

A close-up photograph of a young plant seedling with a single green leaf and a stem showing some yellowing, growing out of dark, rich soil. The soil has a crumbly texture with some larger clumps. The lighting is soft, highlighting the textures of the soil and the plant.

Building a Resilient Supply Chain

Amid evolving environmental conditions and national climate commitments, people working across the agriculture supply chain are looking for ways to ensure long term farm production and profitability while reducing negative impacts on the climate.

Together, these activities represent a growing movement for agriculture resilience that can deliver both financial and climate stability. In this industry report we'll dive into that movement — which we're calling Agriculture Resilience — and explore how it can help us transform our food systems.

In the world of national climate commitments — like the [Paris Agreement](#), Nationally Determined Contributions, and ratified Kunming Montreal biodiversity framework — hard-to-abate industries like agriculture are racing to lower GHG footprints and improve their impact on nature, while enhancing industry security (mitigating risk and strengthening supply chains).

Collectively, we are putting emissions into the air, losing biodiversity and changing ecosystems across the world at an alarming rate — and this pace dictates how quickly we must act to secure the future of our industries and companies.

However, this isn't the only reason for companies to get involved in climate commitments. Many companies are making an effort to lead progress because **climate commitments connect profit and purpose**.

These commitments help mitigate our collective impact on the earth, while also building resilience among agrifood systems and promoting stability across supply chains.

Not only are companies getting involved in climate action, but they're working to accelerate their progress in the space.

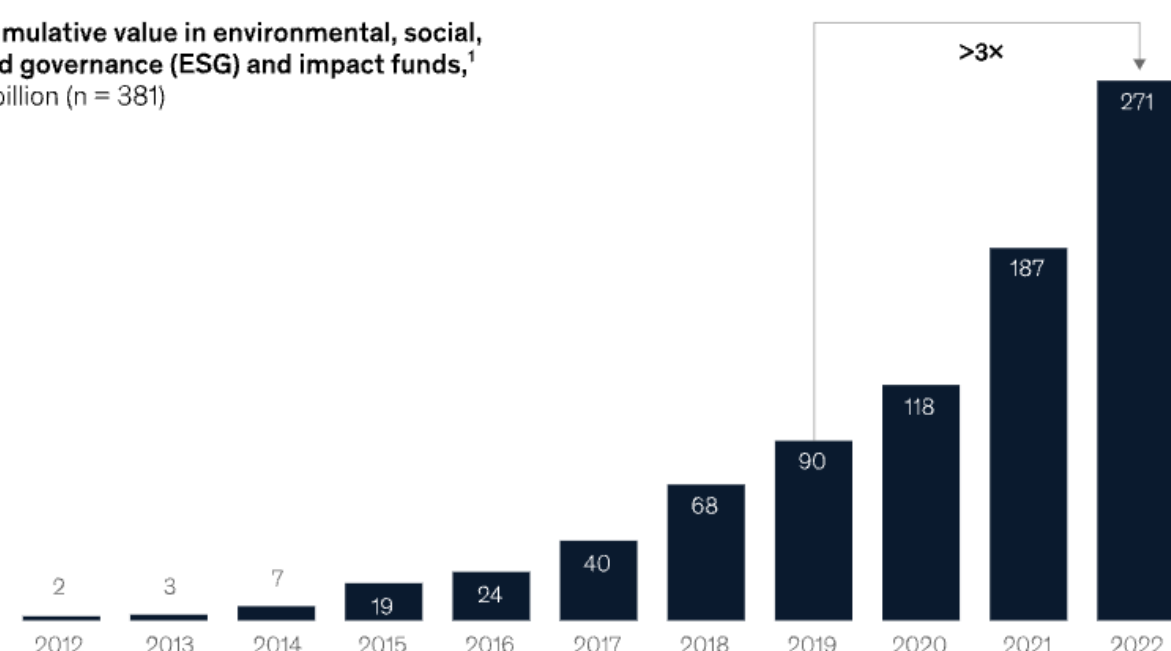
Reasons for acceleration toward climate commitments

