**–**	**–**	**–**	**–**	**–**	**9**	**6,359**

In application of the regulation imposing a disclosure of the value of the total Payments, the table presented herebelow shows the sum of payments done in cash and in kind valuated as indicated in the footnotes.

Republic of the Congo (all payments (kusd) - including valuation of in-kind payments)

	Income taxes	*Other Taxes*	Taxes (Total)	Royalties	License fees	License bonuses	Dividends	Infrastructure improvements	Production entitlements	Total of Payments
Payments per Project										
CPP Haute Mer - Zone A	*23,440(a)*	*26,972*	50,412	–	1,810	–	–	–	–	52,222
CPP Haute Mer - Zone B	*10,950(b)*	*4,034*	14,984	–	431	–	–	–	–	15,415
CPP Haute Mer - Zone D	*78,556(c)*	*237,615(d)*	316,171	–	16,210	25,176	–	–	–	357,557
CPP Pointe Noire Grands Fonds (PNGF)	*48,470(e)*	*17,568(f)*	66,038	–	1,525	–	–	–	–	67,563
Kombi, Likalala & Libondo	*–*	*–*	–	–	65,000	–	–	–	–	65,000
Lianzi	*639*	*–*	639	–	20	19	–	–	650(g)	1,328
Madingo	*13,580(h)*	*6,506(i)*	20,086	–	20,470	–	–	–	–	40,556
Marine XX	*–*	*–*	–	–	141	–	–	–	–	141
Mokelembembe	*–*	*–*	–	–	327	–	–	–	–	327
Nanga	*–*	*–*	–	–	250	–	–	–	–	250
Pegase Nord (ex MTPS)	*–*	*–*	–	–	59	–	–	–	–	59
Total	***175,635***	***292,695***	**468,330**	**–**	**106,243**	**25,195**	**–**	**–**	**650**	**600,418**
Payments per Government										
Ministère des hydrocarbures	*174,996(j)*	*261,689(k)*	436,685	–	1,061	–	–	–	–	437,746
Trésor Public	*–*	*31,006*	31,006	–	105,182	25,195	–	–	–	161,383
Société Nationale des Pétroles Congolais	*639*	*–*	639	–	–	–	–	–	650(g)	1,289
Total	***175,635***	***292,695***	**468,330**	**–**	**106,243**	**25,195**	**–**	**–**	**650**	**600,418**

(a) Corresponds to the valuation of 353 kboe at official fiscal prices and applying the fiscal terms of the profit sharing agreements.
(b) Corresponds to the valuation of 161 kboe at official fiscal prices and applying the fiscal terms of the profit sharing agreements.
(c) Corresponds to the valuation of 1,135 kboe at official fiscal prices and applying the fiscal terms of the profit sharing agreements.
(d) Corresponds to the valuation of 3,457 kboe at official fiscal prices and applying the terms of the profit sharing agreements.
(e) Corresponds to the valuation of 695 kboe at official fiscal prices and applying the fiscal terms of the profit sharing agreements.
(f) Corresponds to the valuation of 254 kboe at official fiscal prices and applying the terms of the profit sharing agreements.
(g) Corresponds to the valuation of 9 kboe at official fiscal prices and applying the terms of the profit sharing agreements.
(h) Corresponds to the valuation of 199 kboe at official fiscal prices and applying the fiscal terms of the profit sharing agreements.
(i) Corresponds to the valuation of 95 kboe at official fiscal prices and applying the terms of the profit sharing agreements.
(j) Corresponds to the valuation of 2,544 kboe at official fiscal prices and applying the fiscal terms of the profit sharing agreements.
(k) Corresponds to the valuation of 3,806 kboe at official fiscal prices and applying the terms of the profit sharing agreements.

	Income taxes	*Other Taxes*	Taxes (Total)	Royalties	License fees	License bonuses	Dividends	Infrastructure improvements	Production entitlements	Total of Payments
Russia (paid in cash (kusd))										
Payments per Project										
Kharyaga	*11,117*	*8,806*	19,923	–	79	–	–	–	43,581	63,583
Total	***11,117***	***8,806***	**19,923**	**–**	**79**	**–**	**–**	**–**	**43,581**	**63,583**
Payments per Government										
Nenets Tax Inspection	*11,117*	*8,806*	19,923	–	79	–	–	–	–	20,002
Ministry of Energy	–	–	–	–	–	–	–	–	43,581	43,581
Total	***11,117***	***8,806***	**19,923**	**–**	**79**	**–**	**–**	**–**	**43,581**	**63,583**
São Tomé and Principe (paid in cash (kusd))										
Payments per Project										
Block 1	–	–	–	–	766	–	–	–	–	766
Total	–	–	**–**	**–**	**766**	**–**	**–**	**–**	**–**	**766**
Payments per Government										
National Oil account São Tomé e Principe	–	–	–	–	766	–	–	–	–	766
Total	–	–	**–**	**–**	**766**	**–**	**–**	**–**	**–**	**766**
Senegal (paid in cash (kusd))										
Payments per Project										
UDO	–	–	–	–	447	–	–	117	–	564
Total	–	–	**–**	**–**	**447**	**–**	**–**	**117**	**–**	**564**
Payments per Government										
Société des Pétroles du Sénégal	–	–	–	–	447	–	–	–	–	447
Etat du Sénégal C/O Fondation Total Sénégal	–	–	–	–	–	–	–	117	–	117
Total	–	–	**–**	**–**	**447**	**–**	**–**	**117**	**–**	**564**
South Africa (paid in cash (kusd))										
Payments per Project										
Blocks 5/6/7	–	–	–	–	(6)	–	–	–	–	(6)
Blocks 11b and 12b	–	–	–	–	181	–	–	–	–	181
Block DOWB	–	–	–	–	59	–	–	–	–	59
Block ODB	–	–	–	–	25	–	–	–	–	25
Block South Outeniqua	–	–	–	–	101	–	–	–	–	101
Total	–	–	**–**	**–**	**360**	**–**	**–**	**–**	**–**	**360**
Payments per Government										
Petroleum Agency South Africa (PASA)	–	–	–	–	260	–	–	–	–	260
Upstream Training Trust (UTT)	–	–	–	–	100	–	–	–	–	100
Total	–	–	**–**	**–**	**360**	**–**	**–**	**–**	**–**	**360**
Thailand (paid in cash (kusd))										
Payments per Project										
Bongkot	*293,064*	–	293,064	–	–	47,513	–	–	–	340,577
G12/48	*8,050*	*1,253*	9,303	–	–	–	–	–	–	9,303
Total	***301,114***	***1,253***	**302,367**	**–**	**–**	**47,513**	**–**	**–**	**–**	**349,880**
Payments per Government										
Revenue Department	*201,765*	–	201,765	–	–	–	–	–	–	201,765
Department of Mineral Fuels, Ministry Of Energy	*99,349*	*1,253*	100,602	–	–	–	–	–	–	100,602
Ministry Of Energy	–	–	–	–	–	47,513	–	–	–	47,513
Total	***301,114***	***1,253***	**302,367**	**–**	**–**	**47,513**	**–**	**–**	**–**	**349,880**

	Income taxes	*Other Taxes*	Taxes (Total)	Royalties	License fees	License bonuses	Dividends	Infrastructure improvements	Production entitlements	Total of Payments
Uganda (paid in cash (kusd))										
Payments per Project										
Block EA-1	–	–	–	–	530	–	–	–	–	530
Block EA-2	–	–	–	–	215	–	–	–	–	215
Block EA-3	–	–	–	–	528	–	–	–	–	528
Total	–	–	**–**	**–**	**1,273**	**–**	**–**	**–**	**–**	**1,273**
Payments per Government										
Ministry of Energy and Mineral Development	–	–	–	–	687	–	–	–	–	687
Ministry of Water and Environment, NEMA	–	–	–	–	586	–	–	–	–	586
Total	–	–	**–**	**–**	**1,273**	**–**	**–**	**–**	**–**	**1,273**
United Arab Emirates (paid in cash (kusd))										
Payments per Project										
Abu Al Bukhoosh	–	*8,612*	8,612	–	–	–	–	–	–	8,612
ADNOC Gas Processing	–	*171,231*	171,231	–	–	–	–	–	–	171,231
ADNOC Onshore	–	*3,128,030*	3,128,030	–	5,970	–	–	–	–	3,134,000
Lower Zakum	–	*321,417*	321,417	–	492	–	–	–	–	321,909
Umm Shaif Nasr	–	*942,024*	942,024	–	1,967	–	–	–	–	943,991
Total	–	***4,571,314***	**4,571,314**	**–**	**8,429**	**–**	**–**	**–**	**–**	**4,579,743**
Payments per Government										
Supreme Petroleum Council - Government of Abu Dhabi	–	*8,612*	8,612	–	–	–	–	–	–	8,612
Abu Dhabi Fiscal Authorities	–	*4,461,329*	4,461,329	–	–	–	–	–	–	4,461,329
Abu Dhabi National Oil Company	–	*101,373*	101,373	–	8,429	–	–	–	–	109,802
Total	–	***4,571,314***	**4,571,314**	**–**	**8,429**	**–**	**–**	**–**	**–**	**4,579,743**
United Kingdom (paid in cash (kusd))										
Payments per Project										
Central Graben Area	–	–	–	–	598	–	–	–	–	598
Culzean	–	–	–	–	55	–	–	–	–	55
Eastern North Sea	*(260)*	–	(260)	–	974	–	–	–	–	714
Greater Laggan Area	–	–	–	–	2,090	–	–	–	–	2,090
Markham Area	–	–	–	–	97	–	–	–	–	97
Northern North Sea	–	–	–	–	2,497	–	–	–	–	2,497
Non-attributable	*615,904*	–	615,904	–	120	–	–	–	–	616,024
Total	***615,644***	–	**615,644**	**–**	**6,431**	**–**	**–**	**–**	**–**	**622,075**
Payments per Government										
HM Revenue & Customs	*615,644*	–	615,644	–	–	–	–	–	–	615,644
Crown Estate	–	–	–	–	120	–	–	–	–	120
Oil and Gas Authority	–	–	–	–	6,311	–	–	–	–	6,311
Total	***615,644***	–	**615,644**	**–**	**6,431**	**–**	**–**	**–**	**–**	**622,075**

	Income taxes	*Other Taxes*	Taxes (Total)	Royalties	License fees	License bonuses	Dividends	Infrastructure improvements	Production entitlements	Total of Payments
United States **(paid in cash (kusd))**										
Payments per Project										
Barnett Shale	–	*11,882*	11,882	16,366	21	–	–	–	–	28,269
Gulf of Mexico	–	–	–	–	3,684	–	–	–	–	3,684
Jack	–	–	–	2,095	–	–	–	–	–	2,095
Tahiti	–	–	–	29,253	–	–	–	–	–	29,253
Utica	–	*1,040*	1,040	–	–	–	–	–	–	1,040
Non-attributable	*16,000*	–	16,000	–	–	–	–	–	–	16,000
Total	***16,000***	***12,922***	**28,922**	**47,714**	**3,705**	**–**	**–**	**–**	**–**	**80,341**
Payments per Government										
Office of Natural Resources Revenue	–	–	–	31,348	3,684	–	–	–	–	35,032
State of Ohio	–	*489*	489	–	–	–	–	–	–	489
Johnson County Tax Assessor	–	*1,609*	1,609	–	–	–	–	–	–	1,609
Tarrant County Tax Assessor	–	*3,154*	3,154	–	–	–	–	–	–	3,154
Texas State Comptroller's Office	–	*7,063*	7,063	–	–	–	–	–	–	7,063
City of Fort Worth	–	–	–	5,281	20	–	–	–	–	5,301
Dallas / Fort Worth International Airport Board	–	–	–	2,219	–	–	–	–	–	2,219
City of Arlington	–	–	–	1,597	–	–	–	–	–	1,597
Tarrant Regional Water District	–	–	–	1,029	–	–	–	–	–	1,029
State of Texas	–	–	–	814	–	–	–	–	–	814
City of North Richland Hills	–	–	–	712	–	–	–	–	–	712
Fort Worth Independant School District	–	–	–	501	–	–	–	–	–	501
Burleson Independant School District	–	–	–	375	–	–	–	–	–	375
Arlington Independant School District	–	–	–	446	–	–	–	–	–	446
Harrison County	–	*209*	209	–	–	–	–	–	–	209
Carroll County	–	*342*	342	–	–	–	–	–	–	342
Birdville Independent School District	–	–	–	628	–	–	–	–	–	628
Tarrant County College	–	–	–	417	–	–	–	–	–	417
City of Grand Prairie	–	–	–	492	–	–	–	–	–	492
Kennedale Independant School District	–	–	–	265	–	–	–	–	–	265
Tarrant County AAAA	–	–	–	201	–	–	–	–	–	201
Grapevine-Colleyville Tax Office	–	*56*	56	–	–	–	–	–	–	56
Internal Revenue Service	*16,000*	–	16,000	–	–	–	–	–	–	16,000
City of Cleburne	–	–	–	307	1	–	–	–	–	308
City of Burleson	–	–	–	334	–	–	–	–	–	334
Mansfield Independant School District	–	–	–	334	–	–	–	–	–	334
Crowley Independant School District	–	–	–	172	–	–	–	–	–	172
City of Crowley	–	–	–	151	–	–	–	–	–	151
White Settlement Independant School District	–	–	–	91	–	–	–	–	–	91
Total	***16,000***	***12,922***	**28,922**	**47,714**	**3,705**	**–**	**–**	**–**	**–**	**80,341**

9.4 Reporting of payments to governments for purchases of oil, gas and minerals (EITI reporting)

PURPOSE OF THE REPORTING

In September 2020, the Extractive Industries Transparency Initiative, or EITI, published its “Reporting Guidelines for Companies Buying Oil, Gas and Minerals from Governments.” Those Guidelines are intended for companies that purchase oil, gas and/or minerals from governments, to guide them for the disclosure of payments made to governments. They aim to ensure the consistent disclosure of payments made to the state or state-owned enterprises (SOEs)(1) where oil, gas or minerals are being sold on behalf of the state, where EITI requirements are applicable and relevant, or where there is commitment to transparency in commodity sales.

These reporting guidelines were developed by the EITI Working Group on Transparency in Commodity Trading, and documented by the discussions at the OECD Thematic Dialogue on Commodity Trading Transparency. They are part of the implementation of Requirement 4.2 of the 2019 EITI Standard, which aims to ensure transparency in how the state is selling oil, gas and minerals by requiring disclosures by SOEs and/or other relevant government agencies concerning the sale of the state’s share of production or other revenues collected in kind. Correspondingly, the Standard encourages companies buying oil, gas and/or mineral resources from the state or SOEs to disclose information regarding the volumes received from the state or SOE and payments made for the purchase of oil, gas and mineral resources.

Companies that purchase these commodities disclose this data on a voluntary basis. The Guidelines aim to identify:

1. Who is buying the product.
2. Who is selling the product.
3. What product is being purchased.
4. What the buyer pays to the seller for the product.

DEFINITIONS

Applicable purchases: Under the Guidelines, purchases of oil, petroleum products, metals and minerals should be reported. Oil and petroleum products may be categorized as “crude oil,” “refined products” or “natural gas.” For this 2021 reporting, TotalEnergies is disclosing its purchases of oil and petroleum products made during fiscal year 2021 by TotalEnergies SE's fully consolidated companies.

Selling entities and purchases to be covered: EITI recommends that the disclosures cover:

- purchases of the state’s share of production and other in-kind revenues from EITI countries where the selling entity is a government agency or SOE or a third party appointed to sell on their behalf (i.e., where EITI Requirement 4.2 is applicable);
- purchases from SOEs in non-EITI countries that have explicitly or publicly stated their support to the initiative.

REPORTING PRINCIPLES

TotalEnergies reporting follows the EITI recommendations mentioned hereabove.

From the reporting models suggested by EITI regarding the level of disaggregation, TotalEnergies has chosen model 1, in which disclosures of both volumes and values (amounts paid) are aggregated by individual seller (where the seller is any company that is wholly or majority owned by the state) for purchases of commodities delivered in 2021.

TotalEnergies follows the EITI recommendation, in particular with regards to obtaining the prior consent of the concerned countries before the publication of the procurement data concerning them. Therefore, TotalEnergies discloses under the category “Other Countries”, aggregate data on its purchases from (i) SOEs in EITI countries that have not given such consent or to which Requirement 4.2 is not applicable by virtue of the systematic transparency implemented by their governments (Norway) and (ii) in non-EITI Countries, whether those countries have supported the transparency initiative or not (United Arab Emirates, Oman, Qatar, Saudi Arabia, Tunisia, Libya, Egypt, Kuwait, Bahrain, Angola, Algeria, Taiwan, Malaysia, China, Vietnam, Thailand, South Korea, Singapore, India, Russia, Denmark, Poland, Portugal, Belgium, Finland, France).

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(1) For the purpose of EITI implementation, a “state-owned enterprise (SOE) is a wholly or majority government-owned company that is engaged in extractives activities on behalf of the government.” EITI Requirement 2.6.a.i.

DISCLOSURE OF VOLUMES AND VALUE BY INDIVIDUAL SELLER

Crude oil – Refined products

1. Who is selling the product			2. Who is buying the product		3. What product is being bought		4. What does the buyer pay to the seller for the product
Core Information		Additional Information	Core Information	Additional Information	Core Information		Core Information
Name of Country of Seller of Government Share of Production	Name of SOE or seller of the state share of production	Counterparty state owned %	Buying Entity	Beneficial Ownership	Product Type	Volumes Purchased (barrel)	Amounts paid (USD)
Iraq	SOMO	100	TOTSA TotalEnergies Trading SA	TotalEnergies SE	Crude oil	6,871,070	441,122,544
Nigeria	NNPC	100	TOTSA TotalEnergies Trading SA	TotalEnergies SE	Crude oil	1,947,247	123,188,793
Mexico	PMI Comercio Internacional SA de CV	100	Atlantic Trading & Marketing Inc	TotalEnergies SE	Crude oil	6,648,858	419,905,410
Other Countries		100	TOTSA TotalEnergies Trading SA	TotalEnergies SE	Crude oil	79,108,418	5,305,957,492
Other Countries		100	TotalEnergies Trading Asia Pte Ltd	TotalEnergies SE	Crude oil	35,763,329	2,480,775,651
Colombia	Refineria de Cartagena	100	Atlantic Trading & Marketing Inc	TotalEnergies SE	Refined products	585, 609	42,581,421
Other Countries		100	TOTSA TotalEnergies Trading SA	TotalEnergies SE	Refined products	95,391,266	7,356,139,794
Other Countries		100	TotalEnergies Trading Asia Pte Ltd	TotalEnergies SE	Refined products	26,350,457	2,370,421,553

Natural Gas – LNG – Sulphur – Petcoke

1. Who is selling the product			2. Who is buying the product		3. What product is being bought			4. What does the buyer pay to the seller for the product
Core Information		Additional Information	Core Information	Additional Information	Core Information			Core Information
Name of Country of Seller of Government Share of Production	Name of SOE or seller of the state share of production	Counterparty state owned %	Buying Entity	Beneficial Ownership	Product Type	Volumes Purchased (Mbtu)	Volumes Purchased (ton)	Amounts paid (USD)
Germany	ENBW Baden-Wurttemberg AG	93.5	TotalEnergies Gas & Power Limited	TotalEnergies SE	Natural Gas	1,871,884		23,756,820
Germany	VNG Handel & Vertrieb GmbH	74.2	TotalEnergies Gas & Power Limited	TotalEnergies SE	Natural Gas	2,698,168		12,843,008
Indonesia	PT Pertamina (Persero)	100	TotalEnergies Gas and Power Asia Pte Ltd	TotalEnergies SE	LNG	45,102,189		374,650,167
Other Countries			TotalEnergies Gas & Power Limited	TotalEnergies SE	LNG	441,544,495		5,361,218,921
Other Countries			TotalEnergies Gas & Power Limited	TotalEnergies SE	Natural Gas	7,295,411		80,242,801
Other Countries			TotalEnergies Gas & Power Limited	TotalEnergies SE	Sulphur		146,772	30,719,801
Other Countries			TotalEnergies Gas & Power Limited	TotalEnergies SE	Petcoke		915,150	102,642,905
Other Countries			TotalEnergies Gas and Power Asia Pte Ltd	TotalEnergies SE	LNG	36,274,811		385,975,087

LPG

1. Who is selling the product		2. Who is buying the product		3. What product is being bought		4. What does the buyer pay to the seller for the product
Core Information	Additional Information	Core Information	Additional Information	Core Information		Core Information
Name of Country of Seller of Government Share of Production	Counterparty state owned %	Buying Entity	Beneficial Ownership	Product Type	Volumes Purchased (barrel)	Amounts paid (USD)
Other Countries	100	TOTSA TotalEnergies Trading SA	TotalEnergies SE	LPG	5,523,630	310,913,395
Other Countries	100	TotalEnergies Trading Asia Pte Ltd	TotalEnergies SE	LPG	79,837	3,883,318

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Additional reporting information

TotalEnergies considers transparency as a principle of action to provide a clear picture to investors, regulators and the public at large.