1. **Secured access to institutional capital.** A recent [McKinsey](#) article shows that climate-related private-market investment far outpaced the broader market in 2022 (see exhibit 1)
2. **Concerns over brand and reputation in public markets.** The [Wall Street Journal](#) reported in 2021 that 55% of consumers want brands to create awareness around problems such as climate change.
3. **Establishing or preserving a profile of good corporate citizenship** — signaling customers, partners and the workforce that they are a worthy partner to do business with or to join the mission of (the Wall Street Journal report mentioned above shows that 23% of consumers say they will switch to buying products from an organization that shares their values on environmental issues).
4. **Assuring future supply** and maintaining margins despite a more fragile supply chain (as emphasized by [Deloitte](#) in 2019).
5. **Meeting consumer expectations for emerging buyers.** A [2022 study by the World Economic Forum](#) found that 75% of Gen Z members care more about sustainability than brand names.

Climate commitments help mitigate our collective impact on the earth, while building resilience within agrifood systems.

Cumulative capital raised for funds related to environmental, social, and governance efforts tripled between 2019 and 2022 to about \$270 billion.

Cumulative value in environmental, social, and governance (ESG) and impact funds,¹ \$ billion (n = 381)

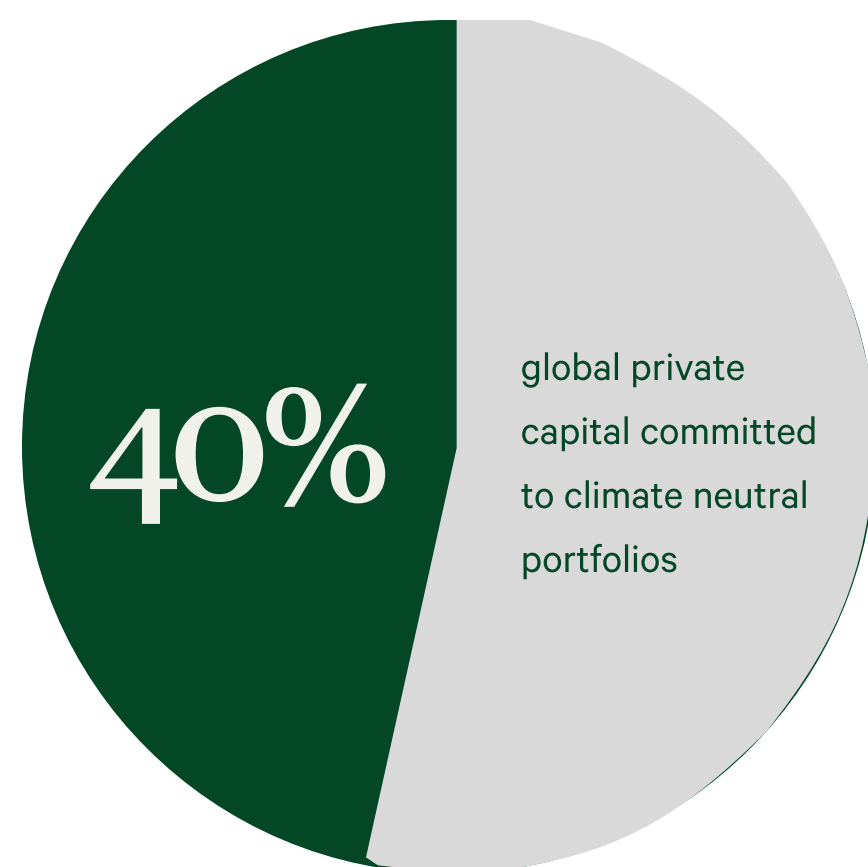


¹Cumulative final closed size in ESG, climate, Sustainable Finance Disclosure Regulation, and impact buyout or infrafunds where fund size has been disclosed. Source: PitchBook; McKinsey analysis

McKinsey & Company

Climate action isn't just GHG reporting — In fact, GHG reporting is table stakes

Institutional investors like Temasek and BlackRock, alongside financiers like Societe Generale, are beginning to require investees to supply climate plans compliant with the Taskforce on Climate-related Financial Disclosures (TCFD). This plan outlines the path for a company to understand its GHG emissions and address them, and serves as a way to demonstrate future business viability.