TotalEnergies also supports the World Economic Forum's initiative to propose common ESG metrics for all companies (see the white paper titled "Measuring Stakeholder Capitalism – Towards common metrics and consistent reporting" published in September 2020) and started to report on the WEF's proposed core metrics in 2020.

Furthermore, the Company has proposed an additional reporting according to the SASB standard, EM-EP Oil & Gas Exploration & Production since 2020.

11.1 World Economic Forum Core ESG metrics

The following table uses the core metrics proposed by the World Economic Forum in the white paper titled "Measuring Stakeholder Capitalism – Towards common metrics and consistent reporting" published in September 2020.

Sub-items, proposed metrics and disclosures	Reported	TotalEnergies' disclosures (2021)
PRINCIPLES OF GOVERNANCE		
Governing Purpose		
Setting purpose The company's stated purpose, as the expression of the means by which a business proposes solutions to economic, environmental and social issues. Corporate purpose should create value for all stakeholders, including shareholders.	Yes	Our 100,000 employees are committed to energy that is more affordable, cleaner, more reliable and accessible to as many people as possible. At the heart of the climate stakes, TotalEnergies' aim is to provide energy that is more available, more affordable, cleaner and accessible to as many people as possible. In this context, the Company's ambition is to reach carbon neutrality (net zero emissions) by 2050 together with society. (Source: 2021 URD, §1.1.1 and 5.4)
Quality of Governing Body		
Board composition Composition of the highest governance body and its committees by: competencies relating to economic, environmental and social topics; executive or non-executive; independence; tenure on the governance body; number of each individual's other significant positions and commitments, and the nature of the commitments; gender; membership of under-represented social groups; stakeholder representation.	Partially	**1.9.1 A fully committed Board of Directors** The Board of Directors defines TotalEnergies' strategic vision and supervises its implementation in accordance with the corporate interest of the Corporation, by taking into consideration the social and environmental challenges of its business activities. It approves investments or divestments for amounts greater than 3% of shareholders' equity and it is informed of those greater than 1%. The Board may address any issue related to the Company's operations. It monitors the management of both financial and non-financial matters and ensures the quality of the information provided to shareholders and financial markets. The Board of Directors is assisted by the four committees it has created: the Audit Committee, the Governance and Ethics Committee, the Compensation Committee, and the Strategy & CSR Committee. The duties of the Board of Directors and of the Committees are described in point 4.1.2 of chapter 4. The composition of the Board of Directors (14 directors including 9 independent members as of March 16, 2022) reflects the diversity and complementary of experience, skills, nationalities and cultures that are critical to addressing the interests of all of the Company's shareholders and stakeholders. **Refer** to the URD Chapter 4.1: " Administration and management bodies". Information provided on gender only, no details on other under-represented social groups. (Source: 2021 URD, §1.9.1 and 4.1)
Stakeholder Engagement		
Material issues impacting stakeholders A list of the topics that are material to key stakeholders and the company, how the topics were identified and how the stakeholders were engaged.	Partially	The answer is provided in chapter 5.1 summarizing our dialogue with stakeholders. But the Corporation hasn't disclosed a detailed materiality analysis. (Source: 2021 URD, §5.1 and 5.3 to 5.10)

Sub-items, proposed metrics and disclosures	Reported	TotalEnergies' disclosures (2021)
Ethical Behaviour		
Anti-corruption 1. Total percentage of governance body members, employees and business partners who have received training on the organization's anti-corruption policies and procedures, broken down by region a) Total number and nature of incidents of corruption confirmed during the current year, but related to previous years; and b) Total number and nature of incidents of corruption confirmed during the current year, related to this year. 2. Discussion of initiatives and stakeholder engagement to improve the broader operating environment and culture, in order to combat corruption.	Partially	To prevent risks of corruption, TotalEnergies has implemented a robust and regularly updated anti-corruption compliance program. The aim of this program is to promote a culture of compliance and transparency, which is key in ensuring the sustainability of the Company's activities. Failure to comply with such legislation such as the U.S. Foreign Corrupt Practices Act and the French law on transparency, the fight against corruption and the modernization of the economy, is likely to expose the Company to a high criminal, financial and reputation risk, as well as the enforcement of measures such as the review and reinforcement of the compliance program under the supervision of an independent third party. The commitment of the entire Company and the efforts undertaken are unrelenting in order to ensure the sustainability and continuous improvement of the anti-corruption compliance program, which the U.S. authorities deemed to be appropriate in 2016, thus putting an end to the monitorship that was introduced in 2013. […] The commitment of the management bodies is also expressed externally by TotalEnergies' joining anti-corruption initiatives and supporting collaborative and multi-party approaches. TotalEnergies joined the Partnering Against Corruption Initiative (PACI)(1) in 2016, thereby adhering to the PACI Principles for Countering Corruption. The Chairman and Chief Executive Officer of TotalEnergies SE became a member of the PACI Board in 2018 and subsequently Co-Chairman of the initiative at year-end 2019. TotalEnergies is also a member of other initiatives that contribute to the global effort against corruption, such as the U.N. Global Compact since 2002 and the Extractive Industries Transparency Initiative (EITI)(2) since its launch in 2002. […] An initial online anti-corruption course was rolled out in 2011 and a more in-depth online module in 2015. This module is accessible to all employees and mandatory for the targeted personal (almost 43,000 employees) and new hires. At the end of 2021, season 1 of the anti-corruption online course had been followed by approximately 42,000 employees, and season 2 by approximately 40,000 employees in the various regions where the Company operates its activities. [...] In 2021, the Company recorded just over 350 integrity incidents (covering fraud, corruption or influence peddling) which led -where established and one or more Company employees were involved- to more than 110 sanctions, up to and including dismissal. (Source: 2021 URD, §5.8.1)
Protected ethics advice and reporting mechanisms A description of internal and external mechanisms for: 1. seeking advice about ethical and lawful behaviour, and organizational integrity; 2. reporting concerns about unethical or unlawful behaviour, and organizational integrity.	Yes	**3.6.3.1** TotalEnergies has a three-tier organization: Corporate, business segments and operational entities. Each tier is involved in and accountable for identifying and implementing measures in the Vigilance Plan deemed appropriate within the scope of the entity in question. The Action Principles are driven by the **Executive Committee**. The **Ethics Committee** is the guarantor of the implementation of the Code of Conduct. Its chairman, who reports to the Chairman and Chief Executive Officer of TotalEnergies SE, presents an annual ethics report to the Governance and Ethics Committee of the Board of Directors. **5.7** The Ethics Committee is where representatives of all TotalEnergies' business segments sit. Its key role is one of listening and support. Employees, but also people from outside the Company, can contact the committee at the address ethics@total.com. The Committee protects the confidentiality of the complaints, which can only be lifted with the agreement of the complainant.

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(1) Launched in 2004 within the World Economic Forum, PACI now numbers approximately 90 major corporations and forms a platform for discussion for business leaders and governmental and non-governmental organizations, allowing them to share their experiences and ideas and develop best practices.

(2) The EITI brings together representatives of the governments of the member countries as well as representatives of civil society and business in order to strengthen transparency and governance with regard to income from oil, gas and mineral resources.

Sub-items, proposed metrics and disclosures	Reported	TotalEnergies' disclosures (2021)
Ethical Behaviour		
Protected ethics advice and reporting mechanisms A description of internal and external mechanisms for: 1. seeking advice about ethical and lawful behaviour, and organizational integrity; 2. reporting concerns about unethical or unlawful behaviour, and organizational integrity.	Yes	**5.8.1.5** In addition, TotalEnergies takes actions in order to develop a speak-up culture and asks its employees to report any situations that they consider to be contrary to the Code of Conduct. This culture is encouraged by regular communication on the rule adopted in late 2020, which formalized the procedure for collecting integrity alerts (corruption, fraud and influence peddling). This rule expressly provides that no disciplinary sanction, nor any direct or indirect discriminatory retaliatory measure, may be taken part against the whistleblower, as long as it is made in good faith, and this even in the facts subsequently turn out to be inaccurate or unfounded, and in particular to recall and/or not to give rise to any proceedings or sanctions. This rule, combined with the one also adopted in 2020 by the Ethics Committee concerning the collection and processing of reports, covers all situations or behaviors likely to be contrary to the Company's Code of Conduct. In this respect, echoing this Code, the rule adopted at the end of 2020 by the Anti-Corruption Compliance recalls the various existing alert channels: each employee can therefore contact any manager, Human Resources, the Compliance Officers or Ethics Officers, or the Ethics Committee, depending on what seems most appropriate. The Ethics Committee is responsible for ensuring compliance with the Code of Conduct. Its Chairperson, who reports to the Chairman and Chief Executive Officer of TotalEnergies SE, presents an annual Ethics Report to the Governance and Ethics Committee of the Board of Directors. Both employees and third parties can refer to this Committee by writing to ethics@total.com. TotalEnergies does not tolerate any retaliation measures or discrimination toward anyone submitting a report in good faith and undertakes to respect confidentiality. (Source: 2021 URD, §3.6.3.1, 5.7 and 5.8.1.5)
Risk and Opportunity Oversight		
Integrating risk and opportunity into business process Company risk factor and opportunity disclosures that clearly identify the principal material risks and opportunities facing the company specifically (as opposed to generic sector risks), the company appetite in respect of these risks, how these risks and opportunities have moved over time and the response to those changes. These opportunities and risks should integrate material economic, environmental and social issues, including climate change and data stewardship.	Yes	Information disclosed in the 2021 URD, Chapters 3 and 5. (Source: 2021 URD, §3.1 and 5.4)

Sub-items, proposed metrics and disclosures	Reported	TotalEnergies' disclosures (2021)
PLANET		
Climate change		
Greenhouse Gas (GHG) emissions For all relevant greenhouse gases (e.g. carbon dioxide, methane, nitrous oxide, F gases etc.), report in metric tonnes of carbon dioxide equivalent (tCO_2 e) GHG Protocol Scope 1 & Scope 2 emissions. Estimate and report material upstream and downstream (GHG Protocol Scope 3) emissions where appropriate.	Yes	**Indicators related to climate**[1]

GHG emissions		Operated emissions 2021	2020	2019	2015	Equity emissions 2021	2020	2019	2015
SCOPE 1 **Direct GHG emissions**	Mt CO_2e	**34*** ***(33)***	**38*** ***(36)***	**41**	**42**	**49**	**52**	**55**	**50**
BREAKDOWN BY SEGMENT									
Upstream oil & gas activities	Mt CO_2e	14	16	18	19	23	24	26	22
Integrated Gas, Renewables & Power, excluding upstream gas operations	Mt CO_2e	5	3	3	–	6	5	4	–
Refining & Chemicals	Mt CO_2e	15* *(14)*	17	20	22	19	22	25	27
Marketing & Services	Mt CO_2e	<1	<1	<1	<1	<1	<1	<1	1
BREAKDOWN BY GEOGRAPHY									
Europe: EU 27 + Norway + UK + Switzerland	Mt CO_2e	20* *(19)*	22* *(21)*	24	22	18	20	23	22
Eurasia (incl. Russia) / Oceania	Mt CO_2e	1	1	1	5	17	17	18	13
Africa	Mt CO_2e	9	10	11	12	7	7	8	9
Americas	Mt CO_2e	5	4	4	4	7	7	6	5
BREAKDOWN BY TYPE OF GAS									
CO_2	Mt CO_2e	32	34	39	39	47			
CH_4	Mt CO_2e	1	2	2	2	1			
N_2O	Mt CO_2e	<1	<1	<1	<1	<1			
SCOPE 2 **Indirect emissions from energy use**	Mt CO_2e	**2* (2)**	**3* (3)**	**4**	**4**	**5**			
Of which Europe: EU 27+ Norway + UK + Switzerland	Mt CO_2e	1* (1)	2* (2)	2	2	2			
SCOPE 1+2	Mt CO_2e	**37*** ***(35.7)***	**41*** ***(38)***	**44**	**46**	**54**			

Methane emissions		Operated emissions 2021	2020	2019	2015	Equity emissions 2021
Methane emissions	kt CH_4	49	64	68	94	51
BREAKDOWN BY SEGMENT						
Upstream oil & gas activities	kt CH_4	48	62	66	92	48
Integrated Gas, Renewables & Power, excluding upstream gas operations	kt CH_4	<1	<1	<1	0	2
Refining & Chemicals	kt CH_4	1	1	1	1	1
Marketing & Services	kt CH_4	0	0	0	0	0
BREAKDOWN BY GEOGRAPHY						
Europe: EU 27 + Norway + UK + Switzerland	kt CH_4	7	12	15	9	5
Eurasia (incl. Russia) / Oceania	kt CH_4	1	3	3	33	16
Africa	kt CH_4	23	31	39	49	18
Americas	kt CH_4	18	18	10	3	12

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(1) Refer to point 5.11 of the chapter 5 for the scope of reporting.

Sub-items, proposed metrics and disclosures	Reported	TotalEnergies’ disclosures (2021)

Climate change

Other indirect GHG emissions		2021	2020	2019	2015
SCOPE 3[a] **Indirect GHG emissions related to the use by customers of energy products**	Mt CO_2e	**400* *(370)***	**400* *(350)***	**410**	410
BREAKDOWN BY PRODUCTS					
Petroleum products	Mt CO_2e	285* *(255)*	320* *(270)*	335	350
Gas	Mt CO_2e	115	80	75	60
BREAKDOWN BY GEOGRAPHY					
Europe: EU 27 + Norway + UK + Switzerland	Mt CO_2e	220* *(202)*	215* *(190)*	232	256
Eurasia (incl. Russia) / Oceania	Mt CO_2e	79* *(77)*			
Africa	Mt CO_2e	68* *(59)*			
Americas	Mt CO_2e	33* *(31)*			

Greenhouse Gas (GHG) emissions

For all relevant greenhouse gases (e.g. carbon dioxide, methane, nitrous oxide, F gases etc.), report in metric tonnes of carbon dioxide equivalent (tCO_2 e) GHG Protocol Scope 1 & Scope 2 emissions.

Estimate and report material upstream and downstream (GHG Protocol Scope 3) emissions where appropriate.

Yes

Intensity indicators		2021	2020	2019	2015
Lifecycle carbon intensity of energy products used by the customers (71 g CO_2e/MJ in 2015)	Base 100 in 2015	**90* *(89)***	**92* *(90)***	**94**	100[c]
Intensity of GHG emissions (Scope 1+2) of operated Upstream oil & gas activities[b]	kg CO_2e/boe	17	18	19	21
Intensity of GHG emissions (Scope 1+2) of Upstream oil & gas activities[b] on equity basis	kg CO_2e/boe	19			
Intensity of methane emissions from operated oil & gas facilities (Upstream)	%	0.13	0.15	0.16	0.23
Intensity of methane emissions from operated gas facilities	%	<0.1	<0.1	<0.1	<0.1

Other indicators		2021	2020	2019	2015
Net primary energy consumption (operated scope)	TWh	148	147	160	153
Global energy efficiency indicator (GEEI)	Base 100 in 2010	87.0	90.2	88.0	90.8
Flared gas (Upstream oil & gas activities operated scope) (including safety flaring, routine flaring and non-routine flaring)	Mm^3/d	3.6	4.2	5.7	7.2
Of which routine flaring	Mm^3/d	0.7	0.6	0.9	2.3[d]

* Valuation of these indicators excluding the COVID-19 effect.

(a) Oil products including bulk refining sales and biofuels ; Natural Gas excluding minority stakes in public companies.

(b) This indicator doesn't include LNG assets in its perimeter.

(c) Indicator developed in 2018, with 2015 as the baseline year.

(d) Volumes estimated upon historical data.

Sub-items, proposed metrics and disclosures	Reported	TotalEnergies' disclosures (2021)
Climate change		
TCFD implementation Fully implement the recommendations of the Task Force on Climate related Financial Disclosures (TCFD). If necessary, disclose a timeline of at most three years for full implementation. Disclose whether you have set, or have committed to set, GHG emissions targets that are in line with the goals of the Paris Agreement – to limit global warming to well below 2 °C above pre-industrial levels and pursue efforts to limit warming to 1.5 °C – and to achieve net zero emissions before 2050.	Yes	Non-financial performance statement aligned with TCFD recommendations, the climate report responds to TCFD recommendations. (Source: 2021 URD, §5.4)
Nature Loss		
Land use and ecological sensitivity Report the number and area (in hectares) of sites owned, leased or managed in or adjacent to protected areas and/or key biodiversity areas (KBA).	Yes	8.9% of TotalEnergies' proved reserves are operated reserves located close to or in protected areas or areas rich in biodiversity(1). Furthermore, 150 sites operated by the Company representing 8,860 hectares are located in or close to protected areas or key areas for biodiversity(2).
Fresh Water Availability		
Water consumption and withdrawal in water stressed areas Report for operations where material: megalitres of water withdrawn, megalitres of water consumed and the percentage of each in regions with high or extremely high baseline water stress, according to WRI Aqueduct water risk atlas tool. Estimate and report the same information for the full value chain (upstream and downstream) where appropriate.	Yes	In order to identify its facilities exposed to the risk of water stress, TotalEnergies records the withdrawal of water on all of its operated sites significant for this indicator and assesses these volumes on the basis of the current and future water stress indicators of the WRI(3) Aqueduct tool. In 2021, the Company's sites withdrew 101 million m^3 of fresh water, with net consumption of 75 million m^3. 54% this volume was withdrawn in areas of water stress according to the WRI definition, i.e. areas where human demand for water exceeds 40% of resources available. These are mainly highly populated urban areas, such as urban areas in Northern Europe. According to the CDP Water definition, these withdrawals represent 10% of the overall Company's water withdrawals (including brackish water and seawater). For priority sites defined as those located in water stress areas and withdrawing more than 500,000 m^3 per year, TotalEnergies assesses water resources risk levels using, in particular, the Local Water Tool (LWT) for Oil & Gas from the Global Environmental Management Initiative (GEMI). This tool also helps guide the actions taken to mitigate the risks and to make optimal use of water resources on the sites when necessary. This risk assessment establishes that the activities of the sites operated by the Company only expose the other users of the water to a relatively low risk of water shortage. The risk mainly concerns TotalEnergies sites for which the water supply could be cut in order to maintain access to water for priority users. In 2021, TotalEnergies responded to the CDP Water survey for the 2020 period and was, for the fourth consecutive year, graded A-. The main indicator used in this reporting is freshwater withdrawal. (Source: 2021 URD, §5.5.3)

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(1) In accordance with the IFC reference framework.

(2) In accordance with the GRI reference framework.

(3) World Resources Institute. The indicators in this paragraph are evaluated from the Project Basic Water Stress 2030.

Sub-items, proposed metrics and disclosures	Reported	TotalEnergies' disclosures (2021)
PEOPLE		
Dignity and Equality		
Diversity and inclusion Percentage of employees per employee category, by age group, gender and other indicators of diversity (e.g. ethnicity).	Yes	Throughout its activities, diversity is integral to TotalEnergies' identity and key to its success. The Company has long been committed to promoting equal opportunity and diversity, and strives to promote an inclusive corporate culture and an environment that allows every employee to express and develop his or her potential. The diversity of its employees and management is crucial to the Company's competitiveness, appeal, acceptability and capacity for innovation. TotalEnergies aims to develop its employees' skills and careers by implementing an inclusive Human Resources policy, while excluding any discrimination related to origin, gender, sexual orientation or gender identity, disability, age or affiliation with a political, labor or religious organization, or membership in a minority group. This policy is supported at the highest levels and promoted by the Diversity Council, which is chaired by a member of the Company's Executive Committee. The Diversity Council is also charged with making specific recommendations on issues identified each year by the Executive Committee. (Source: 2021 URD, §5.6.3.1) N.B. Tables of employees available in §5.6.1.1: – Breakdown by employment contract, – Breakdown by age group, – Total number of managers, – Breakdown of managers / non managers by age group. Breakdown by gender available in §5.6.3.1: – Among all employees, – Among employees with permanent contracts (CDI), – Among managers (first levels, middle, senior and senior executive),. – Breakdown by gender and age group Breakdown by nationality available in §5.6.3.1: – Among all employees, – Among managers (senior and senior executive).
Pay equality Ratio of the basic salary and remuneration for each employee category by significant locations of operation for priority areas of equality: women to men, minor to major ethnic groups, and other relevant equality areas.	Partially	The Company's compensation policy applies to all companies in which TotalEnergies SE holds the majority of voting rights. That policy has several aims: to ensure external competitiveness and internal fairness, reinforce the link to individual performance, increase employee share ownership and implement the Company's corporate social responsibility commitments. [...] The Company's compensation policy is designed to offer competitive, fair and responsible compensation. In particular, it stipulates that compensation levels must be equivalent internally for positions with the same level of responsibility in a given environment (activity, country). Fair treatment is ensured within the Company through the widespread use of weighting for management positions (JL ≥ 10) via the Hay method. Performance reviews for Company employees, covering actual versus targeted results, skills assessment and overall job performance, are conducted during an annual individual review and formally issued in accordance with the same principles and guidelines across the entire Company. The compensation structure for the Company's employees is based on the following components, depending on the country: – **a base salary**, which is subject to individual and/or general salary-raise campaigns each year. The merit-based salary-raise campaigns are intended to compensate employees' individual performance according to the targets set during the annual individual review, including *at least* one HSE target; and – **an individual variable compensation** starting at a certain level of responsibility. This is intended to compensate individual performance (quantitative and qualitative attainment of previously set targets), managerial practices, if applicable, and the employee's contribution to collective performance evaluated on the basis of HSE targets set for each business segment, which represents up to 10% of the variable portion. In 2021, 90.4% of the Company's entities (WHRS scope) included HSE criteria in the variable compensation. In particular, HSE criteria include greenhouse gas reduction targets. (Source: 2021 URD, §5.6.1.2)

Sub-items, proposed metrics and disclosures	Reported	TotalEnergies' disclosures (2021)
Dignity and Equality		
Pay equality Ratio of the basic salary and remuneration for each employee category by significant locations of operation for priority areas of equality: women to men, minor to major ethnic groups, and other relevant equality areas.	Partially	**In terms of compensation**, TotalEnergies has been adopting specific measures to prevent and compensate for discriminatory wage differentials in several countries. Regular checks are carried out during salary-raise campaigns to ensure equal pay among men and women holding positions with the same level of responsibility. Since 2019, consistent with French Act 2018-771 of September 5, 2018, on the freedom to choose one's professional future, the Company has published an index in France for its three units of economic and employee interest (UESs) on wage differentials and the steps taken to eliminate them. That index, based on a score of 100, reflects five indicators: wage differentials, pay raise differentials excluding promotions, promotion rate differentials, percentage of female employees who received a pay raise in the year they returned from maternity leave, number of employees of the under-represented gender among the ten employees who received the highest compensation (Source: 2021 URD, §5.6.3.1) N.B. The index table is available in §5.6.3.1
Wage level 1. Ratios of standard entry level wage by gender compared to local minimum wage. 2. Ratio of the annual total compensation of the CEO to the median of the annual total compensation of all its employees, except the CEO.	Yes	In 2021, TotalEnergies initiated a process to assess any discrepancies between the direct salary and the **living wage**(1) in all its subsidiaries(2). The result of the studies carried out show that by the end of 2021, 98% of employees received a direct salary that exceeds the living wage in the country or region in which they work. The Company intends to perpetuate this approach to ensure that 100% of its employees receive a direct salary that exceeds the living wage by the end of 2022. A living wage is defined as an income that allows employees: – to provide a decent life for their family; – for standard working hours; – to cover their essential expenses (food, water, electricity, housing, education, health, clothing, etc.); – the ability to cope with some of life's uncertainties. (Source: 2021 URD, §5.6.1.2) TotalEnergies has set itself the goal that, by the end of 2022, no employees will have a direct salary that is lower than the decent living wage in the country or region, in which they work. (Source: 2021 URD, §5.7.1) The Company's policy consists of providing levels of compensation that are higher than the minimum level observed locally, through regular benchmarks, in countries where legislation guaranteeing a minimum wage is lacking. (Source: 2021 URD, §5.6.1.2) At the global level, a verification of compliance with the minimum wage guaranteed by local legislation is also carried out on the base salary. At the global level, in order to ensure equal pay for men and women, the Company plans to implement an annual review in all countries and a corrective action plan if necessary. (Source: 2021 URD, §5.6.3.1) N.B. 1. Ratio of the lowest base salary by gender to the minimum salary guaranteed by local legislation, aggregated by geographical area, available in §5.6.3.1 2. Chairman and Chief Executive Officer compensation ratio available in §4.3.2.1

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(1) TotalEnergies relies on the global database provided by the Fairwage Network, which assesses the living wage for a given country or region, based on the typical family size (number of children) and the average number of workers (between one and two).

(2) It applies to the so called "périmètre de gestion" i.e., all subsidiaries controlled at more than 50%.

Sub-items, proposed metrics and disclosures	Reported	TotalEnergies' disclosures (2021)
Dignity and Equality		
Risk for incidents of child, forced or compulsory labor An explanation of the operations and suppliers considered to have significant risk for incidents of child labour, forced or compulsory labour. Such risks could emerge in relation to: a) type of operation (such as manufacturing plant) and type of supplier; and b) countries or geographic areas with operations and suppliers.	Yes	Forced and child labor have been identified as risks of severe negative impacts from our activities on human rights, notably in the supply chain, and mentioned as such in the Non-financial performance statement – Human rights section. The supplier qualification process is presented in the Non-financial performance statement – Procurement section. (Source: 2021 URD, §5.7.1 and 5.10)
Health and well being		
Health and safety 1. The number and rate of fatalities as a result of work related injury; high consequence work related injuries (excluding fatalities); recordable work related injuries; main types of work related injury; and the number of hours worked. 2. An explanation of how the organization facilitates workers' access to non occupational medical and healthcare services, and the scope of access provided for employees and workers.	Yes	**1. Indicators:** Number of fatalities as a result of work related injury: **1** Rate of fatalities as a result of work related injury (per 100 million hours worked): **0.26** High consequence work related injuries (excluding fatalities): **12** Recordable work related injuries (per 100 million hours worked): **0.73** Main types of work related injury: In 2021, of the 285 occupational accidents reported, 273 related to accidents at the workplace. 76% of these occurred, in decreasing order of the number accidents, when handling loads or objects, walking, using portable tools or working with powered systems. Number of hours worked: **389 million** (Source: 2021 URD, §5.3.2) **2. Explanations:** The Company has a **policy for the prevention of occupational accidents** which applies to all employees of subsidiaries and of contractors working on a site operated by one of these subsidiaries. The safety results are monitored with the same attention for all. This policy is described in the One MAESTRO reference framework. The indicators monitored by TotalEnergies include work-related accidents whether they occur at workplace, during transportation within the framework of long-term contracts, or during an industrial accident. In addition to its aim of zero fatalities in the exercise of its activities, TotalEnergies has set itself the target of continuously reducing the TRIR indicator and, for 2022, of reducing it below 0.70 for all personnel of the Company and its contractors. The 2021 target was 0.75. (Source: 2021 URD, §5.3.2) In terms of **medical monitoring**, the health referential framework provides that each Company subsidiary offers all employees a medical checkup at least every two years and sets out a formal medical monitoring procedure taking into account the requirements under local law (frequency, type of examination, etc.) and the level of exposure of its personnel to the various risks. Medical monitoring of employees is conducted at a health department, which may be internal (occupational health departments in France, clinics in five countries in Africa) or external. Furthermore, in view of its activities and exposure, TotalEnergies has an international medical department that designs, coordinates and supervises operational medical logistics abroad. It is the decision-making level in terms of medical safety of expatriate and national employees. For foreign subsidiaries, it coordinates the organization of health services, employee aptitude assessments, medical monitoring and support for employees and expatriates' families, and medical evacuations. It also conducts audits of medical facilities in countries where TotalEnergies is present and issues recommendations. At the corporate level, TotalEnergies also has a Medical Advisory Committee that meets regularly to discuss key health issues relating to the Company's activities. It decides whether there is a need for additional health protection strategies to be implemented. It consists of external scientific experts and the Company's senior executives and stakeholders concerned by these issues. In 2021, a feedback session on the COVID-19 pandemic was conducted in order to learn from it and use it in any possible future crisis.

Sub-items, proposed metrics and disclosures	Reported	TotalEnergies' disclosures (2021)
Health and well being		
Health and safety 1. The number and rate of fatalities as a result of work related injury; high consequence work related injuries (excluding fatalities); recordable work related injuries; main types of work related injury; and the number of hours worked. 2. An explanation of how the organization facilitates workers' access to non occupational medical and healthcare services, and the scope of access provided for employees and workers.	Yes	On a broader level, TotalEnergies also supports the **promotion of individual and collective health programs** in the countries where it operates, including vaccination campaigns and screening programs for certain diseases (COVID-19, AIDS, cancer, malaria, etc.) for employees, their families and local communities. It is also developing social protection schemes (see section 5.6.1.2 of this chapter). Lifestyle risk awareness activities (anti-smoking and anti-alcohol campaigns, etc.) are also implemented on a regular basis. (Source: 2021 URD, §5.3.4) The Company provides **pension and employee benefit programs** (health and death) that meet the needs of the subsidiaries, as well as the Company's standards, designed to ensure that each employee can: – in case of illness, receive coverage that is at least equal to the median amount for the national industrial market; – participate in a savings or supplementary retirement plan; – organize the protection of the family in the event of the death of the employee. To this end, TotalEnergies is deploying a number of commitments and mechanisms worldwide: – Where appropriate, each entity sets up a pension and health insurance plan, in addition to the legal plans in force, with the assistance of Human Resources department of the business segment; – A health check-up at least every two years is offered by each entity to all its employees, subject to the local regulations and context; – Each entity sets up a death benefit plan, whatever the cause, at least equivalent to two years' gross reference salary. At the end of 2021, nearly 90% of the Company's permanent employees were covered worldwide. TotalEnergies has also set up a global mental health prevention program to take care of employees, wherever they are in the world. These programs, which are regularly reviewed and, if necessary, adjusted, are administered by the subsidiaries and supplement any programs provided under local law. (Source: 2021 URD, §5.6.1.2) N.B. Tables available in §5.3.4: – Percentage of employees with specific occupational risks benefiting from regular medical monitoring, – Number of occupational illnesses recorded in the year.
Skills for the future		
Training provided 1. Average hours of training per person that the organization's employees have undertaken during the reporting period, by gender and employee category (total number of trainings provided to employees divided by the number of employees). 2. Average training and development expenditure per full time employee (total cost of training provided to employees divided by the number of employees).	Yes	The technical and business know-how of employees and their ability to manage large projects underpin the Company's operational excellence and are essential assets for the Company's development. [...] TotalEnergies is developing the skills of its employees especially through training, by offering adapted further education programs aimed at developing the skills and employability of employees. The Company's training catalog offers nearly 5,300 training content (onsite and remote training) covering all technical, business and cross-functional fields, including behavioral softskills. (Source: 2021 URD, §5.6.2) N.B. Tables available in §5.6.2: – Average number of training days/year per employee, – Breakdown by gender, – Average training cost per employee.

Sub-items, proposed metrics and disclosures	Reported	TotalEnergies' disclosures (2021)
PROSPERITY		
Employment and Wealth Generation		
Absolute number and rate of employment 1. Total number and rate of new employee hires during the reporting period, by age group, gender, other indicators of diversity and region. 2. Total number and rate of employee turnover during the reporting period, by age group, gender, other indicators of diversity and region.	Yes	Attracting and retaining the talent the Company needs is a key factor in carrying out the company project. To succeed in that task, TotalEnergies carefully manages its hires and departures. (Source: 2021 URD, §5.6.1) N.B. Tables available in §5.6.1.1: Total number hired on permanent contracts (CDI) – Women/Men, – French/Other nationalities, – Managers / Non managers, – Breakdown by age group, – Breakdown by region. Total departures/ total employees – Women/Men, – Breakdown by region.
Economic Contribution 1. Direct economic value generated and distributed (EVG&D), on an accruals basis, covering the basic components for the organization's global operations, ideally split out by: – Revenues – Operating costs – Employee wages and benefits – Payments to providers of capital – Payments to government – Community investment. 2. Financial assistance received from the government: total monetary value of financial assistance received by the organization from any government during the reporting period.	Partially	Calculation of EVG&G not done as such, but some elements are available. (Source: 2021 URD, §1.1.3, 1.10 and 8.7)
Financial investment contribution Total capital expenditures (CapEx) minus depreciation, supported by narrative to describe the company's investment strategy. Share buybacks plus dividend payments, supported by narrative to describe the company's strategy for returns of capital to shareholders.	Yes	Information provided in the URD. (Source: 2021 URD, §1.6.1 and 5.4.6)
Innovation in better products and services		
Total R&D expenses Total costs related to research and development.	Yes	**1.7.2 R&D at the heart of our strategy** OneTech's Research & Development Hub brings together all the Company's R&D in one entity. This organization allows for the acceleration of the development of industrial solutions, products, and services, which more than ever involve and benefit several of the Company's activities and business units. Based on the various scenarios studied by TotalEnergies, the goal of achieving carbon neutrality (net zero emissions) by 2050 entails more than large-scale deployment of proven technologies such as photovoltaic solar power, wind power and biofuels. It also requires technological game-changers and the development of completely new industrial value chains, such as hydrogen, synthetic fuels, and carbon capture and storage.

Sub-items, proposed metrics and disclosures	Reported	TotalEnergies' disclosures (2021)
Innovation in better products and services		
Total R&D expenses Total costs related to research and development.	Yes	The transformation of TotalEnergies into a multi-energy company calls for agile R&D that is firmly committed to innovation. At the heart of the strategy, R&D is focusing on its teams and partners who specialize in the electricity and renewables value chain, and technology for shrinking our environmental footprint. The research projects are defined by the principles that underpin the growth strategy and the Company's ambition of carbon neutrality. These R&D programs are organized around five lines: – the "Power" R&D line covers renewable energies, their hybridization and their distributed operation, for example by supplying the network from the batteries of electric vehicles. The challenge is to reduce the production costs of low-carbon energy, decarbonize assets and offer new processes and services; – the "CO_2 & Sustainability" R&D line develops innovative and competitive technologies by focusing on increasingly sustainable solutions. This research concerns the capture and the use of CO_2, for sustainable sythetic fuels and the storage of CO_2, as well as the development of low environmental footprint technologies for the entire low-carbon liquefied natural gas chain, biogas and hydrogen sector. Work undertaken on quantifying greenhouse gas emissions, water and soil management is also contributing to the development of low-carbon technologies; – the “Upstream” R&D line aims to improve the operational efficiency of exploration and production activities, both in terms of reducing greenhouse gas emissions and cutting costs to ensure a low break-even point and a smaller carbon footprint; – the “Downstream Processes & Polymers” R&D line supervises and operates research on polymer recycling, the development of new-generation biofuels and process electrification; – the “Fuels & Lubricants” R&D line is supporting the transformation of the world of transport and new forms of mobility, developing products to increase the performance of electrical systems and gas engines and to reduce the environmental footprint of existing solutions. In addition to TotalEnergies’ five R&D lines, some subsidiaries conduct R&D centered on their own businesses. At Hutchinson, for example, research activities focus on three main issues connected with mobility of the future: weight reduction and energy efficiency, electrification, and smart objects. Saft Groupe is conducting research into more safe and more efficient batteries, particularly in the field of mobility and renewable energy storage, using artificial intelligence and big data, and developing solid-state batteries, safer for electric mobility. R&D is also investigating forward-looking topics with the aim of evaluating the potential of emerging technologies for the Company’s businesses. With an R&D workforce of more than 4,000 employees, the Company invested $849 million in R&D in 2021 (versus $895 million in 2020 and $968 million in 2019). Including developments in digital technology (described in 1.7.3) and industrial projects for CO_2 capture and storage, and including investments made by Total Carbon Neutrality Ventures (TotalEnergies' venture capital fund dedicated entirely to carbon neutrality activities, with cumulative investments expected to reach $400 million by 2023), the Company's investment to prepare for the future amounted to $1.1 billion. TotalEnergies carries out its R&D projects with an open innovation approach, drawing on its talent pool, research infrastructure, pilot sites and R&D centers worldwide, as well as start-ups and top-ranked academic partners. TotalEnergies operates 18 R&D centers across the globe, and has signed about 1,000 agreements with its partners. In addition, the Company implements an active intellectual property policy to protect its innovations, maximize their use and differentiate its technology. In 2021, the Company filed more than 200 patent applications. (Source: 2021 URD, §1.7.2)

Sub-items, proposed metrics and disclosures	Reported	TotalEnergies' disclosures (2021)
Community and social vitality		
Total tax paid Total tax paid by the group, including corporate income taxes, property taxes, non creditable VAT and other sales taxes, employer paid payroll taxes, and other taxes that constitute costs to the company, by category of taxes.	Yes	TotalEnergies publishes in its URD an annual report covering the payments made by its extractive affiliates to governments, per country and per project, among which tax payments, with a specific breakdown on corporate income tax payments. (Source: 2021 URD, § 9.3) The Company also issues a tax transparency report, which provides additional information on the taxes paid in its main countries of operations on a country-by-country basis and on the total tax contribution, broken down by nature of tax.

11.2 SASB Report

The reporting below presents a set of sustainable development indicators at Company level, based on the American SASB EM-EP standard (Oil & Gas – Exploration & Production). This report includes some of the elements of the consolidated non-financial performance statement (chapter 5), whose scope and reporting methodologies are presented in point 5.11 of chapter 5.

SASB code	Metrics	Reported	TotalEnergies' disclosures (2021)
Greenhouse Gas Emissions			
EM-EP-110a.1	Gross global Scope 1 emissions	Yes	**Operated perimeter: 34(1) Mt CO_2e** **Equity interest share: 49 Mt CO_2e** (Source: 2021 URD, §5.4.4)
	Scope 1, percentage of methane	Yes	**1.2 Mt CO_2e, i.e. 4%** 49 kt CH_4 (Source: 2021 URD, §5.4.4)
	Scope 1, percentage covered under emissions-limiting regulations	Yes	**19 Mt CO_2e, i.e., 60%** (Source: 2021 URD, §5.4.4, Europe perimeter)
EM-EP-110a.2	Amount of gross global Scope 1 emissions from flared hydrocarbons	Yes	**4.5 Mt CO_2e**
	Amount of gross global Scope 1 emissions from other combustion	Yes	**22 Mt CO_2e**
	Amount of gross global Scope 1 emissions from process emissions	Yes	**6 Mt CO_2e**
	Amount of gross global Scope 1 emissions from other vented emissions	Yes	**0.5 Mt CO_2e**
	Amount of gross global Scope 1 emissions from fugitive emissions	Yes	**0.5 Mt CO_2e**

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(1) Excluding the COVID-19 effect.