Investors have practical rationale to ask for the climate plans and commitments — investment in the space has grown significantly over the last couple years (a [McKinsey](#) report shared that 450 banks, insurers, and investors — representing 40% of the world's private capital — committed to making their portfolios climate neutral during COP26).

Governments are also taking action on GHG reporting for companies. For example, in 2022 the [UK](#) became the first G20 country to make it mandatory for Britain's largest businesses to disclose their climate-related risks and opportunities against the TCFD framework. This legislation is undoubtedly blazing a trail for other governments and regulators, looking to codify climate action into law.

Beyond investors and some government organizations, consumers are also influencing companies' journey to emissions reduction. With varied belief in the government's ability to cope with the climate crisis (at least, in the United States), consumers are looking to brands to take action on climate. This includes supply chain management, business and production practices, and the development of climate-friendly products and services for everyday consumers.

A joint study between [McKinsey](#) and [NielsenIQ](#) revealed “a clear and material link” between ESG-related claims and consumer spending.

From access to cheaper and more patient capital, to driving more customer demand and attracting the best team - climate action has many apparent benefits.

But what if some companies are still not convinced?



What if we don't act?

Climate risk has become one of the major financial risks for companies across industries. This is especially true for industries tied to food and agriculture, which is intertwined with climate and nature. The climate-related disruptions of agriculture supply chains are becoming more frequent and pronounced. Over the last few years alone all major producing regions — from the United States to Australia, Latina America and Europe — have suffered record breaking weather events and climate related food disruptions (as [detailed by CNN in 2021](#)).

With these disruptions, companies cannot expect to rely on agriculture supply chains without further investments to strengthen the supply and increase resilience throughout systems.

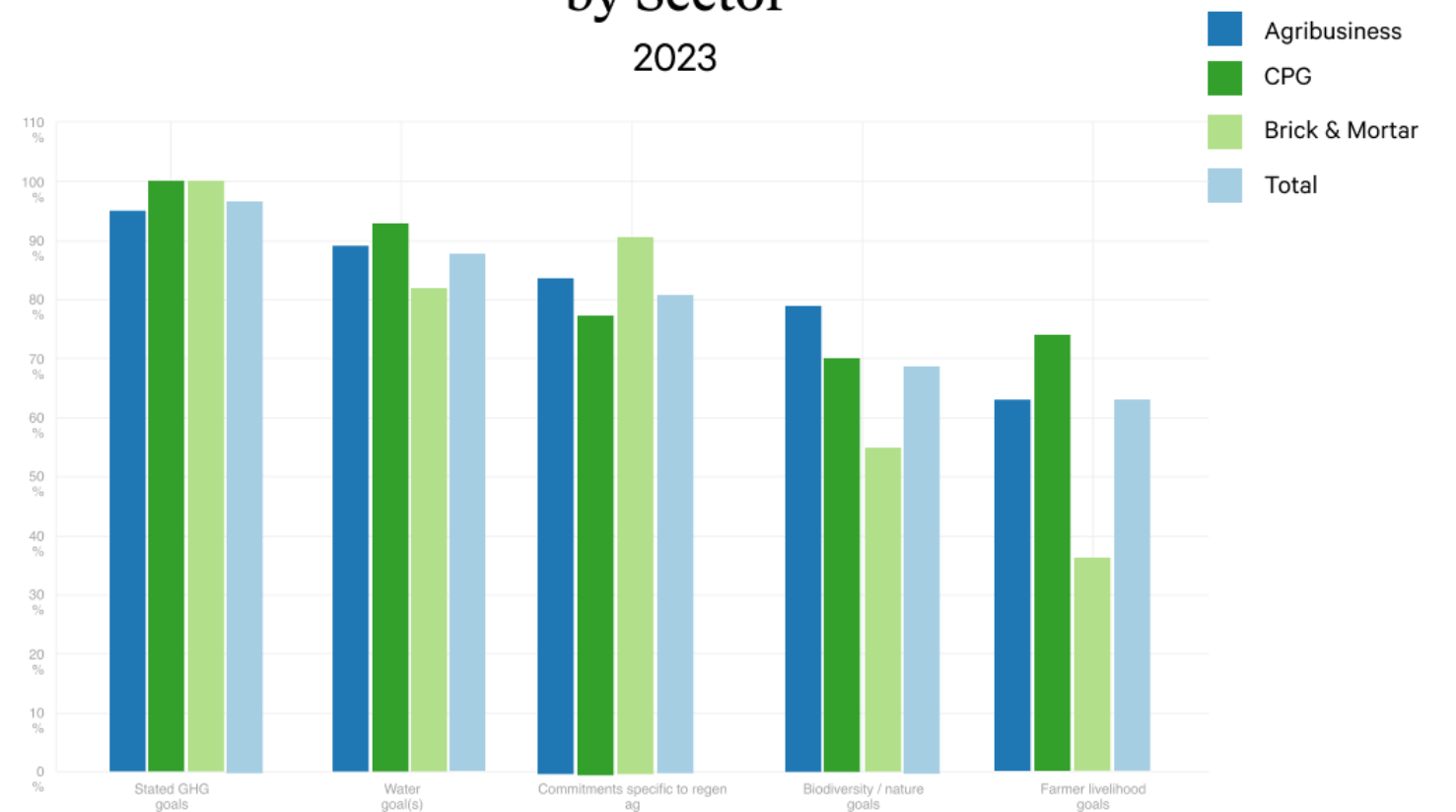
We know which companies have committed to action