SASB code	Metrics	Reported	TotalEnergies' disclosures (2021)
Greenhouse Gas Emissions			
EM-EP-110a.3	Discussion of long-term and short-term strategy or plan to manage Scope 1 emissions, emissions reduction targets, and an analysis of performance against those targets	Yes	TotalEnergies has set targets and introduced a number of indicators to steer its performance. **Climate targets of the Company** **2030 worldwide targets (Scope 1+2)** – Reduce GHG emissions (**Scope 1+2**) on operated facilities from 46 Mt CO_2e in 2015 to less than 40 Mt CO_2e by 2025. By 2030, the target is a reduction of at least 40% of net emissions(1) compared to 2015 for its operated activities, i.e., 25 to 30 Mt CO_2e – Improve the **energy efficiency** of operated facilities by 1% per year since 2010 – Reduce **methane emissions** of operated facilities by 50% between 2020 and 2025, and by 80% between 2020 and 2030. – Maintain the **methane emissions intensity** below 0.1% of commercial gas produced at operated gas facilities. – Reduce **routine flaring**(2) at a level below 0.1 Mm^3/d by 2025, and eliminate it by 2030. **2030 worldwide targets (Scope 3)** – Reduce **Scope 3**(3) GHG emissions related to its customers' use of energy products to less than 400 Mt CO_2e, which is a level lower than in 2015, despite the growth of its energy production in the coming decade; – Reduce **Scope 3** GHG emissions related to its customers' use of petroleum products sold worldwide by more than 30% compared to 2015. – Reduce the **average carbon intensity** of energy products used by customers by more than 20% compared to 2015. By 2025, the target reduction is at least 10% (**Scope 1+2+3**). **2030 Europe(4) targets** – Reduce emissions from energy products throughout the value chain (from production to use by our customers) (**Scope 1+2+3**) by at least 30% compared to 2015. – Reduce **Scope 3** GHG emissions relating to customers' use of the energy products in Europe by at least 30% in absolute terms, relative to 2015 **Facts** – A reduction in GHG emissions (Scope 1+2) of operated facilities from 46 Mt CO_2e to **37.0 Mt CO_2e** excluding the COVID-19 effect(5) between 2015 and 2021 – **13%** improvement in energy efficiency between 2010 and 2021 – Methane emissions already reduced by **50%** between 2010 and 2020 and by **23%** between 2020 and 2021 – Methane intensity of Upstream hydrocarbon activities of less than **0.1%** for operated gas facilities – More than **90%** reduction in routine flaring between 2010 and 2021 – Scope 3(5) GHG emissions limited to **400 Mt CO_2e** excluding the COVID-19 effect in 2021, below the level of 2015 – A decrease of the Scope 3 GHG emissions from the petroleum products sold of **19%** excluding the COVID-19 effect in 2021 compared to 2015 – A decrease of the carbon intensity of **10%** excluding the COVID-19 effect between 2015 and 2021 – A decrease in GHG emissions (Scope 1+2+3) in Europe of **14%** excluding the COVID-19 effect between 2015 and 2021 – A decrease in GHG emission (Scope 3) in Europe from 265 Mt CO_2e to **220 Mt CO_2e** excluding the COVID-19 effect between 2015 and 2021. It should be noted that the decrease in the Company's GHG emissions (Scope 1+2+3) in 2020, and to a lesser extent in 2021, is partly related to the impact of the COVID-19 pandemic on TotalEnergies's activities, hence the references to estimates excluding the COVID-19 effect. (Source: 2021 URD, §5.4.4)

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(1) The calculation of net emissions takes into account negative emissions from natural sinks like forests, regenerative agriculture and wetlands.

(2) Routine flaring, as defined by the working group of the Global Gas Flaring Reduction program within the framework of the World Bank's Zero Routine Flaring initiative.

(3) GHG Protocol - Category 11.

(4) Europe refers to the European Union, Norway, the United Kingdom and Switzerland.

(5) Refer to point 5.11 for the assessment of the COVID-19 effect.

SASB code	Metrics	Reported	TotalEnergies' disclosures (2021)
Air Quality			
EM-EP-120a.1	Air emissions of the following pollutants: NO_x (excluding N_2O)	Yes	**59 kt** (Source: 2021 URD, §5.5.3)
	Air emissions of the following pollutants: SO_x	Yes	**16 kt** (Source: 2021 URD, §5.5.3)
	Air emissions of the following pollutants: volatile organic compounds (VOCs)	Yes	**58 kt** (Source: 2021 URD, §5.5.3)
	Air emissions of the following pollutants: particulate matter (PM_{10})	Partially	**0.8 kt** of total particulate matter Data does not include the EP segment (data not available)
Water Management			
EM-EP-140a.1	Total fresh water withdrawn	Yes	**101,000 megaliters** (Source: 2021 URD, §5.5.3)
	Percentage of fresh water withdrawn in regions with High or Extremely High Baseline Water Stress	Yes	**54%** (Source: 2021 URD, §5.5.3)
	Total fresh water consumed	Yes	**75,000 megaliters** (Source: 2021 URD, §5.5.3)
	Percentage of fresh water consumed in regions with High or Extremely High Baseline Water Stress	Yes	**58%**
EM-EP-140a.2	Volume of produced water and flowback generated	Yes	**112,437 megaliters** (indicator for EP segment only)
	Percentage discharged	Yes	**58%** (indicator for EP segment only)
	Percentage injected	Yes	**42%** (indicator for EP segment only)
	Percentage recycled	Yes	**0%** (indicator for EP segment only)
	Hydrocarbon content in discharged water	Yes	**7.6 mg/l** **Offshore: 13.7 mg/l** **Onshore: 2.6 mg/l** (Source: 2021 URD, §5.5.3)
EM-EP-140a.3	Percentage of hydraulically fractured wells for which there is public disclosure of all fracturing fluid chemicals used	Yes	**100%**
EM-EP-140a.4	Percentage of hydraulic fracturing sites where ground or surface water quality deteriorated compared to a baseline	Yes	**0%**

<table>
<tr><th>SASB code</th><th>Metrics</th><th>Reported</th><th colspan="2">TotalEnergies’ disclosures (2021)</th></tr>
<tr><td colspan="5">Biodiversity Impacts</td></tr>
<tr><td>EM-EP-160a.1</td><td>Description of environmental management policies and practices for active sites</td><td>Yes</td><td colspan="2">Aware of the need to preserve biodiversity, TotalEnergies ensures that it is taken into account in all its operations. In 2016, the Company pledged to contribute to the achievement of the United Nations’ Sustainable Development Goals (SDGs), including those relating to biodiversity. From 2018, TotalEnergies signed up to the Act4Nature initiative promoted by the French Association of Enterprises for the Environment, now act4nature international alliance.
In 2020, TotalEnergies has set itself a new biodiversity ambition to coincide with the preparation of the United Nations’ global biodiversity plan, which aims to protect global biodiversity and updates its public commitments in this field.
This ambition is based on four core principles: (1) voluntary exclusion zones, (2) biodiversity management in projects, (3) biodiversity management at existing sites and sites ceasing their activities, (4) promoting biodiversity. This new ambition was incorporated in the One MAESTRO framework of the Company.
A communication plan has been developed and deployed in the Company’s various segments and R&D. A series of webinars open to all of the Company's HSE personnel was organized to raise awareness of this ambition. A number of specific meetings to present this Ambition to the Company’s partners have been held and allowed their viewpoints and recommendations to be heard.
An overview of the steps already taken under the four main areas of the biodiversity ambition is provided in the table below.</td></tr>
<tr><td rowspan="4">EM-EP-160a.1</td><td rowspan="4">Description of environmental management policies and practices for active sites</td><td rowspan="4">Yes</td><td colspan="2">Biodiversity Ambition</td></tr>
<tr><td>1. Voluntary exclusion zones:</td><td>Facts</td></tr>
<tr><td>– the Company has made a commitment to recognize the universal value of UNESCO’s world natural heritage sites, by not conducting oil and gas exploration or production activity in these areas.</td><td>– This commitment is respected.</td></tr>
<tr><td>– TotalEnergies has also made a commitment not to conduct any exploration activity in oil fields under sea ice in the Arctic.</td><td>– The Company publishes a list of its licenses in the Arctic on its website. In 2021, the Company did not conduct any exploration activity in oil fields under sea ice in the Arctic.</td></tr>
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SASB code	Metrics	Reported	TotalEnergies' disclosures (2021)
Biodiversity Impacts			
EM-EP-160a.1	Description of environmental management policies and practices for active sites	Yes	**2. New projects:** The Company has made a commitment to develop a biodiversity action plan (BAP) for any new site located in an area of interest for biodiversity, that is IUCN (International Union for Conservation of Nature) Protected areas I to IV or Ramsar areas. In addition, for each new project located in an IUCN Protected area I or II or a Ramsar area, the Company commits to implement measures to produce a net positive impact (gain) on biodiversity. **Facts:** a biodiversity action plan has been put in place for all operated production sites located in the most sensitive protected areas, corresponding to the IUCN I to IV and Ramsar areas, some of which have a target of a net gain. In 2021, this concerned 8 projects, 4Axis of which are aligned with the performance standards of the World Bank's International Finance Corporation (IFC). These are: – The BAP for the existing oil terminal in Djeno (Republic of the Congo), located in a Ramsar area, was developed in 2015 and is continuing to be rolled out. A BAP update is planned for 2022. – The BAP for the existing onshore oil terminal in Tempa Rossa (Italy), for which the concession partly overlaps an IUCN II area, was developed in 2019 and is continuing to be rolled out. – The BAP with net gain for the Tilenga project (oil production, Uganda), partly located in an IUCN II area, is 100% complete and implementation has started. Some measures have already been taken proactively. This BAP is aligned with the performance standards of the IFC. – The BAP with net gain for the EACOP pipeline project (oil transportation, Tanzania), crossing an IUCN II area is under completion and implementation is expected to begin following the final investment decision associated with the decision for the Tilenga project. Some measures have already been taken proactively, such as actions relating to protecting chimpanzees. This BAP has a target of a net gain and is aligned with the performance standards of the IFC. – The BAP with net gain of the Mozambique LNG Project (natural gas production, Mozambique) has been completed for the design phase. The implementation of measures related to construction was temporarily suspended due to security problems in the Cabo Del Gado area. This BAP is aligned with the performance standards of the IFC. – The BAP with net gain of the Papua LNG (natural gas production, Papua New Guinea) is currently being designed. The project does not enter any IUCN or Ramsar protected areas. This BAP is aligned with the performance standards of the IFC. – The BAP of the existing Helio La Perrière combined onshore wind/solar site (Reunion Island, France) is continuing as part of the site's redevelopment. – The BAP of the Diyab project in the United Arabic Emirates.

SASB code	Metrics	Reported	TotalEnergies' disclosures (2021)	
Biodiversity Impacts				
EM-EP-160a.1	Description of environmental management policies and practices for active sites	Yes	**3. Existing sites:** A biodiversity action plan will be defined by 2025 at the latest and deployed by 2030 at the latest on every existing environmentally significant site (Exploration & Production production sites, refineries, petrochemicals sites, gas-fired power stations) which is ISO14001 certified. TotalEnergies will report on its deployment to the various stakeholders. When a site stops its operations, TotalEnergies is also committing to considering the development of a dedicated area rich in biodiversity (e.g. rare species habitats, biodiversity sanctuaries, etc.) as one of the options for its rehabilitation.	**Facts:** the deployment of this measure is underway. Two diagnostocs were carried out in 2021 (the Pont-sur-Sambre plant in France and the marine exploration and production facilities in the Republic of the Congo). Three diagnostics are under finalisation (the Donges and Grandpuits refineries and the Bayet plant in France). Regarding the creation of biodiversity-rich areas (habitats for rare species, biodiversity sanctuaries, etc.) as a rehabilitation option for sites that have ceased their activity, initial projects include the creation of a habitat for reptiles on the banks of the Garonne River and measures to conserve protected bird and amphibian species in Oberhoffen-sur-Moder, France. Approximately 10 other sites in France are being evaluated, including biodiversity surveys, and the enhancement of biodiversity, which may lead to similar initiatives.
			4. Promotion of biodiversity: – As part of the TotalEnergies Foundation's Climate, Coastal and Oceans program, TotalEnergies wishes to support biodiversity-related awareness programs, youth education and research actions. – TotalEnergies also commits to sharing biodiversity data collected as part of environmental studies on Company projects with the scientific community and the general public.	**Facts:** The TotalEnergies Foundation program supports the Polar Pod expedition which aims to study the Antarctic circumpolar current to gain a better understanding of air-ocean exchanges, to validate satellite measurements and to observe biodiversity and the impact of human activities in the Southern zone. This knowledge will be disseminated to a young audience through an educational project in collaboration with the IUCN. The TotalEnergies Foundation program also supports the work of the Tour du Valat, a non-profit foundation and research institute that has been working since the 1970s to conserve Mediterranean wetlands on a 2,700-hectare prime natural site in the Camargue. In order to continue sharing its biodiversity data and tools with the scientific community, the Company has joined the international Global Biodiversity Information Facility (GBIF). In 2021, the loaded data concerned the Company's projects in South Africa, Oman, Uganda, Denmark and Argentina. The data published by TotalEnergies was downloaded more than 4,700 times and quoted about 15 times in scientific publications. In addition, Oxford University in the United Kingdom (Long Term Ecology Laboratory), TotalEnergies and Equinor launched a collaboration program in 2018 with the aim of developing a tool for screening of marine biodiversity sensitivities. The tool has now been finalized and is available online for industry, the public sector and NGOs(1).
			Lastly, the Company has a number of R&D programs relating to biodiversity. These include the development with UNEP WCMC(2) of a biodiversity impact indicators methodology that can be consolidated at Company level, the development of a decision-support tool for actions based on the Avoid-Reduce-Offset approach, an operational catalog for nature-based solutions, biosurveillance and monitoring tools using the environmental DNA, work on mapping areas vulnerable to climate change and opportunities offered by the Company's sites in terms of ecological corridors. (Source: 2021 URD, §5.5.4)	

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(1) LEFT Marine (Local Ecological Footprint Tool).

(2) World Conservation and Monitoring Center of the United Nations Environment Program (UNEP).

SASB code	Metrics	Reported	TotalEnergies' disclosures (2021)
Biodiversity Impacts			
EM-EP-160a.2	Number of hydrocarbon spills	Yes	**65** (Source: 2021 URD, §5.5.2)
	Volume of hydrocarbon spills	Yes	**2,000 m^3** (Source: 2021 URD, §5.5.2)
	Spills: volume in Arctic	Yes	**0 m^3**
	Volume impacting shorelines with ESI rankings 8-10	Yes	**0 m^3**
	Volume recovered	Yes	**1,700 m^3** (Source: 2021 URD, §5.5.2)
EM-EP-160a.3	Percentage of (1) proved and (2) probable reserves in or near sites with protected conservation status or endangered species habitat	Yes	**8.9%** of proved reserves are operated reserves located in or near sites with protected conservation status or endangered species habitat

SASB code	Metrics	Reported	TotalEnergies’ disclosures (2021)
Security, Human Rights & Rights of Indigenous Peoples			
EM-EP-210a.1	Percentage of (1) proved and (2) probable reserves in or near areas of conflict	Yes	**10.9%** (proved reserves)
EM-EP-210a.2	Percentage of (1) proved and (2) probable reserves in or near indigenous land	Yes	**1.3%** of proved reserves are operated reserves located in or near indigenous land

EM-EP-210a.3	Discussion of engagement processes and due diligence practices with respect to human rights, indigenous rights, and operation in areas of conflict	Yes	The main challenges associated with the effects of the Company’s activities in terms of respect for human rights have been identified using the methodology set out in the United Nations Guiding Principles on business and human rights (UNGP) Reporting Framework relating to the “salient issues”, that is to say, the human rights at risk of the most severe negative impact through the Company’s activities or business relationships.
			On this basis, the Company identified six salient risks subdivided across three key areas:
			– **human rights in the workplace** of TotalEnergies’ employees as well as of the employees of its suppliers and other business partners:
			  – forced labor and child labor;
			  – discrimination;
			  – just and favorable conditions of work and safety.
			– **human rights and local communities**:
			  – access to land;
			  – the right to health and an adequate standard of living.
			– respect for **human rights in security-related activities:**
			  – the risk of misuse of force.
			Strong commitments
			TotalEnergies’ human rights approach is based on strong and formalized commitments. It is supported by a dedicated organization, and embedded in an awareness-raising and training program, as well as evaluation and follow-up mechanisms aiming at measuring the effectiveness of the Company’s actions.
			TotalEnergies is committed in particular to respecting internationally recognized human rights and standards, wherever the Company operates, in particular the Universal Declaration of Human Rights, the Fundamental Conventions of the International Labor Organization (ILO), the U.N. Guiding Principles on Business and Human Rights, the OECD guidelines for multinational enterprises and the Voluntary Principles on Security and Human Rights (VPSHR).
			In 2016, the Company published a Human Rights Briefing Pape in accordance with the recommendations of the United Nations Guiding Principles Reporting Framework, which is available on its website. TotalEnergies was then the first company in the oil and gas industry to do this.
			(Source: 2021 URD, §5.7)

SASB code	Metrics	Reported	TotalEnergies' disclosures (2021)
Community Relations			
EM-EP-210b.1	Discussion of process to manage risks and opportunities associated with community rights and interests	Yes	**Recruiting local people and supporting the development and creation of local businesses** In addition to contributing directly to job creation in the countries where the Company operates (refer to point 5.6 of this chapter),TotalEnergies is committed to recruiting local people and subcontractors, if its operational imperatives so permit. For each industrial project presented to the Company's Executive Committee, TotalEnergies' set itself as a target to maximise local employment and value creation for the host country through procurement, manufacturing and the development of local capacity and skills. In order to achieve this, TotalEnergies carries out an analysis of the local context in terms of regulations, stakeholder expectations and local economic and industrial capacities. Based on this analysis, depending on the needs of the project and future operations, existing local capacities, those requiring development support and those not available are determined. The analysis is complemented by working sessions with key suppliers to gather their views on how to mobilise and develop local content. This approach enables to define a strategy for developing local content during the construction phase of the project and in operation. During the construction phase, the strategy incorporates objectives and actions relating to vocational training and support for local businesses. During the construction phase and in operation, key suppliers and their subcontractors are selected if they meet or exceed the local content targets set in the tenders. In order to monitor the achievement of the targets, suppliers and their subcontractors are required to submit a detailed report on their achievements (employment, use of local subcontractors, investments and initiatives in skills development and support to local businesses). This forms the basis for calculating impact: jobs and local value created. This approach has been deployed in recent years for two major projects: Tilenga in Uganda and EACOP in Tanzania. New renewable energy projects, in particular offshore wind projects, are gradually integrating this methodology in order to contribute to the development of new industrial sectors and local employment. As an illustration, on the Tilenga project, the local content development approach should make it possibe to: – create approximately 6,000 direct local jobs(1) during the construction phase, of which 60% technicians and 15% managers, and then approximately 3,000 during the operation phase; – create approximately 14,000 indirect local jobs(2) during the construction phase, then approximately 5,000 during the operation phase. A significant portion of these indirect jobs will be created in the project area (Buliisa); – spend approximately 700 million dollars with local suppliers during the construction phase, which is expected to generate up to 1.2 billion dollars in additional national economic wealth(3). During the operation phase, the site is expected to spend approximately 60 million dollars per year with its suppliers, which is expected to generate approximately 100 million dollars in national economic wealth(3). In addition, TotalEnergies is reaffirming its commitment to supporting the socio-economic development of the countries in which the Company operates through an entrepreneurial challenge program, the Startup Challenge of the Year. TotalEnergies thus contributes locally to the reinforcement of the social fabric, through the support brought to the most innovative entrepreneurs, in the realization of their project. Following the success of the first edition launched in 2015-2016 in 34 countries in Africa, the 2018-2019 edition was expanded to 55 countries worldwide. The third edition was launched in November 2021 and should run through to June 2022.

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(1) At TotalEnergies, suppliers and their subcontractors involved in the construction of the project.

(2) At subcontractors of suppliers involved in off-site activities other than construction, such as transportation, catering or accommodation activities dedicated to the project suppliers or the supply of materials to these suppliers.

(3) TotalEnergies study.

SASB code	Metrics	Reported	TotalEnergies' disclosures (2021)
Community Relations			
EM-EP-210b.1	Discussion of process to manage risks and opportunities associated with community rights and interests	Yes	**Anchoring our transformation with the actors of territories and with a will of just transition** In France, TotalEnergies is supporting the conversion of its industrial sites and intends to share its transformation ambition with its stakeholders. In September 2021, TotalEnergies set up a division to forge ties with its local public and private stakeholders and to foster a dialogue focused on the regions. The extended missions of this division are to represent the Company in the regions, to dialogue with stakeholders, to establish partnerships, for example through collaborations with regions and cities, to integrate into the territories by participating in certain regional bodies in close proximity to regional decision-makers, to communicate on the transformation of the Company, by involving the Company's segments and the Corporate Foundation. As an example, end of September 2021, a declaration of Green Growth cooperation was signed between the Company and the Nice Côte d'Azur Metropolis, focusing on three areas: the energy transition towards carbon neutrality, territorial solidarity and economic development. This division is also in charge of supporting the conversion of the Company's industrial sites with a view to a just transition and supporting the energy transition. Thus, the subcontractors of its sites are supported in setting up training and repositioning the skills of their employees in particular toward the new professions of the energy transition. Support can be offered to employees in their personal business creation projects. Projects led by other industrialists can be supported and subsidized in order to facilitate the establishment of new industrial units. Each project takes into account an analysis of the evolution of the markets in order to restore the competitiveness of the industrial sites over the long term. A Voluntary Agreement for Economic and Social Development (CVDES) is implemented to support the site and its ecosystem (subcontractors, stakeholders, etc.) during this period of change. In this way, TotalEnergies reaffirms its responsibility toward the employment basins in which the Company operates as well as its commitment to maintaining a strong and lasting industrial presence. **At the Carling industrial platform in France**, following the shutdown of the second steam cracker in 2015, TotalEnergies led a forward-looking project. The CVDES relating to the Carling site was ended in 2018 with a final commitment of €12 million in grants from TotalEnergies for four industrial projects representing €125 million of investment and 143 jobs planned. TotalEnergies also committed to support these industrial projects until the effective start-up of the production units. Metabolic Explorer's industrial unit was inaugurated in September 2021, while construction of the Afyren Neoxy unit began in late 2020 for a planned start-up in 2022. The grants awarded by TotalEnergies and the support provided to these startups have helped create jobs with a future in the biochemistry field. **The conversion of the La Mède refinery in France**, which involved an initial investment of more than €275 million, has been completed, with the start-up of an 8 MW solar power plant in 2018 and the first French biorefinery in July 2019. The CVDES signed for La Mède for the period 2016-2019, extended for 2020, was closed in March 2021. TotalEnergies has supported subcontractors and 8 industrial projects and 3 industrial demonstrators, with the planned creation of nearly 300 jobs. **At the Lacq platform, also in France)**, a specific unit of TotalEnergies researches and examines third-party industrial projects that could join the platform in partnership with the Nouvelle-Aquitaine region, the Pau-Béarn Chamber of Commerce and Industry (CCI), the Chemparc public interest group, the Lacq-Orthez district authority and Sobegi. In October 2021, the groundbreaking ceremony for the green chemicals project led by Alpha Chitin was held (€14 million investment and 20 jobs created for the first phase). At the end of 2021, the Caremag magnet recycling project announced its decision to locate in the Lacq basin (€42 million investment and 50 to 70 jobs created). The coordinated efforts of local stakeholders, including TotalEnergies, have helped launch the creation of new, forward-looking industries on the site in the fields of biochemistry and biotechnology for the energy transition. **At the Grandpuits platform, in France,** TotalEnergies is supporting the project to convert the site into a "zero-oil" platform as announced in September 2020 and representing a planned investment of €500 million. The Grandpuits platform will include four major activities: the transformation of biomass into biofuels, the production of bioplastics, the recycling of plastic waste and the production of solar energy. The CVDES between the public authorities and TotalEnergies sets a budget of nearly €5 million dedicated to supporting the Grandpuits and Gargenville employment areas and, in particular, subcontractors and the reception of new industrial jobs, with a view to a fair transition. Finally, TotalEnergies supports the creation or maintenance of sustainable jobs in France by granting loans to SMEs, particularly those with projects that contribute to the ecological and energy transition. Between 2019 and 2021, loans were granted to 423 SME projects, amounting to a total of €16 million, and nearly 11,000 jobs were supported. (Source: 2021 URD, §5.9.1)

SASB code	Metrics	Reported	TotalEnergies' disclosures (2021)
Community Relations			
EM-EP-210b.2	Number and duration of non-technical delays	No	Not aggregated at Company level.
Health & Safety for everyone			
EM-EP-320a.1	Total recordable incident rate (TRIR)	Yes	TRIR: number of recorded injuries per million hours worked – All Personnel 0.73 Company employees 0.59 Contractors' employees 0.91 which corresponds to: TRIR All personnel: **0.15** (per 200,000 hours worked) TRIR Company employees: **0.12** (per 200,000 hours worked) TRIR Contractors' employees: **0.18** (per 200,000 hours worked) Note: these rates do not include work-related illnesses (Source: 2021 URD, §5.3.2) Number of occupational illnesses recorded in 2021 for Company employees: **158** (Source: 2021 URD, §5.3.4)
	Fatality rate	Yes	**0.26** (per 100 million hours worked) which corresponds to: **0.0005** (per 200,000 hours worked) (Source: 2021 URD, §5.3.2)
	Near miss frequency rate (NMFR)	Yes	Number of near miss and anomalies reported: around 600,000 Number of hours worked: 389 million Which correspond to a NMFR (per 200,000 hours worked) of around: **300** (Source: 2021 URD, §5.3.2)
	Average hours of health, safety, and emergency response training for full-time employees	Yes	Number of average training days per employee: **3.0** (excluding on the job training) Percentage of training dedicated to HSE: **25%** (Source: 2021 URD, §5.6.2)
	Average hours of health, safety, and emergency response training for contract employees	No	Not available. We don't define training needs by individual contract status and categories of employees.
	Average hours of health, safety, and emergency response training for short-service employees	No	Not available. We don't define training needs by individual contract status and categories of employees.
EM-EP-320a.2	Discussion of management systems used to integrate a culture of safety throughout the exploration and production lifecycle	Yes	As part of the **policy for preventing workplace accidents**, TotalEnergies has defined rules and guidelines for HSE training, personal protective equipment and high-risk operations for Company employees and contractors working on sites operated by the Company. In order to continually move its practices forward, TotalEnergies also implements a process for analyzing accidents, irrespective of their nature, with the method used and the level of detail involved depending on the actual or potential level of severity of the event. By way of example, a near miss with a high severity potential is treated as a severe accident, and its analysis is considered essential factor of progress. Depending on its relevance to other Company entities, it will trigger a safety alert and, depending on the circumstances, the circulation of lessons learned and updating of the reference framework. The reporting of anomalies and near misses (approximately 600,000 in 2021 and stable compared to 2021) is strongly encouraged and is permanently monitored. The involvement of each employee in identifying anomalies and dangerous situations is an indicator of employees' vigilance in accident prevention and reflects the safety culture within the Company.

SASB code	Metrics	Reported	TotalEnergies' disclosures (2021)
Health & Safety for everyone			
EM-EP-320a.2	Discussion of management systems used to integrate a culture of safety throughout the exploration and production lifecycle	Yes	The Company's HSE division includes a division of specialists in high-risk operations (work at height, lifting, confined spaces, etc.) which consolidates in-house knowledge and relations with contractors, and issues the relevant One MAESTRO rules. The HSE division also includes a division aimed at providing support for subsidiaries in their own voluntary approach to strengthen their safety culture. This division also develops and disseminates tools to improve human performance by identifying the Organizational and Human Factors (OHF) of a work situation and defining appropriate measures. In 2020, a digital platform was put in place to host these tools, as well as examples of how to apply them, factsheets and information about the fundamental concepts of OHF. This platform includes the principles covered by two guides of the One MAESTRO standard, dealing respectively with OHF and Integrated Safety Culture approaches. The implementation of these principles is promoted within the Company through dedicated modules integrated into the training programs for different populations, or through specific training programs at the request of subsidiaries. In addition to its One MAESTRO reference framework, the Company has put in place its *Twelve Golden Rules for Safety at Work*. Widely circulated within the Company, they bring together the fundamental rules which must be scrupulously observed by all personnel, whether employees or the staff of contractors, in all the countries and business segments in which the Company is active. The aim of the Golden Rules is to set out simple, easy-to-remember rules that cover a large number of occupational accidents. The *Stop Card* system in place also enables any employee of the Company or a contractor to intervene if, for example, any of the Golden Rules are not being followed. Starting in 2019, the Company has also rolled out the *Our lives first: zero fatal accidents* program, comprising the introduction of joint safety tours with contractors, the incorporation into the permit to work process of a ritual to be performed prior to undertaking work at the Company's operated sites (*Safety Green Light*), and tools to step up on-site checks and assess compliance with safety rules for eight high-risk activities (working at height, lifting operations, work on process or powered systems, working in confined spaces, hot work, excavation work, manual cleaning using high-pressure jets and Industrial cleaning using mobile pump and vacuum truck).
Health & Safety for everyone			
EM-EP-320a.2	Discussion of management systems used to integrate a culture of safety throughout the exploration and production lifecycle	Yes	The correct implementation of the One MAESTRO reference framework, and more generally, of all the Company's occupational safety programs, is verified with site visits and **audits**. Contractors' HSE commitment is also monitored by means of a **contractors qualification** and **selection** process. The reference framework states that for a contractor to be authorized to carry out high-risk work on a site operated by a Company subsidiary, its HSE management system needs to be certified by a recognized third-party body or be inspected for compliance. For contractors with a high number of hours worked, a Safety Contract Owner can be appointed from among the senior executives of Company segments or members of executive committees of Company subsidiaries to initiate high-level dialogue with the contractor's management and increase the level of commitment and visibility on HSE issues. Whatever the nature of the health, safety and the environment risks, preventive actions require all employees to adhere to the Company's HSE policies. To this end, TotalEnergies provides training intended for the various groups (new arrivals, managers, senior executives and directors) in order to establish a broad-based, consistent body of knowledge that is shared by everyone: – *Safety Pass:* these safety induction courses were started on January 1, 2018 for new arrivals. Various courses exist depending on the position and cover the Company's main HSE risks, the risks linked to the site activities as well as those linked to the workplace. The theoretical content is supplemented by practical life-saving actions training sessions; – *HSE for Managers* is aimed at current or future operational or functional managers within one of the Company's entities. This training was delivered in virtual classroom mode as well as face-to-face in 8 sessions in 2021, in which about 200 managers took part; – *Safety Leadership for Executives* is intended for the Company's senior executives. Its objective is to give senior executives the tools allowing them to communicate and develop a safety culture within their organization. Three sessions were held in 2021 to train around 50 Company executives. In order to ensure and reinforce knowledge of the reference framework, a knowledge evaluation tool containing over 3,000 multiple-choice questions was developed in 2018 for use by the HSE managers of subsidiaries, operated sites and their teams. This tool can also be used to determine a suitable training plan, if necessary. More than 100 evaluations were carried out in 2021.

SASB code	Metrics	Reported	TotalEnergies' disclosures (2021)
Health & Safety for everyone			
EM-EP-320a.2	Discussion of management systems used to integrate a culture of safety throughout the exploration and production lifecycle	Yes	In addition to training measures, the HSE division hosts regular events on HSE-related topics, with experts and specialists communicating a set of rules and good practices, internal and external, each month. The annual World Day for Safety is another key event. The theme for 2021 was "The Golden Rules everywhere, everyday". In addition, TotalEnergies encourages and promotes its subsidiaries' safety initiatives. Each year, a safety contest is organized and a prize is awarded to the best HSE initiative by a subsidiary. Finally, safety, as a value of TotalEnergies, is taken into account in the employee compensation policy**.** In terms of **security**, the Company's policy aims to ensure that the Company's people, property and information assets are protected from malicious intent or acts. To achieve this, TotalEnergies relies on its Security department, which develops the Company's reference framework and oversees the security situation in the countries in which it operates in order to determine general security measures to be adopted (such as authorization to travel). It also provides support to subsidiaries, particularly in the event of a crisis. The Company's security reference framework applies to all subsidiaries controlled by TotalEnergies. It provides that the security management system for subsidiaries must include the following stages: analysis of the threat, risk assessment, choice of a security posture, implementation of preventive or protective measures, control and reporting and then regular reviews. It must also comply with the requirements of local regulations. The framework requires each subsidiary to develop a security plan, operating procedures and an action plan. Within the framework of developing new activities, the Company's Security department recommends the organization and resources to be deployed in connection with the business segments. In each country in which TotalEnergies operates, the Country Chair is responsible for the security of operations in the country. The Country Chair ensures the deployment of measures and resources, with the support of a Country Security Officer and subsidiaries' CEOs. Subsidiaries' management systems and security plans are checked on a regular basis by the Company's Security department or the Country Chair. Awareness raising and training programs and a centralized system for reporting security events are organized by the Company's Security department. (Source: 2021 URD, §5.3.2)

SASB code	Metrics	Reported	TotalEnergies' disclosures (2021)
Reserves Valuation & Capital Expenditures			
EM-EP-420a.1	Sensitivity of hydrocarbon reserve levels to future price projection scenarios that account for a price on carbon emissions	Yes	**Resilience of the organization's strategy** Very active management over the last few years has made the Company's portfolio more resilient. More than 35% of its future oil and gas production will come from low-breakeven assets that were not in the portfolio at the end of 2014. The portfolio benefits from a low breakeven point in line with the strategic objective of less than \$30/b (Company's organic breakeven point before dividend below \$25/b in 2021), ensuring competitive resources. In particular, in the upstream segment, TotalEnergies has the lowest production cost per barrel and carbon intensity per barrel of oil equivalent (operated Scope 1+2) among its peers, at around \$5/boe and 17 kg CO_2/boe, respectively. **[REDACTED SECTION: CERTAIN TEXT HAS BEEN REDACTED]** In June 2020, TotalEnergies also reviewed its upstream assets that can be qualified as "stranded", meaning with reserves beyond 20 years and high production costs, whose overall reserves may therefore not be produced by 2050. The only projects concerned are the Fort Hills and Surmont oil sands projects in Canada. TotalEnergies has decided to take only proved reserves into account for impairment testing on these two assets – contrary to general practice which considers proved and probable reserves – and to approve no new projects for increasing the capacity of these Canadian oil sand assets. The Company's strategy of focusing new oil investments on low carbon intensity projects also led it to exit from extra heavy crude oil assets in Venezuela's Orinoco Belt in 2021. The characteristics of TotalEnergies' portfolio cushion the risk of having stranded assets in the future if a structural decline in demand for hydrocarbons occurs due to stricter global environmental regulations and constraints and a resulting change in consumer preferences. In addition, TotalEnergies assesses its portfolio's resilience, including for new material investments, on the basis of relevant scenarios and sensitivity tests. Each material investment – including in the exploration, acquisition and development of oil and gas resources, as well as in other energies and technologies – is reviewed in relation to the objectives of the Paris Agreement ; each new investment enhances the resilience of the Company's portfolio. Even if carbon pricing does not currently apply in all of the Company's host countries, TotalEnergies includes a minimum carbon price of \$40/ton in its investment criteria (or the current price in a given country, if higher), with the assumption of a linear increase to \$100 per ton as from 2030. Beyond 2030, an annual increase of 2% is applied. Assuming a carbon price of \$200/ton as from 2020 and an annual increase of 2% thereafter (i.e., a \$100/ton increase from the base scenario), TotalEnergies estimates a negative impact of around 9% on the discounted present value of its assets (upstream and downstream). In relation to the reference scenario used to review investments (Brent at \$50/b), application of the IEA's NZE price scenario would lower the discounted present value of the Company's assets (upstream and downstream) by around 17%. In addition, to ensure robust accounting of its assets in the balance sheet, the Company uses an oil price trajectory that converges in 2040 with the price in the IEA's SDS scenario (\$$_{2022}$50/b) and that converges after 2040 with the price retained for 2050 in the IEA's NZE scenario (\$$_{2022}$25/b) to calculate impairment of its upstream assets. The prices retained for gas stabilize between now and 2025 and until 2040 at lower levels than today and converge with the IEA's NZE scenario in 2050. (Source: 2021 URD, §5.4.2)
EM-EP-420a.2	Estimated carbon dioxide emissions embedded in proved hydrocarbon reserves	Yes	**3.8 Gt CO_2e**

SASB code	Metrics	Reported	TotalEnergies' disclosures (2021)
Reserves Valuation & Capital Expenditures			
EM-EP-420a.3	Amount invested in renewable energy, revenue generated by renewable energy sales	Yes	TotalEnergies wants to become one of the top five worldwide producers of renewable electricity (solar and wind). In five years, the Company has invested more than $10 billion, primarily in photovoltaic electricity and offshore wind, for an average of $2 billion per year. In 2021, TotalEnergies lifted its investments in electricity and renewables to more than $3 billion, or 25% of its net investments.It intends to finance investments of more than $60 billion in renewable power generation capacity by 2030. The Company makes profitable investments, meaning projects with a return of more than 10%(1). The mix combines regulated markets with deregulated markets integrated across the entire electricity value chain. As a result, the Renewables & Electricity business's EBITDA(2) exceeded $1 billion in 2021. In the past four years, the Company's gross installed capacity for renewable power grew from 0.7 GW in 2017 to more than 10 GW in 2021. The objective is to have **35 GW of gross capacity in 2025** and 100 GW in 2030. The 2025 figure is based on **projects that have been identified or are in development**. The Company's goal is to increase electricity production from 21 TWh in 2021 to 120 TWh in 2030. TotalEnergies' broad international footprint gives it a competitive advantage for identifying and developing profitable renewables projects. For that reason, TotalEnergies created a "Renewable Explorers" network in 2021 in some 60 host countries. Since 2015, TotalEnergies has been building a portfolio of flexible power generation using combined-cycle gas turbine (CCGT) plants, with a capacity of 4 GW at end-2021. These plants complement the development of renewables by supporting the grid during periods of peak demand or when there is not enough sunshine or wind. Ultimately, the CCGT units are targeted for decarbonization, either by changing from gas to biomethane or hydrogen or by sequestering their emissions through carbon capture and storage (CCS). (Source: 2021 URD, §5.4.2)
EM-EP-420a.4	Discussion of how price and demand for hydrocarbons and/or climate regulation influence the capital expenditure strategy for exploration, acquisition, and development of assets	Yes	The world's energy mix needs to change if the objectives of the Paris Agreement are to be achieved. As a broad energy company, therefore, TotalEnergies has factored this development into its strategy and set itself the ambition of achieving carbon neutrality (net zero emissions) by 2050, together with society. TotalEnergies promotes a policy of reducing GHG emissions based on the following principles in order of priority: – avoid emissions; – reduce them by using the best available technologies; – offset the residual emissions thus minimized. (Source: 2021 URD, §5.4.2)

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(1) Return on equity, including partial divestments.

(2) Adjusted EBITDA (Earnings Before Interest, Tax, Depreciation and Amortization) corresponds to the adjusted earnings before depreciation, depletion and impairment of tangible and intangible assets and mineral interests, income tax expense and cost of net debt, i.e., all operating income and contribution of equity affiliates to net income.

SASB code	Metrics	Reported	TotalEnergies' disclosures (2021)
Business Ethics & Transparency			
EM-EP-510a.1	Percentage of (1) proved and (2) probable reserves in countries that have the 20 lowest rankings in Transparency International's Corruption Perception Index	Yes	**8.9%** (proved reserves)
EM-EP-510a.2	Description of the management system for prevention of corruption and bribery throughout the value chain	Yes	TotalEnergies is a major player in the energy sector, where public authorities regularly play a role and where the amounts invested may be very high. In addition, the Company is present in more than 130 countries, some of which have a high perceived level of corruption according to the index drawn up by Transparency International. Aware that it is highly exposed to the risk of corruption, TotalEnergies applies a principle of zero tolerance. To prevent risks of corruption, TotalEnergies has implemented a robust and regularly updated anti-corruption compliance program. The aim of this program is to promote a culture of compliance and transparency, which is key in ensuring the sustainability of the Company's activities. Failure to comply with such legislation such as the U.S. Foreign Corrupt Practices Act and the French law on transparency, the fight against corruption and the modernization of the economy, is likely to expose the Company to a high criminal, financial and reputation risk, as well as the enforcement of measures such as the review and reinforcement of the compliance program under the supervision of an independent third party. The commitment of the entire Company and the efforts undertaken are unrelenting in order to ensure the sustainability and continuous improvement of the anti-corruption compliance program, which the U.S. authorities deemed to be appropriate in 2016, thus putting an end to the monitorship that was introduced in 2013. This program is drawn up by a dedicated organization acting at the Company and business segment levels, namely the Compliance and Legal Risk Management Department, headed by the Chief Compliance Officer, and the Branch Compliance Officers. They coordinate a network of more than 360 Compliance Officers in charge of rolling out and running the program at the subsidiary level. This structured organization lies in close proximity to operational activities while having its own dedicated reporting line. TotalEnergies' anti-corruption compliance program is based primarily on the following seven pillars: management commitment or "tone at the top", risk assessment, adoption of internal standards, awareness raising and training of employees, feedback of information, including the whistle-blowing system, mechanisms for assessing and monitoring implementation of the program, and imposition of disciplinary sanctions in the event of misconduct.