In the last few years, many agriculture and agrifood companies have recognized the opportunity that managing climate risk presents for their business. At Regrow, we've seen companies across the industry — Bayer, BASF, PepsiCo and Cargill, to name a few — set net zero or GHG emissions reduction goals aligned with SBTi frameworks and other industry standards. Beyond emissions reduction, companies are also setting adjacent nature-based goals, such as enhancing water quality or biodiversity and improving farmer livelihood.

A recent study, conducted by Regrow, surveyed more than 60 businesses comprised of the top agribusiness and CPG companies in the Fortune 1000 list and the top private companies in terms of reported revenue. The study found that 99% of surveyed global companies have publicly stated GHG emissions reduction goals — this includes agribusinesses, brick and mortar and CPG companies.

Nearly 90% of surveyed companies have publicly stated water goals, nearly 80% have regenerative agriculture commitments, and more than 60% have biodiversity goals.

Publicly Stated Sustainability Goals by Sector

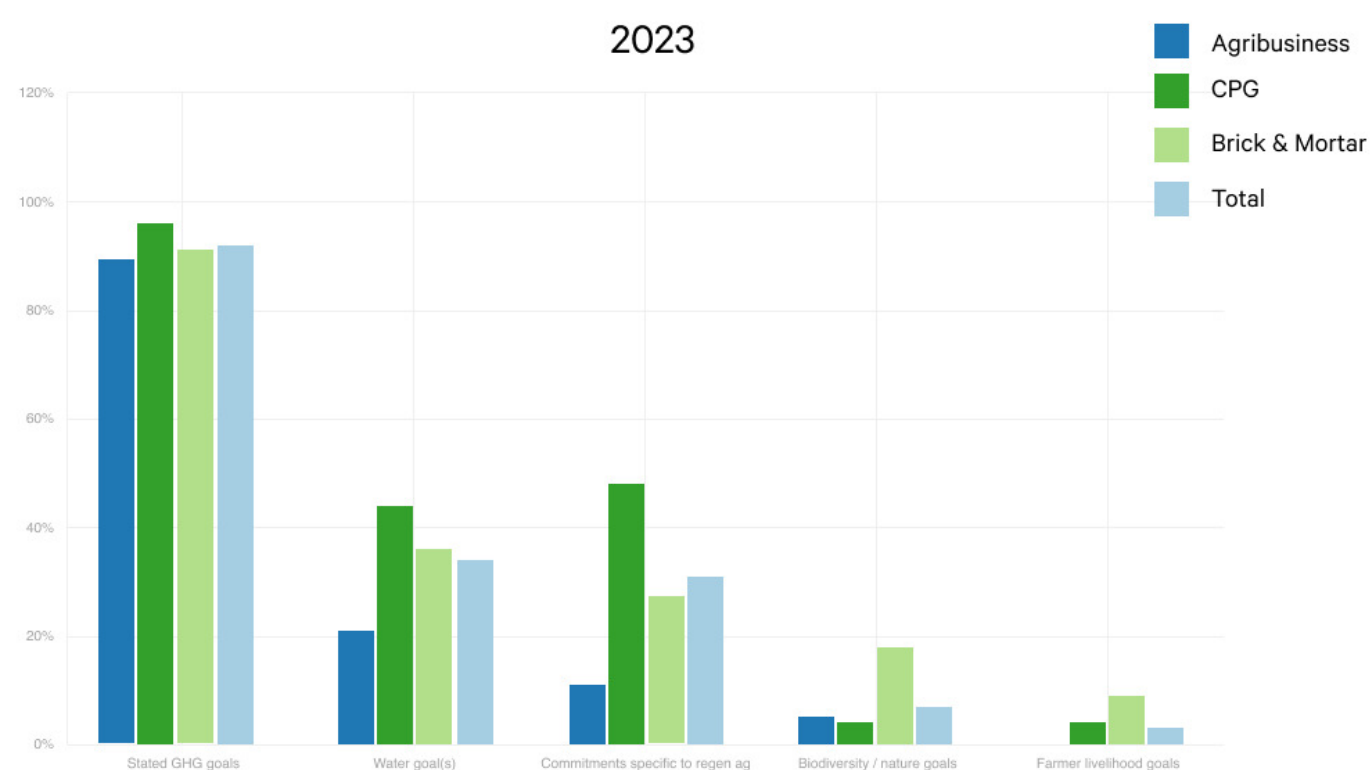


Study conducted by Regrow Ag

Companies cannot expect to rely on agriculture supply chains without further investments to strengthen supply and increase resilience.

However, industry leaders are still working to establish quantifiable goals to match public commitments. Most of the companies surveyed — 94% — have established measurable GHG emissions reduction goals; but only 41% have established measurable water goals. 36% have set measurable regenerative agriculture commitments, and only 12% have set up measurable biodiversity preservation goals. It's clear that there have been commitments to sustainability... now, it's time for companies to assess the impact of their efforts and start measuring progress toward these goals. But commitments are only as valid as they are specific.

Quantifiable Sustainability Goals by Sector



Study conducted by Regrow Ag

As our study found, there's significant diversity in companies' sustainability commitments. One may ask the question — do we have a common goal? Or are we chasing competing goals?