SASB code	Metrics	Reported	TotalEnergies' disclosures (2021)
Business Ethics & Transparency			
EM-EP-510a.2	Description of the management system for prevention of corruption and bribery throughout the value chain	Yes	**5.8.1.1 Management commitment** The constant high level of commitment by the General Management is reflected by the principle of zero tolerance for corruption that is clearly set out in the Company's Code of Conduct. Managers have a duty to lead by example and are responsible for promoting a culture of integrity and dialogue. This commitment is also expressed in regular statements made by the Chairman and Chief Executive Officer on this subject, as well as through large-scale communication actions, such as the annual Business Ethics Day organized on the occasion of the U.N.'s International Anti-Corruption Day and Human Rights Day. The seventh event, which took place in December 2021, was devoted to training: an online discussion was organized with the President of the Integrated Gas, Renewables & Power segment, and then with the Compliance, Ethics and Human rights Officers, to enable employees to ask their questions on these topics. The event was preceded by a poster campaign. In addition, its launch was ensured by the Chairman and CEO of TotalEnergies SE in a video in which the Chairman & CEO notably reminded the importance of the training in the fight against corruption. The commitment of the management bodies is also expressed externally by TotalEnergies' joining anti-corruption initiatives and supporting collaborative and multi-party approaches. TotalEnergies joined the Partnering Against Corruption Initiative (PACI)(1) in 2016, thereby adhering to the PACI Principles for Countering Corruption. The Chairman and Chief Executive Officer of TotalEnergies SE became a member of the PACI Board in 2018 and subsequently Co-Chairman of the initiative at year-end 2019. TotalEnergies is also a member of other initiatives that contribute to the global effort against corruption, such as the U.N. Global Compact since 2002 and the Extractive Industries Transparency Initiative (EITI)(2) since its launch in 2002. **5.8.1.2 Risk assessment** To regularly adapt the compliance program to the risks to which TotalEnergies is exposed, these must first be identified and assessed. In addition to the Company's risk mapping, which includes the risk of corruption, specific corruption risk mapping is produced on the basis of a methodology formalized in a rule adopted in early 2020. This rule provides for two-tier mapping: that of entities coordinated by the Compliance Officer and that of business segments coordinated by the Branch Compliance Officers. At the business segment level, the assessment needs to examine the main types of risk (purchasing, sales, conflicts of interest, gifts and hospitality, human resources, representatives dealing with public officials, mergers and acquisitions, joint-ventures, donations and sponsoring, and influence peddling). This two-tier analysis is aimed at establishing action plans that are appropriate to the risks identified and the realities on the ground. In accordance with the rules in place, the Chief Compliance Officer presented a summary of the maps of the various business segments to the TotalEnergies Risk Management Committee for the first time in 2021. The same presentation was provided by the Chief Compliance Officer to the Executive Committee in October 2021. In addition, particularly when assessing corruption risks, employees are provided with tools that help them identify the risk of corruption, e.g. the Typological guide of corruption risks. Measures are taken to manage the identified risks. Specific rules are regularly adopted and incorporated in the Company's reference framework. **5.8.1.3 Internal standards** As an essential element of the Company's reference framework, the Code of Conduct sets out the behavior to be adopted, in particular with regard to the question of integrity. It prohibits corruption, including influence peddling, and advocates zero tolerance in this area. The Code of Conduct is complemented by a regularly updated set of anti-corruption standards. This set applies to all companies controlled by the Company in accordance with their respective decision-making rules and subject to the legal and regulatory provisions applicable locally. The Anti-Corruption Compliance Directive recaps the main principles and organizes the roll-out of the anti-corruption program. It deals, among others, with commitment, training and awareness raising, accounting and bookkeeping, the assessment system and whistle-blowing mechanisms. This directive is complemented by rules that deal with more specific subjects in order to prevent the various risks identified.

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(1) Launched in 2004 within the World Economic Forum, PACI now numbers approximately 90 major corporations and forms a platform for discussion for business leaders and governmental and non-governmental organizations, allowing them to share their experiences and ideas and develop best practices.

(2) The EITI brings together representatives of the governments of the member countries as well as representatives of civil society and business in order to strengthen transparency and governance with regard to income from oil, gas and mineral resources.

SASB code	Metrics	Reported	TotalEnergies' disclosures (2021)
Business Ethics & Transparency			
EM-EP-510a.2	Description of the management system for prevention of corruption and bribery throughout the value chain	Yes	In terms of anti-corruption due diligence, the deployment of the computerized supplier qualification tool, which includes the due diligence process resulting from the single rule adopted in 2020, is continuing. Due diligence involves collecting information, identifying any risks of corruption and taking the appropriate mitigation measures. This process is performed by the relevant business people with support from their Compliance Officer, who may call on the Branch Compliance Officer. Particular attention is paid to representatives (agents or others) dealing with public officials for whom the applicable internal rule specifically provides for mandatory due diligence and monitoring by operational staff of contractual relationship with such third parties, which may include the verification of invoices, the control of activity reports or the organisation of audits. Following the adoption in 2020 of a rule to address the recording and accounting of expenses covered by anti-corruption compliance rules, two guides were published in the summer of 2021 for the accounting and compliance functions. Other standards deal with high-risk areas, such as gifts and hospitality, which have to be registered and approved by the line manager above given thresholds; conflicts of interest, which must be reported to the line manager and addressed; anti-corruption measures implemented within joint-ventures; and human resources-related processes such as recruitment. **5.8.1.4 Awareness raising and training** Awareness raising actions are carried out toward all employees. The TotalEnergies intranet contains a section on the fight against corruption which provides employees with various media, e.g. the internal standards and guides such as the booklet entitled "Prevention and fight against corruption". Poster campaigns conveying key messages in at-risk areas are regularly organized. An initial online anti-corruption course was rolled out in 2011 and a more in-depth online module in 2015. This module is accessible to all employees and mandatory for the targeted personal (almost 43,000 employees) and new hires. At the end of 2021, season 1 of the anti-corruption online course had been followed by approximately 42,000 employees, and season 2 by approximately 40,000 employees in the various regions where the Company operates its activities. A season 3 online course is planned to be launched during 2022 and replace the two previous seasons. In December 2021, the seventh annual Business Ethics Day, organized on the occasion of the United Nations International Anti-Corruption and Human Rights Days, was dedicated to training (refer to point 5.8.1.1 above for further details). More targeted training courses are also provided for the functions viewed as highly exposed (such as procurement and human resources), whether by the corporate or segment Compliance teams or by the Compliance Officers. Several online and face-to-face training sessions are held every year for the Compliance Officers. The Branch Compliance Officers also benefit from annual training days on specific topics. Despite the health crisis, these various sessions continued and most were held remotely. **5.8.1.5 Feedback of information** The feedback of information is ensured primarily through an annual reporting process. This is performed by the Compliance Officers, reviewed by their Branch Compliance Officer and sent to the Chief Compliance Officer. This reporting helps monitor the roll-out and implementation of the anti-corruption program, through quantitative indicators on key elements of the program, such as the number of training courses or due diligences performed. The consolidated data resulting from this reporting, which reflects the results of the implemented policies, is presented once a year to the Executive Committee and the Board of Directors via the Governance and Ethics Committee. This presentation provides an opportunity to report the results of the actions undertaken at the very highest level and to review the road map aligned with the identified areas of improvement. In addition, TotalEnergies takes actions in order to develop a speak-up culture and asks its employees to report any situations that they consider to be contrary to the Code of Conduct. This culture is encouraged by regular communication on the rule adopted in late 2020, which formalized the procedure for collecting integrity alerts (corruption, fraud and influence peddling). This rule expressly provides that no disciplinary sanction, nor any direct or indirect discriminatory retaliatory measure, may be taken part against the whistleblower, as long as it is made in good faith, and this even in ths facts subsequently turn out to be inaccurate or unfounded, and in particular to recall and/or not to give rise to any proceedings or sanctions. This rule, combined with the one also adopted in 2020 by the Ethics Committee concerning the collection and processing of reports, covers all situations or behaviors likely to be contrary to the Company's Code of Conduct.

SASB code	Metrics	Reported	TotalEnergies' disclosures (2021)
Business Ethics & Transparency			
EM-EP-510a.2	Description of the management system for prevention of corruption and bribery throughout the value chain	Yes	In this respect, echoing this Code, the rule adopted at the end of 2020 by the Anti-Corruption Compliance recalls the various existing alert channels: each employee can therefore contact any manager, Human Resources, the Compliance Officers or Ethics Officers, or the Ethics Committee, depending on what seems most appropriate. The Ethics Committee is responsible for ensuring compliance with the Code of Conduct. Its Chairperson, who reports to the Chairman and Chief Executive Officer of TotalEnergies SE, presents an annual Ethics Report to the Governance and Ethics Committee of the Board of Directors. Both employees and third parties can refer to this Committee by writing to ethics@total.com. TotalEnergies does not tolerate any retaliation measures or discrimination toward anyone submitting a report in good faith and undertakes to respect confidentiality. **5.8.1.6 Assessment and monitoring** The anti-corruption program is monitored at the first level by business people, as well as their line managers and the Compliance Officers who are in charge of ensuring the day-to-day implementation of the rules. At the second level, controls are performed by the Compliance function, in particular through assessment missions (referred to as compliance reviews) that are undertaken by a dedicated team within the TotalEnergies Compliance and Legal Risk Management Department. These second-level assessment missions are carried out by an internal team reporting to the Chief Compliance Officer, accompanied by external consultants and service providers specialising in financial and accounting data analysis. Each year, around twenty of these missions are carried out on the subsidiaries deemed to be most exposed to the risk of corruption on a multi-criteria basis (Transparency International index, date of the last assessment mission, possible incidents in particular). In addition, the Audit and Internal Control Division performs an annual off-site inspection to verify the quality of the reporting performed by the Compliance Officers, as well as missions to check the self-assessment by the entities subject to the Sarbanes-Oxley regulations of their internal control framework. At the third level, this division also helps monitor the anti-corruption program through audits called "assurance audits" performed according to a framework that includes compliance topics. The controls performed in this context by the Audit and Internal Control division are selected on the basis of the results of the risk analysis it carries out prior to each assignment. The controls carried out may relate in particular to the assessment of third parties, the mapping of corruption risks or the disciplinary system. This system is described in full in a guide on control of implementation of the anti-corruption program published in late 2020, which requires the adoption of an "Anti-Corruption Control Plan" within each business segment. **5.8.1.7 Disciplinary action** In line with the principle of zero tolerance and in application of the Code of Conduct and the Anti-Corruption Directive, any infringement of the anti-corruption standards must give rise to disciplinary action, up to dismissal. TotalEnergies' resolve in this matter is repeated in communication media intended for employees as well as on the intranet. This resolve, which results from management commitment, contributes, with the other pillars described above, to the robustness of the anti-corruption compliance program. In 2021, the Company recorded just over 350 integrity incidents (covering fraud, corruption or influence peddling) which led -where established and one or more Company employees were involved- to more than 110 sanctions, up to and including dismissal. (Source: 2021 URD, §5.8.1)

SASB code	Metrics	Reported	TotalEnergies' disclosures (2021)
Management of the Legal & Regulatory Environment			
EM-EP-530a.1	Discussion of corporate positions related to government regulations and/or policy proposals that address environmental and social factors affecting the industry	Partially	**Together with our partners** Navigating the energy transition and capping global warming are global challenges. TotalEnergies can meet those challenges only by actively enlisting its partners, specifically by lobbying governments and industry associations, and its suppliers' entire ecosystem. **Support for the "Fit for 55" package** TotalEnergies supports the pledges made by nations worldwide to combat global warming as part of the Paris Agreement. Within the European Union, TotalEnergies supports the "Fit for 55" package, and particularly some key components that are aligned with its strategy and positions: – Broader use of carbon pricing. – A massive expansion of renewable energies. – The deployment of infrastructure (charging stations, hydrogen). – The development of low-carbon and renewable fuels for the transportation industry. In support of those commitments by the European Commission, it has set a target in Europe of reducing Scope 1+2+3 emissions by 30% between now and 2030. **Mobilization of professional associations** TotalEnergies is a member of many professional associations and has published a list of its affiliations since 2016. The Company typically cooperates with these organizations on technical matters, but some take public stances on other issues, such as climate. The Company ensures that these organizations hold positions aligned with its own, and regularly reviews each organization's stance on the climate. Since 2019, TotalEnergies has conducted an annual assessment of the climate-related public positions of the main professional associations of which it is a member. For those with such positions, the Company examines whether they are aligned with its own, based on the six principles from its Advocacy Directive : – scientific position, – the Paris Agreement, – carbon pricing. – the development of renewable energies and technologies aimed at decarbonizing – the role of natural gas, – the carbon offset mechanisms. During the 2019 and 2020 reviews, the positions taken by the American Petroleum Institute (API) were deemed "partially aligned" with the Company's own positions. After voicing its points of disagreement with the API, and after continuing to promote its positions within the organization, in early 2021 TotalEnergies announced its decision not to renew its membership because of continued divergences over the role of natural gas and methane emissions (the API supports the rollback of the U.S. regulation on methane emissions), support for electric vehicles and the principle of carbon pricing. TotalEnergies has likewise withdrawn from two other organizations whose positions are not aligned with its own: American Fuel & Petrochemical Manufacturers (AFPM) and the Canadian Association of Petroleum Producers (CAPP). Additionally, TotalEnergies participates in organizations and initiatives devoted specifically to the fight against climate change. In 2014, for example, the Company helped launch and develop the **Oil & Gas Climate Initiative** (OGCI). Comprising 12 major national and international energy operators, this global industry partnership is committed to developing solutions for a sustainable, low-carbon future. In 2021, the OGCI's members, which collectively account for more than one third of the world's oil and gas production, embarked on a new strategy for reaching net zero Scope 1+2 emissions by 2050. In addition, OGCI Climate Investments, a fund launched in 2017 to invest $1 billion over 10 years, provides funding to tech start-ups connected with the energy transition.

SASB code	Metrics	Reported	TotalEnergies' disclosures (2021)
Management of the Legal & Regulatory Environment			
EM-EP-530a.1	Discussion of corporate positions related to government regulations and/or policy proposals that address environmental and social factors affecting the industry	Partially	The Company is also engaged in other international initiatives involving the private and public sectors (non-exhaustive list): – the World Bank's "**Zero Routine Flaring by 2030**" initiative aimed at stopping the routine flaring of the gases associated with oil production; – for enhanced transparency, taking into account the recommendations of the G20 Financial Stability Board on climate, and of the **Task Force on Climate-related Financial Disclosures** (TCFD); – or the development of new state-of-the-art energy companies, since 2017, within the **Breakthrough Energy Coalition** (BEC), a group of investors created by Bill Gates in 2015, and since 2016 within the **Breakthrough Energy Ventures**, a $1 billion fund created in 2016 by the BEC; – to reduce methane emissions, as a member of the United Nations Development Programme's **Oil & Gas Methane Partnership** (OGMP) since 2014. **Support for carbon pricing** Carbon pricing is a major tool for reaching net zero. For more than a decade, TotalEnergies has advocated the adoption of carbon pricing, and applies an internal carbon price when evaluating its own projects. By integrating an energy source's carbon content in its price, carbon pricing makes the most emission-intensive sources more expensive. In particular, putting a price on carbon gives all players an incentive to shift faster from coal to renewable energies and natural gas for electricity production. Over the long term, it also offers a way to channel investment to research into low-carbon technologies and carbon capture and storage. The launch of China's emissions trading scheme (ETS) in 2021, the increase in the price per ton of carbon following reforms to the European ETS market and the return of the United States to discussions on climate all augur positively for the development of carbon pricing. According to the World Bank's Carbon Pricing Dashboard, more than 21% of global emissions are now covered by 64 carbon pricing systems worldwide. Since 2014 the Company has been supporting a range of international initiatives that call for the implementation of regulatory mechanisms tailored to local conditions. TotalEnergies is a founding member of the **Climate Leadership Council** (CLC), which promotes a balanced approach to carbon pricing in the United States in which the revenue is redistributed to the American people in the form of a Carbon Dividend. TotalEnergies also supports the World Bank's **Carbon Pricing Leadership Coalition** (CPLC). Lastly, TotalEnergies actively participates in the debate on climate issues, thanks especially to its long-term partnerships with university chairs, such as the Climate Economics Chair at Paris-Dauphine University, the climate change research program of Massachusetts Institute of Technology (MIT)(1), and Toulouse School of Economics. TotalEnergies also offers training and makes presentations at several universities, thereby taking part in the debate. (Source: 2021 URD, §5.4.2)

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(1) The Joint Program on the Science and Policy of Global Change.

<table>
<thead>
<tr><th>SASB code</th><th>Metrics</th><th>Reported</th><th>TotalEnergies' disclosures (2021)</th></tr>
</thead>
<tbody>
<tr><td colspan="4">Critical Incident Risk Management</td></tr>
<tr>
<td>EM-EP-540a.1</td>
<td>Process Safety Event (PSE) rates for Loss of Primary Containment (LOPC) of greater consequence (Tier 1)</td>
<td>Yes</td>
<td>
<table>
<thead><tr><th></th><th>2021</th><th>2020</th><th>2019</th></tr></thead>
<tbody>
<tr><td>Loss of primary containment (Tier 1)</td><td>29</td><td>30</td><td>26</td></tr>
<tr><td>Million of hours worked – All Personnel</td><td>389</td><td>389</td><td>467</td></tr>
</tbody>
</table>
<p>Tier 1 Process Safety Event rate per 200,000 hours worked is then equal to 0.015.</p>
<p>(Source: 2021 URD, §5.3.1 and 5.3.2)</p>
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<tr>
<td>EM-EP-540a.2</td>
<td>Description of management systems used to identify and mitigate catastrophic and tail-end risks</td>
<td>Yes</td>
<td>
<p>To prevent the occurrence of a major industrial accident such as an explosion, fire, leakage of hazardous products or mass leakage that might cause death, physical injury, large-scale pollution or pollution at an environmentally sensitive site, or important damage to property, TotalEnergies implements suitable risk management policies and measures which apply to the operated activities. The Major Risks division of the HSE division provides support in the application of this policy.</p>
<p>At year-end 2021, in addition to its drilling and pipeline transportation operations, TotalEnergies had 181 operated sites and zones exposed to such risks. These correspond to all activities relating to hydrocarbon production, whether offshore or onshore, as well as Seveso-classified industrial sites (upper and lower threshold) and their equivalents outside of the European Union (186 sites at the end of 2020 and 180 at the end of 2019).</p>
<p>The Company's policy for the management of major industrial accident risks applies from the facilities design stage in order to minimize the potential impacts associated with its activities. The policy is described in the One MAESTRO reference framework. It provides for the analysis of the risks related to the Company's industrial operations at each operated site subject to these risks, based on incident scenarios for which the probability of occurrence and the severity of the consequences are assessed. Based on these parameters, a prioritization matrix is used to determine whether further measures are needed. These mainly include preventive measures but can also include mitigation measures. They may be technical or organizational. These analyses are updated periodically, at least every five years, or when facilities are modified. Training on major accident risks is organized at head office and at subsidiary sites for operating staff.</p>
<p>With regard to the design and construction of facilities, technical standards include applicable regulatory requirements and refer to industry best practices. The construction of the Company's facilities is entrusted to qualified contractors who undergo a demanding internal selection process and who are monitored. In the event of a modification to a facility, the Company's rules define the management process to be adopted.</p>
<p>With regard to the management of operations and integrity of facilities operated by the Company, formal rules have been set out to prevent specific risks that have been identified either by means of risk analyses or from internal and industry feedback. For specific works, the preliminary risk analysis may lead to the establishment of a permit to work, the process of which, from preparation through to closure, is defined. The Company's reference framework also provides a process to manage the integrity of facilities, which includes, for example, preventive maintenance, facility inspections, identification of safety critical equipment for special monitoring, management of anomalies and downgraded situations, and regular audits. These rules are part of the One MAESTRO reference framework. Operations teams receive regular training in the management of operations in the form of companionship or in-person trainings.</p>
<p>For example, in order to control the integrity of pipelines operated by the Company, they are subject to periodic surveys such as cathodic protection checks, ground or aerial surveillance or in line inspections. These actions are planned as part of the pipeline monitoring and maintenance programs. These controls and their frequency are reinforced in areas with high human or environmental risks identified by the risk analysis.</p>
<p>(Source: 2021 URD, §5.3.1)</p>
</td>
</tr>
</tbody>
</table>

SASB code	Metrics	Reported	TotalEnergies' disclosures (2021)
Critical Incident Risk Management			
			In order to manage any major industrial accident efficiently, TotalEnergies has implemented a global crisis management system that is based primarily on an on-call system available 24/7, as well as a dedicated crisis management center at head office that makes it possible to manage two simultaneous crises. The framework provides that subsidiaries draw up plans and procedures for interventions in the event of leaks, fires or explosions and that subsidiaries have to test these at regular intervals. In 2021, in the context of the COVID-19 pandemic, the Company consolidated its resilience capacity by testing its procedures and methodologies in different formats through crisis management exercises: face-to-face, remote or hybrid. This was made possible in particular through the development of digital crisis units for the headquarters, segments and subsidiaries and the deployment of associated training. The intervention teams at subsidiaries and at head office practice their crisis management activities regularly on the basis of scenarios identified by the risk analyses. These personnel may follow dedicated training depending on their specific functions. In order to maintain training capacity regardless of how the situation developed, training for internal crisis management individuals was delivered either face-to-face or remotely depending on countries' accessibility. In 2021, 416 individuals were thus trained in crisis management in subsidiaries and at head office. TotalEnergies also continued to roll out its *Incident Management System* (IMS) at subsidiaries operating hydrocarbon or gas exploration and production sites within the Exploration & Production and Integrated Gas, Renewables & Power segments. The IMS is a harmonized system for the management of emergency situations described by a good practices guide of the International Petroleum Industry Environmental Conservation Association (IPIECA) and increasingly being adopted by the major operators. In 2021, 240 employees were trained in the IMS and 7 Exploration-Production subsidiaries carried out a large-scale application exercise, bringing the total number of trained employees to 581 and the number of subsidiaries where the IMS is deployed to 14. (Source: 2021 URD, §5.3.1)
EM-EP-540a.2	Description of management systems used to identify and mitigate catastrophic and tail-end risks	Yes	For its sea and river shipment requirements, TotalEnergies only charters ships and barges that meet the highest international standards. The internal policy that lays down the process and criteria by which ships and barges are selected, known as vetting. These criteria are based, in particular, on the regulations, the best practices and recommendations of the OCIMF(1) and, in Europe, on the European Barge Inspection Scheme (EBIS). Tankers and barges are vetted by a single centralized Company entity. The average age of the TotalEnergies's time-chartered fleet is approximately seven years. The Company's operated marine terminals have completed the consolidation of their physical characteristics in the global database that forms part of the OCIMF's Marine Terminal Information System (MTIS), which will make it easier to assess ships' compatibility with ports of call. Additionally, TotalEnergies encourages all operated terminals to use the Marine Terminal Management and Self-Assessment (MTMSA), the framework recommended by the industry to terminal operators to ensure continuous improvement in the safety of their operations. A training course on checking safety conditions of the ship/shore interface (SSSCL – Ship Shore Safety Check List) and cargo transfer operations was made a requirement of the One MAESTRO reference framework in October 2020. At year-end 2021, 100% of the subsidiaries operating terminals had staff who had already undergone this training. In order to manage a major accidental spill efficiently, TotalEnergies has implemented a global crisis management system that is described in point 5.3.1 of this chapter. For the sites operated by the Company exposed to the risk of accidental spills that reach the surface water, this system is supplemented by requirements of the One MAESTRO reference framework. These requirements demand that the oil spill contingency plans be regularly reviewed and tested in exercises. These plans are specific to each site and are adapted to their structure, activities and environment while complying with Company recommendations. The TotalEnergies companies can call on in-house human and material resources (Fast Oil Spill Team, FOST) and benefit from assistance agreements with the main third-party organizations specialized in the management of hydrocarbon spills. For the oil and gas exploration and production activities, since 2014, subsea capping and subsea containment equipment that can be transported by air has been positioned at various points of the world (South Africa, Brazil, Norway and Singapore). This equipment provides access to solutions that are more readily available in the event of oil or gas blowout in deep offshore drilling operations. From these locations, the equipment can benefit TotalEnergies' operations worldwide.

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(1) Oil Companies International Marine Forum (OCIMF): An industry forum including the leading international oil companies. This organization manages the Ship Inspection Report (SIRE) Program, which holds and provides access to tanker and river barge inspection reports (Barge Inspection Questionnaire – BIQ).

SASB code	Metrics	Reported	TotalEnergies' disclosures (2021)
Critical Incident Risk Management			
EM-EP-540a.2	Description of management systems used to identify and mitigate catastrophic and tail-end risks	Yes	This equipment was developed by a group of nine oil companies, including TotalEnergies, and is managed by Oil Spill Response Ltd (OSRL), a cooperative dedicated to the response to marine pollution by hydrocarbons. Since 2018, equipment to facilitate shallow water capping operations, Offset Installation Equipment (OIE), has been positioned in Trieste, Italy. Managed by OSRL, it can be transported by air or boat to anywhere in the world as necessary. TotalEnergies has also designed and developed its own capping system ("Subsea Emergency Response System") to stop potential blow-out in drilling or production operations as quickly as possible. Since 2015, equipment has been installed in Angola and the Republic of the Congo, covering the entire Gulf of Guinea region. The equipment was successfully deployed in exercise and live conditions in March 2019 off Nigeria. (Source: 2021 URD, §5.5.2)
Activity Metrics			
EM-EP-000.A	Production of oil	Yes	**1,274 kb/d** (Source: 2021 URD, §2.3)
	Production of natural gas	Yes	**1,545 kboe/d** (Source: 2021 URD, §2.3)
	Production of synthetic oil	Yes	**0 boe/d**
	Production of synthetic gas	Yes	**0 boe/d**
EM-EP-000.B	Number of offshore sites	Yes	**67** (Assets with entitled production in 2021)
EM-EP-000.C	Number of terrestrial sites	Yes	**40** (Assets with entitled production in 2021)

Glossary

ABBREVIATIONS

€:	euro
$ or dollar:	US dollar
ADR:	American depositary receipt (evidencing an ADS)
ADS:	American depositary share (representing a share of a company)
AMF:	*Autorité des marchés financiers* (French Financial Markets Authority)
API:	American Petroleum Institute
ATEX:	explosive atmosphere
CCS:	carbon capture and storage
CCUS:	carbon capture utilization and storage
CNG:	compressed natural gas
CO_2:	carbon dioxide
CO_2e:	equivalent CO_2
CSR:	corporate and social responsibility
DACF:	debt adjusted cash flow (refer to definition of operating cash flow before working capital changes without financial charges below)
ESG:	Environment, Social and Governance
EV:	electric vehicle
FLNG:	floating liquefied natural gas
FPSO:	floating production, storage and offloading

FSRU:	floating storage and regasification unit
GHG:	greenhouse gas
HSE:	health, safety and the environment
IEA (SDS):	International Energy Agency (Sustainable Development Scenario)
IFRS:	International Financial Reporting Standards
IPIECA:	International Petroleum Industry Environmental Conservation Association
LNG:	liquefied natural gas
LPG:	liquefied petroleum gas
NGL:	natural gas liquids
NGV :	natural gas vehicle
OML:	oil mining lease
PPA:	*Power Purchase Agreement*
ROE:	return on equity
ROACE:	return on average capital employed
SDG:	sustainable development goal
SEC:	United States Securities and Exchange Commission
TCFD:	task force on climate-related financial disclosures
VCM:	variable cost margin – Refining Europe
WHRS:	Worldwide Human Resources Survey

UNITS OF MEASUREMENT

b =	barrel(1)
B =	billion
Bcm =	billion of cubic meters
boe =	barrel of oil equivalent
btu =	British thermal unit
cf =	cubic feet
/d =	per day
Gt CO_2 =	billion of CO_2 tons
GW =	gigawatt
GWac =	AC gigawatt
GWh =	gigawatt hour
k =	thousand
km =	kilometer

m =	meter
m^3 =	cubic meter(1)
M =	million
MW =	megawatt
PJ =	petajoule
t =	(Metric) ton
toe=	ton of oil equivalent
TWh =	terawatt hour
W =	watt
Wac =	AC (alternating current) watt
Wp =	watt-peak or watt of peak power
/y =	per year

CONVERSION TABLE

1 acre ≈	0.405 hectares
1 b =	42 US gallons ≈ 159 liters
1 b/d of crude oil ≈	50 t/y of crude oil
1 Bm/y ≈	0.1 Bcf/d
1 km ≈	0.62 miles

1 m^3 ≈	35.3 cf
1 Mt of LNG ≈	48 Bcf of gas
1 Mt/y of LNG ≈	131 Mcf/d of gas
1 t of oil ≈	7.5 b of oil (assuming a specific gravity of 37° API)
1 boe = 1 b of crude oil ≈	5,378 cf of gas in 2021(2) (5,399 cf in 2020 and 5,395 cf in 2019)

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(1) Liquid and gas volumes are reported at international standard metric conditions (15 °C and 1 atm).

(2) Natural gas is converted to barrels of oil equivalent using a ratio of cubic feet of natural gas per one barrel. This ratio is based on the actual average equivalent energy content of natural gas reserves during the applicable periods and is subject to change. The tabular conversion rate is applicable to TotalEnergies' natural gas reserves on a Company-wide basis.

A

AC watt (Wac)

Refers to the output power achieved by a solar module to the grid. Generally equals to the watt of peak power multiplied by the DC/AC inverter efficiency.

acreage

Areas in which mining rights are exercised.

adjusted results

Results using replacement cost, adjusted for special items, excluding the impact of changes for fair value.

API degree

Scale established by the API to measure oil density. A high API degree indicates light oil from which a high yield of gasoline can be refined.

appraisal (delineation)

Work performed after a discovery for the purpose of determining the boundaries or extent of an oil or gas field or assessing its reserves and production potential.

aromatics

Base chemical products, derived from oil, used in the manufacture of polymers. Main aromatics are benzene, toluene and xylene.

asset retirement (site restitution)

Companies may have obligations related to well-abandonment, dismantlement of facilities, decommissioning of plants or restoration of the environment. These obligations generally result from international conventions, local regulations or contractual obligations.

associated gas

Gas released during oil production.

association/consortium/joint-venture

Terms used to generally describe a project in which two or more entities participate. For the principles and methods of consolidation applicable to different types of joint arrangements according to IFRS, refer to note 1 to the Consolidated Financial Statements.

B

barrel

Unit of measurement of volume of crude oil equal to 42 US gallons or 159 liters.

barrel of oil equivalent (boe)

Conventional unit for measuring the energy released by a quantity of fuel by relating it to the energy released by the combustion of a barrel of oil.

biochemical conversion

Conversion of carbonaceous resources through biological transformation (reactions involving living organisms). Fermentation of sugar into ethanol is an example.

biofuel

Liquid or gaseous fuel that can be used for transport, produced from biomass, and meeting criteria of reducing GHG compared to the fossil reference.

biogas

Biogas is a renewable gas produced by the fermentation of organic matter. It can be purified to produce biomethane, which has the same properties as natural gas and can therefore be injected into distribution networks or used as an alternative fuel for mobility (bio-CNG or bio-LNG).

bioNGV

NGV composed of biomethane, available in bioCNG and bioLNG.

biogas (power generation from)

Combustion of gas produced by the fermentation of non-fossil organic matter (biomass).

biomass

All organic matter from vegetal or animal sources.

biomethane

Purified biogas, with the same characteristics as natural gas, that can be injected into the transport networks.

bitumen

Petroleum in a solid or semi-solid state in natural deposits. It usually contains sulfur, heavy metals, and other non-hydrocarbons. Unable to flow naturally in the reservoir because of its high viscosity (typically greater than 10 000 centipoise), its production requires unconventional extraction technologies.

In reference to marketing, Bitumen is produced from the refining of crude oil and is used in the construction industry in particular as a component of asphalt pavements, e.g. for roads, airfields, cycle paths, etc. It is a visco-elastic, adhesive and waterproof material particularly suited to the needs of construction and road sealing products(1).

block

Area delimited geographically by a country on its territory, offshore or onshore, in the view to exploring for and /or producing hydrocarbons.

blue hydrogen

See low carbon hydrogen.

Brent

Quality of crude oil (38° API) produced in the North Sea, from Brent and neighboring fields.

brownfield project

Project concerning developed existing fields.

C

capacity of treatment

Annual crude oil treatment capacity of the atmospheric distillation units of a refinery.

carbon capture, use and storage (CCUS)

Technologies designed to reduce GHG emissions by capturing (C) CO_2 and then compressing and transporting it either to use (U) it for various industrial processes (e.g., enhanced recovery of oil or gas, production of chemical products), or to permanently store (S) it in deep geological formations.

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(1) Partial source : Eurobitume.

carbon sinks

Natural reservoir (e.g. vegetation, oceans) or artificial reservoir (e.g. CCUS) that stores carbon in different forms.

catalysts

Substances that increase a chemical reaction speed. During the refining processes, they are used in conversion units (reformer, hydrocracker, catalytic cracker) and desulphurization units. Principal catalysts are precious metals (platinum) or other less noble metals such as nickel and cobalt.

CNG (compressed natural gas)

Natural gas compressed between 200 and 300 bars in gaseous form and which can be stored at ambient temperature.

cogeneration

Simultaneous generation of electrical and thermal energies from a combustible source (gas, fuel oil or coal).

coker (deep conversion unit)

Unit that produces light products (gas, gasoline, diesel) and coke through the cracking of distillation residues.

combined cycle power plant

A combined-cycle power plant uses both a heat and a steam turbine together to produce up to 50% more electricity from the same fuel than a traditional simple-cycle plant.

commercial gas

Gas produced by the upstream facilities and sent directly or indirectly to the gas market.

concession contract

Exploration and production contract under which a host country grants to an oil and gas company (or a consortium) the right to explore a geographic area and develop and produce potential reserves. The oil and gas company (or consortium) undertakes the execution and financing, at its own risk, of all operations. In return, it is entitled to the entire production.

condensate

Light hydrocarbon products produced with natural gas that exist – either in a gaseous phase or in solution – in the oil and gas under the initial pressure and temperature conditions in the reservoir, and which are recovered in a liquid state in separators, on-site facilities or gas treatment units.

condensate splitter

Unit that distillates condensates upstream of refining or petrochemical units.

consortium

Refer to the definition above of “association/consortium/joint-venture”.

conversion

Refining operation aiming at transforming heavy products (heavy fuel oil) into lighter or less viscous products (e.g., gasoline, jet fuels).

co-processing

Refers to the simultaneous conversion of biogenic residues and intermediate petroleum distillates in existing petroleum refineries to produce renewable hydrocarbon fuels. In contrast to the blending of biofuels into the finished petroleum product, co-processing makes use of biomass within the processing of petroleum. Suitable feedstocks for co-processing are biogenic feedstocks, such as wood pyrolysis oil or triglycerides such as vegetable oils, used cooking oils etc.

cost oil/gas

In a production sharing contract, the portion of the oil and gas production made available to the contractor (contractor group) and contractually reserved for reimbursement of exploration, development, operation and site restitution costs (“recoverable” costs). The reimbursement may be capped by a contractual stop that corresponds to the maximum share of production that may be allocated to the reimbursement of costs.

cracking

Refining process that entails converting the molecules of large, complex, heavy hydrocarbons into simpler, lighter molecules using heat, pressure and, in some cases, a catalyst. A distinction is made between catalytic cracking and steam cracking, which uses heat instead of a catalyst. Cracking then produces ethylene and propylene, in particular.

crude oil

A mixture of compounds (mainly pentanes and heavier hydrocarbons) that exists in a liquid phase at original reservoir temperature and pressure and remains liquid at atmospheric pressure and ambient temperature.

D

Dated Brent

A market term representing the minimum value of physical cargoes of Brent, Forties, Oseberg or Ekofisk crude oil, loading between the 10th and the 25th day forward. Dated Brent prices are used, directly and indirectly, as a benchmark for a large proportion of the crude oil that is traded internationally.

debottlenecking

Change made to a facility to increase its production capacity.

desulphurization unit

Unit in which sulphur and sulphur compounds are eliminated from mixtures of gaseous or liquid hydrocarbons.

development

Operations carried out to access the proved reserves and set up the technical facilities for extraction, processing, transportation and storage of the oil and gas: drilling of development or injection wells, platforms, pipelines, etc.

distillates

Products obtained through the atmospheric distillation of crude oil or through vacuum distillation. Includes medium distillate such as aviation fuel, diesel fuel and heating oil.

E

e-fuels (or synthetic carbonaceous fuels)

Fuels, compatible with combustion engines, obtained from the combination of green hydrogen and CO_2 captured from factories or air emissions. Where there were two uses that emitted CO_2 (the power plant, the transport that burns the fossil fuel in its engine), there is now only one use that emits CO_2 to the atmosphere (the transport that burns the synthetic fuel in its engine while emitting CO_2), that is to say a global reduction of 50%.

effective tax rate

(Tax on adjusted net operating income)/(adjusted net operating income – income from equity affiliates – dividends received from investments – impairment of goodwill + tax on adjusted net operating income).

effect of changes in fair value

The effect of changes in fair value presented as an adjustment item reflects, for some transactions, differences between internal measures of performance used by TotalEnergies' Executive Committee and the accounting for these transactions under IFRS. IFRS requires that trading inventories be recorded at their fair value using period-end spot prices. In order to best reflect the management of economic exposure through derivative transactions, internal indicators used to measure performance include valuations of trading inventories based on forward prices. Furthermore, TotalEnergies, in its trading activities, enters into storage contracts, the future effects of which are recorded at fair value in the Company's internal economic performance. IFRS precludes recognition of this fair value effect.

Furthermore, TotalEnergies enters into derivative instruments to risk manage certain operational contracts or assets. Under IFRS, these derivatives are recorded at fair value while the underlying operational transactions are recorded as they occur. Internal indicators defer the fair value on derivatives to match with the transaction occurrence.

energy mix

The various energy sources used to meet the demand for energy.

ethane

A colorless, odorless combustible gas of the alkanes class composed of two carbon atoms found in natural gas and petroleum gas.

ethanol

Also commonly called ethyl alcohol or alcohol, ethanol is obtained through the fermentation of sugar (beetroot, sugarcane) or starch (grains). Ethanol has numerous food, chemical and energy (biofuel) applications.

ethylene/propylene

Petrochemical products derived from cracking naphtha or light hydrocarbons and used mainly in the production of polyethylene and polypropylene, two plastics frequently used in packaging, the automotive industry, household appliances, healthcare and textiles.

F

fair value

Fair value is the price that would be received to sell an asset or paid to transfer a liability in a transaction under normal conditions between market participants at the measurement date.

farmdown

Partial sale to a third party of an interest in an asset.

farm-in (or farm-out)

Acquisition (or sale) of all or part of a participating interest in an oil and gas mining property by way of an assignment of rights and obligations in the corresponding permit or license and related contracts.

farnesene

A hydrocarbon molecule containing 15 carbon atoms, which can be used to produce fuel or chemical compounds.

FEED studies (front-end engineering design)

Studies aimed at defining the project and preparing for its execution. In the TotalEnergies process, this covers the pre-project and basic engineering phases.

FLNG (floating liquefied natural gas)

Floating unit permitting the liquefaction of natural gas and the storage of LNG.

fossil energies

Energies produced from oil, natural gas and coal.

FPSO (floating production, storage and offloading)

Floating integrated offshore unit comprising the equipment used to produce, process and store hydrocarbons and offload them directly to an offshore oil tanker.

FSRU (floating storage and regasification unit)

Floating unit permitting the storage of LNG and the regasification.

G

gearing ratio

Net debt / (Net debt + shareholders equity Company share + Non-controlling interests).

gearing ratio excluding leases commitments

Net debt excluding leases commitments / (Net debt excluding leases commitments + shareholders equity Company share + Non-controlling interests).

green electricity

Electricity produced from renewable sources

green ammonia

Ammonia produced from green hydrogen.

green hydrogen

see low carbon hydrogen.

greenfield project

Project concerning fields that have never been developed.

gross capacity

Capacity expressed on a 100% basis regardless of the ownership share in the asset.

gross investments

Investments including acquisitions and increases in non-current loans.

H

hydraulic fracturing

Technique that involves fracturing rock to improve its permeability.

hydrocarbons

Molecules composed principally of carbon and hydrogen atoms. They can be solid such as asphalt, liquid such as crude oil or gaseous such as natural gas. They may also include compounds with sulphur, nitrogen, metals, etc.

hydrocracker

A refinery unit that uses catalysts and extraordinarily high pressure, in the presence of surplus hydrogen, to convert heavy oils into lighter fractions.

I

inventory valuation effect

The adjusted results of the Refining & Chemicals and Marketing & Services segments are presented according to the replacement cost method. This method is used to assess the segments' performance and facilitate the comparability of the segments' performance with those of its competitors. In the replacement cost method, which approximates the LIFO (Last-In, First-Out) method, the variation of inventory values in the statement of income is, depending on the nature of the inventory, determined using either the month-end price differentials between one period and another or the average prices of the period rather than the historical value. The inventory valuation effect is the difference between the results according to the FIFO (First-In, First-Out) and the replacement cost.

J

joint-venture

Refer to the definition above of "association/consortium/joint-venture".

L

lignocellulose

Lignocellulose is the main component of the wall of plant cells. It can be sourced from agricultural and farming wastes or by-products of wood transformation as well as dedicated plantations and constitutes the most abundant renewable carbon source on the planet. This abundance and its composition (very rich in polymerized sugars) makes it an excellent choice to produce biofuels. As a result, its conversion, whether by thermochemical (e.g., gasification) or biochemical techniques, is widely studied.

liquids

Liquids consist of crude oil, bitumen, condensates and NGL.

LNG (liquefied natural gas)

Natural gas which has been liquefied by cooling to a temperature of approximately -160 °C which allows its volume to be reduced by a factor of almost 600 in order to transport it.

LNG bunkering

Specific type of operation where the LNG is transferred from a determined distribution source (e.g., bunkering ship, LNG terminal) to an LNG-fueled vessel.

LNG production capacity

LNG production average capacity expressed in millions of tons per year on a 100% basis, taking into account temperature variations over the year and without considering facilities availability. The **nameplate capacity** which corresponds to the facilities design, defined in project phase is different from the **actual capacity** which corresponds to capacity tests on existing facilities.

LNG train

Installation forming part of a liquefaction plant and allowing the separation of natural gas from other gases such as acid gases and LPG, to then liquefy it and finally store it, before loading on to the LNG carriers.

LNG carrier

Vessel specially designed for the transport of LNG and equipped with tanks which enable to minimize thermal losses in order to maintain the LNG in a liquid state.

Low-carbon or clean hydrogen

Regroups blue hydrogen (hydrogen produced notably from natural gas via the steam reforming process associated with a capture and storage (CCS) process of the CO2 emissions presenting a carbon footprint lower than 36.4 g CO2/MJ) and green hydrogen (hydrogen produced from renewable electricity via the water electrolysis process).

LPG (liquefied petroleum gas)

Light hydrocarbons (comprised of butane and propane, belonging to the alkanes class and composed of three and four carbon atoms respectively) that are gaseous under normal temperature and pressure conditions and that are kept in liquid state by increasing the pressure or reducing the temperature. LPG is included in NGL.

M

microgrid

Small power grids designed to provide a reliable and better-quality power supply to a small number of consumers. They combine multiple local and diffuse production facilities (micro-turbines, fuel cells, small diesel generators, photovoltaic panels, wind turbines, small hydropower), consumption facilities, storage facilities, and supervision and monitoring tools to manage demand.

mining interests

Rights to explore for and/or produce oil and gas in a specific area for a fixed period. Covers the concepts of “permit”, “license”, “title”, etc.

N

naphtha

Heavy gasoline used as a base in petrochemicals.

natural gas

Mixture of light gaseous hydrocarbons extracted from underground reservoirs. It is mainly composed of methane, but can also contain ethane up to 10%, one or two carbon atoms, and other compounds in small quantities.

natural gas liquids (NGL)

A mixture of light hydrocarbons that exist in the gaseous phase at room temperature and pressure and are recovered as liquid in gas processing plants. NGL include very light hydrocarbons (ethane, propane and butane).

Natural gas for vehicles (NGV)

Natural gas used as vehicle fuel, mainly in the form of LNG or CNG.

nature-based solutions

Sustainable management and use of nature for tackling socio-environmental challenges. Solutions are inspired and supported by nature, cost-effective, provide environmental, social and economic benefits, and help build resilience to environmental challenges.

net cash flow

Cash flow from operating activities before working capital changes at replacement cost – net investments (including other transactions with non-controlling interests).

net financial debts

Non-current financial debts, including current portion, current borrowings, other current financial liabilities less cash and cash equivalents and other current financial assets.

net investments

Organic investments + net acquisitions.

O

offshore wind

The use of wind farms constructed in bodies of water, usually in the ocean, to harvest wind energy to generate electricity. Higher wind speeds are available offshore compared to on land, so offshore wind power’s electricity generation is higher per amount of capacity installed.

oil

In the Upstream hydrocarbons activities, generic term designating crude oil, condensates and NGL.

oil and gas

Generic term which includes all hydrocarbons (e.g., crude oil, condensates, NGL, bitumen and natural gas).

oil sands

Sandstones containing natural bitumen.

olefins

Group of products (gas) obtained after cracking of petroleum streams. Olefins are ethylene, propylene and butadiene. These products are used in the production of large plastics (polyethylene, polypropylene, PVC, etc.), in the production of elastomers (polybutadiene, etc.) or in the production of large chemical intermediates.

OPEC

Organization of the Petroleum Exporting Countries.

operated oil & gas facilities

Facilities operated by the Company for the Upstream hydrocarbons activities as well as the activities of the Refining & Chemicals and Marketing & Services segments. They do not include power generation facilities based on renewable sources or natural gas such as combined-cycle natural gas power plants.

operated production

Total quantity of oil and gas produced on fields operated by the Company.

operating cash flow before working capital changes

Cash flow from operating activities before changes in working capital at replacement cost excluding the mark-to-market effect of iGRP’s contracts and including capital gain from renewable projects sale (effective first quarter 2020).

operating cash flow before working capital changes without financial charges (DACF)

Cash flow from operating activities before changes in working capital at replacement cost, excluding the mark-to-market effect of iGRP’s contracts, including capital gain from renewable projects sale (effective first quarter 2020) and without financial charges.

operator

Partner of an oil and gas joint-venture in charge of carrying out the operations on a specific area on behalf of the partners within a joint-venture. A refinery is also said to be operated by a specific partner when the operations are carried out by the partner on behalf of the joint-venture that owns the refinery.

organic investments

Net investments, excluding acquisitions, asset sales and other operations with non-controlling interests.

P

permit

Area contractually granted to an oil and gas company (or a consortium) by the host country for a defined period to carry out exploration work or to exploit a field.

petcoke (or petroleum coke)

Residual product remaining after the improvement of very heavy petroleum cuts. This solid black product consists mainly of carbon and can be used as fuel.

polymers

Molecule composed of monomers bonded together by covalent bonds, such as polyolefins obtained from olefins or starch and proteins produced naturally.

Power Purchase Agreement (PPA)

Long-term agreement for the supply of electricity produced from renewable sources.

pre-dividend organic cash breakeven

Brent price for which the operating cash flow before working capital changes covers the organic investments.

price effect

The impact of changing hydrocarbon prices on entitlement volumes from production sharing contracts and on economic limit dates.

production costs

Costs related to the production of hydrocarbons in accordance with FASB ASC 932-360-25-15.

production plateau

Expected average stabilized level of production for a field following the production build-up.

production sharing contract/agreement (PSC/PSA)

Exploration and production contract under which a host country or, more frequently, its national company, transfers to an oil and gas company (the contractor) or a consortium (the contractor group) the right to explore a geographic area and develop the fields discovered. The contractor (or contractor group) undertakes the execution and financing, at its own risk, of all operations. In return, it is entitled to a portion of the production, called cost oil/gas, to recover its expenditures and investments. The remaining production, called profit oil/gas, is then shared between the contractor (contractor group), and the national company and/or host country.

project

As used in this document, “project” may encompass different meanings, such as properties, agreements, investments, developments, phases, activities or components, each of which may also informally be described as a “project”. Such use is for convenience only and is not intended as a precise description of the term “project” as it relates to any specific governmental law or regulation.

proved permit

Permit for which there are proved reserves.

proved reserves (1P reserves)

Proved oil and gas reserves are those quantities of oil and gas, which, by analysis of geoscience and engineering data, can be estimated with a reasonable certainty to be economically producible from a given date forward, from known reservoirs, and under existing economic conditions, operating methods, and government regulations, prior to the time at which contracts providing the right to operate expire, unless evidence indicates that renewal is reasonably certain, regardless of whether deterministic or probabilistic methods are used for the estimation.

proved developed reserves

Proved developed oil and gas reserves are proved reserves that can be expected to be recovered (i) through existing wells with existing equipment and operating methods or in which the cost of the required equipment is relatively minor compared to the cost of a new well; and (ii) through installed extraction equipment and infrastructure operational at the time of the reserves estimate if the extraction is by means not involving a well.

proved undeveloped reserves

Proved undeveloped oil and gas reserves are proved reserves that are expected to be recovered with new investments (new wells on undrilled acreage, or from existing wells where a relatively major expenditure is required for recompletion, surface facilities).

[REDACTED SECTION: CERTAIN TEXT HAS BEEN REDACTED.]

R

refining

The various processes used to produce petroleum products from crude oil (e.g., distillation, reforming, desulphurization, cracking).

regasification

Before the gas is transported from the terminal to the distribution networks, the LNG is regasified: its temperature is raised from -160 °C to 0 °C under high pressure.

renewable diesel

Premium-quality diesel fuel that is made completely from renewable and sustainable biomass, including vegetable oils and wastes and residues from animal fat as well as used cooking oils. Thanks to its specific production process, renewable diesel has an identical chemical composition than diesel and, as a result, can be used in high concentrations and even as a standalone product in any diesel-powered vehicle without any change in infrastructure. The greenhouse gas emissions of renewable diesel are strongly reduced (more than 50%) compared to those of fossil diesel and the use of renewable diesel also improves quality of local air with particle and nitrogen oxide reduction.

renewable / renewable energy

An energy source the inventories of which can be renewed or are inexhaustible, such as solar, wind, hydraulic, biomass and geothermal energy.

reserve life

Synthetic indicator calculated from data published under ASC 932. Ratio of the proved reserves at the end of the period to the production of the past year.

reserves

Estimated remaining quantities of oil and gas and related substances expected to be economically producible, as of a given date, by application of development projects to known accumulations.

reservoirs

Porous, permeable underground rock formation that contains oil or natural gas.

resource acquisitions

Acquisition of a participating interest in an oil and gas mining property by way of an assignment of rights and obligations in the corresponding permit or license and related contracts, with a view to producing the recoverable oil and gas.

return on average capital employed (ROACE)

Ratio of adjusted net operating income to average capital employed at replacement cost between the beginning and the end of the period.

return on equity (ROE)

Ratio of adjusted consolidated net income to average adjusted shareholders' equity (after distribution) between the beginning and the end of the period. Adjusted shareholders' equity for a given period is calculated after distribution of the dividend (subject to approval by the Shareholders' Meeting).

Risked service contract

Service contract where the contractor bears the investments and the risks. The contractor usually receives a portion of the production to cover the refund of the investments and the related interests, and a monetary remuneration linked to the performance of the field.

S

seismic

Method of exploring the subsoil that entails methodically sending vibration or sound waves and recording their reflections to assess the type, size, shape and depth of subsurface layers.

seismic acquisition

Field campaign consisting of acquiring geophysical data, offshore or onshore, with a view to imaging the subsurface and implanting exploration, development or production wells.

shale gas

Natural gas in a source rock that has not migrated to a reservoir.

shale oil

Oil in a source rock that has not migrated to a reservoir.

shipping

Transport by sea. LNG is carried out on board LNG carriers (see definition).

sidetrack

Well drilled from a portion of an existing well (and not by starting from the surface). It is used to get around an obstruction in the original well or resume drilling in a new direction or to explore a nearby geological area.

silicon

The most abundant element in Earth's crust after oxygen. It does not exist in a free state but in the form of compounds such as silica, which has long been used as an essential element of glass. Polysilicon (or crystalline silicon), which is obtained by purifying silicon and consists of metal-like crystals, is used in the construction of photovoltaic solar panels, but other minerals or alloys may be used.

special items

Due to their unusual nature or particular significance, certain transactions qualifying as "special items" are excluded from the business segment figures. In general, special items relate to transactions that are significant, infrequent or unusual. In certain instances, transactions such as restructuring costs or asset disposals, which are not considered to be representative of the normal course of business, may qualify as special items although they may have occurred in prior years or are likely to recur in following years.

special fluids

Extremely purified, high-tech petroleum products, used in such diverse applications as paint, mastics, drilling fluids, cosmetics, water treatment and crop protection, print inks as well as tires and vaccines.

steam cracker

A petrochemical plant that turns naphtha and light hydrocarbons into ethylene, propylene, and other chemical raw materials.

sustainable aviation fuel (SAF)

Sustainable aviation fuel (SAF) is a blend of conventional aviation fuel (JET-A1) and sustainable biojet fuel made from waste and residue sourced from the circular economy (animal fat, used cooking oil, etc.). Biojet fuel has similar properties to JET-A1 and produces up to 90% fewer CO_2 emissions over its lifecycle compared with the fossil equivalent.

T

technical costs

Ratio (Production costs* + exploration expenses + DD&A*)/production of the year. *Excluding non-recurrent items.

thermochemical conversion

Conversion of carbonaceous resources (gas, coal, biomass, waste, CO_2) through thermal transformation (chemical reactions controlled by the combined action of temperature, pressure and often of a catalyst). Gasification is an example.

tight gas

Natural gas trapped in very low-permeable reservoir.

turnaround

Temporary shutdown of a facility for maintenance, overhaul and upgrading.

U

unconventional hydrocarbons

Oil and gas that cannot be produced or extracted using conventional methods. These hydrocarbons generally include shale gas, coal bed methane, gas located in very low-permeable reservoirs, methane hydrates, extra heavy oil, bitumen and hydrocarbons generated from oil shale.

unitization

Creation of a new joint-venture and appointment of a single operator for the development and production as single unit of an oil or gas field involving several permits/licenses or countries.

unproved permit

Permit for which there are no proved reserves.

Upstream hydrocarbons activities

The Company Upstream hydrocarbons activities include the oil and gas exploration and production activities of the Exploration & Production and the Integrated Gas, Renewables & Power segments. They do not include power generation facilities based on renewable sources or natural gas such as combined-cycle natural gas power plants.

V

variable cost margin, Refining Europe

This indicator represents the average margin on variable costs realized by TotalEnergies' European refining business. It is equal to the difference between the sales of refined products realized by TotalEnergies' European refining and the crude purchases as well as associated variable costs, divided by refinery throughput in tons.

The previous ERMI indicator was intended to represent the margin after variable costs for a hypothetical complex refinery located around Rotterdam in Northern Europe that processes a mix of crude oil and other inputs commonly supplied to this region to produce and market the main refined products at prevailing prices in this region.

W

watt-peak or watt of peak power (Wp)

Refers to the output power achieved by a solar module under full solar radiation (under Standard Test Conditions).

Z

zero net emissions

A balance between greenhouse gas emissions and anthropogenic removals in the form of greenhouse gas sinks and reservoirs, such as forests and CO_2 capture and storage facilities.

Disclaimer

Unless otherwise stated, the terms "TotalEnergies", "TotalEnergies company" and "Company" in this document are used to designate TotalEnergies SE and the consolidated entities directly or indirectly controlled by TotalEnergies SE. Likewise, the words "we", "us" and "our" may also be used to refer to these entities or their employees. The entities in which TotalEnergies SE directly or indirectly owns a shareholding are separate and independent legal entities. The term "Corporation" as used in this document exclusively refers to TotalEnergies SE, which is the parent company of the Company.

This document contains references to websites (including the TotalEnergies website) and the Sustainability & Climate – Progress Report 2022. These references are for the readers' convenience only. TotalEnergies is not incorporating by reference into this document any information posted on any website mentioned or in the Sustainability & Climate - Progress Report 2022, unless otherwise stated.

This document may contain forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995, notably with respect to the financial condition, results of operations, business activities and industrial strategy of TotalEnergies. This document may also contain statements regarding the perspectives, objectives, areas of improvement and goals of TotalEnergies, including with respect to climate change and carbon neutrality (net zero emissions). An ambition expresses an outcome desired by TotalEnergies, it being specified that the means to be deployed do not depend solely on TotalEnergies. These forward-looking statements may generally be identified by the use of the future or conditional tense or forward-looking words such as "envisions", "intends", "anticipates", "believes", "considers", "plans", "expects", "thinks" "targets", "aims" or similar terminology. Such forward-looking statements included in this document are based on economic data, estimates and assumptions prepared in a given economic, competitive and regulatory environment and considered to be reasonable by TotalEnergies as of the date of this document.

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Neither TotalEnergies SE nor any of its subsidiaries assumes any obligation to update publicly any forward-looking information or statement, objectives or trends contained in this document whether as a result of new information, future events or otherwise. The information on risk factors that could have a significant adverse effect on TotalEnergies' business, financial condition, including its operating income and cash flow, reputation, outlook or the value of financial instruments issued by TotalEnergies, is provided in this document (chapter 3).

Financial information by business segment is reported in accordance with the internal reporting system and shows internal segment information that is used to manage and measure the performance of TotalEnergies. In addition to IFRS measures, certain alternative performance indicators are presented, such as performance indicators excluding the adjustment items described below (adjusted operating income, adjusted net operating income, adjusted net income), return on equity (ROE), return on average capital employed (ROACE), gearing ratio, operating cash flow before working capital changes, the shareholder rate of return. These indicators are meant to facilitate the analysis of the financial performance of TotalEnergies and the comparison of income between periods. They allow investors to track the measures used internally to manage and measure the performance of TotalEnergies.

These adjustment items include:

(i) Special items

Due to their unusual nature or particular significance, certain transactions qualified as "special items" are excluded from the business segment figures. In general, special items relate to transactions that are significant, infrequent or unusual. In certain instances, transactions such as restructuring costs or asset disposals, which are not considered to be representative of the normal course of business, may qualify as special items although they may have occurred in prior years or are likely to recur in following years.

(ii) Inventory valuation effect

The adjusted results of the Refining & Chemicals and Marketing & Services segments are presented according to the replacement cost method. This method is used to assess the segments' performance and facilitate the comparability of the segments' performance with those of TotalEnergies' principal competitors.

In the replacement cost method, which approximates the LIFO (Last-In, First-Out) method, the variation of inventory values in the statement of income is, depending on the nature of the inventory, determined using either the month-end price differentials between one period and another or the average prices of the period rather than the historical value. The inventory valuation effect is the difference between the results according to the FIFO (First-In, First-Out) and the replacement cost.

(iii) Effect of changes in fair value

The effect of changes in fair value presented as an adjustment item reflects, for some transactions, differences between internal measures of performance used by TotalEnergies' management and the accounting for these transactions under IFRS.

IFRS requires that trading inventories be recorded at their fair value using period-end spot prices. In order to best reflect the management of economic exposure through derivative transactions, internal indicators used to measure performance include valuations of trading inventories based on forward prices.

TotalEnergies, in its trading activities, enters into storage contracts, whose future effects are recorded at fair value in TotalEnergies' internal economic performance. IFRS precludes recognition of this fair value effect.

Furthermore, TotalEnergies enters into derivative instruments to risk manage certain operational contracts or assets. Under IFRS, these derivatives are recorded at fair value while the underlying operational transactions are recorded as they occur. Internal indicators defer the fair value on derivatives to match with the transaction occurrence.

The adjusted results (adjusted operating income, adjusted net operating income, adjusted net income) are defined as replacement cost results, adjusted for special items, excluding the effect of changes in fair value.

Euro amounts presented for the fully adjusted-diluted earnings per share represent dollar amounts converted at the average euro-dollar (€-$) exchange rate for the applicable period and are not the result of financial statements prepared in euros.

Cautionary Note to US Investors – The SEC permits oil and gas companies, in their filings with the SEC, to separately disclose proved, probable and possible reserves that a company has determined in accordance with SEC rules. We may use certain terms in this document, such as “potential reserves” or “resources”, that the SEC’s guidelines strictly prohibit us from including in filings with the SEC. US investors are urged to consider closely the disclosure in the Form 20-F of TotalEnergies SE, File N° 1-10888, available from us at 2, place Jean Millier – Arche Nord Coupole/Regnault – 92078 Paris-La Défense Cedex, France, or at our website totalenergies.com. You can also obtain this form from the SEC by calling 1-800-SEC-0330 or on the SEC’s website sec.gov.

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