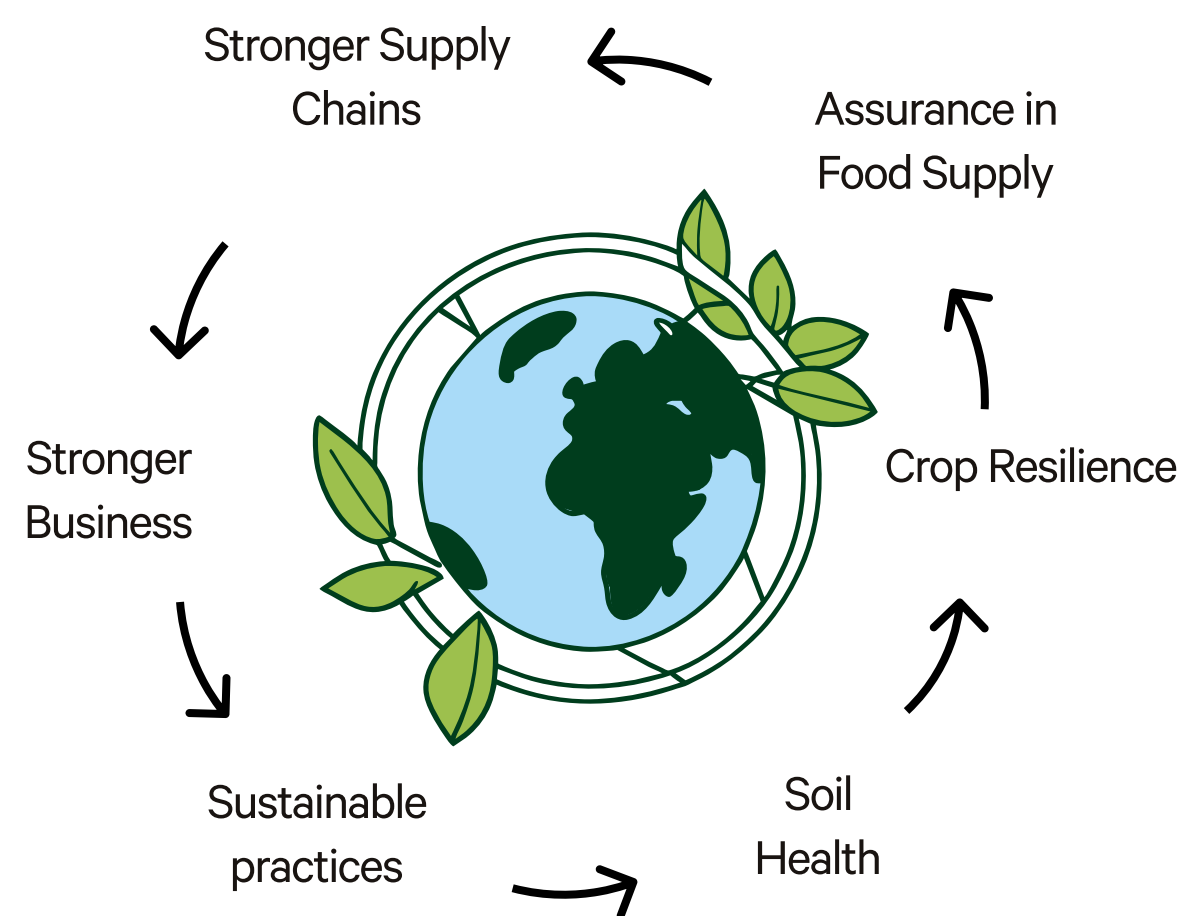
As previously noted, many companies are utilizing sustainability goals to expand their customer base, strengthen loyalty with existing customers, ensure supply and maintain margins.

These goals, as they stand, are related to a single company and its stakeholders. However, companies that source from agricultural lands often share supply sheds, source from the same growers and processors. What if we unite our efforts, and work towards a common goal? What if we define landscape-level goals and co-invest in the ecosystem outcomes that could be shared? Collaboration could help us all reach our individual climate and corporate responsibility goals, while ensuring our supply of food for the future and mitigating climate change.

Aligning to a common goal – agriculture resilience

Commitments to sustainable and regenerative practices are good. We can do better.

At Regrow, we've partnered with companies across the supply chain for 7 years. In that time, we've learned that there are common goals that unite our industry — from farm to fork, from agricultural cooperative to food manufacturer, from producer to consumer. In time of the post-COVID heightened supply chain awareness and increased financial pressures on the industry, we see the emergence of a common goal - agriculture resilience.



In order to achieve this, we need to invest in regenerative practices to restore soil health, including the soil's nutrient balance, its water holding capacity and its ability to produce enough food to support our growing population. The difference between sustainability and regeneration is captured well by the illustration right.

Why strive for resilience over sustainability?

Sustainability at its core means sustaining something as it is, keeping it at the same level. We know, however, that the current way that we farm is not sustainable. Even if we reduce our current impact, we won't be operating within the boundaries of our planet.

We need to regenerate farming landscapes before we can enter a phase where farming practices could be sustainable for the planet. Between now and 2030, given the current rate of emissions and the lagging pace of climate action, we will likely experience a more volatile climate and more frequent catastrophic weather events, against which we need to fortify our industry and core agriculture production regions.



Source: [Sustainable Brands, 2021](#)

Let's focus on 'resilience' over 'sustainable' or 'regenerative'

Focusing on the means of reaching agriculture resilience — for example, through regenerative farming practices — may not help us align the industry to a common goal. In order to effectively set and achieve goals, we must focus on the 'end' rather than the 'means.' Regenerative farming is the means by which we can achieve our goal, while resilience is the 'end,' or the result our industry must accomplish. Not only is resilience favorable to everyone in the industry; it is also the state of agriculture supply chains that must be achieved for sustained life on earth.

What does 'resilience' offer?

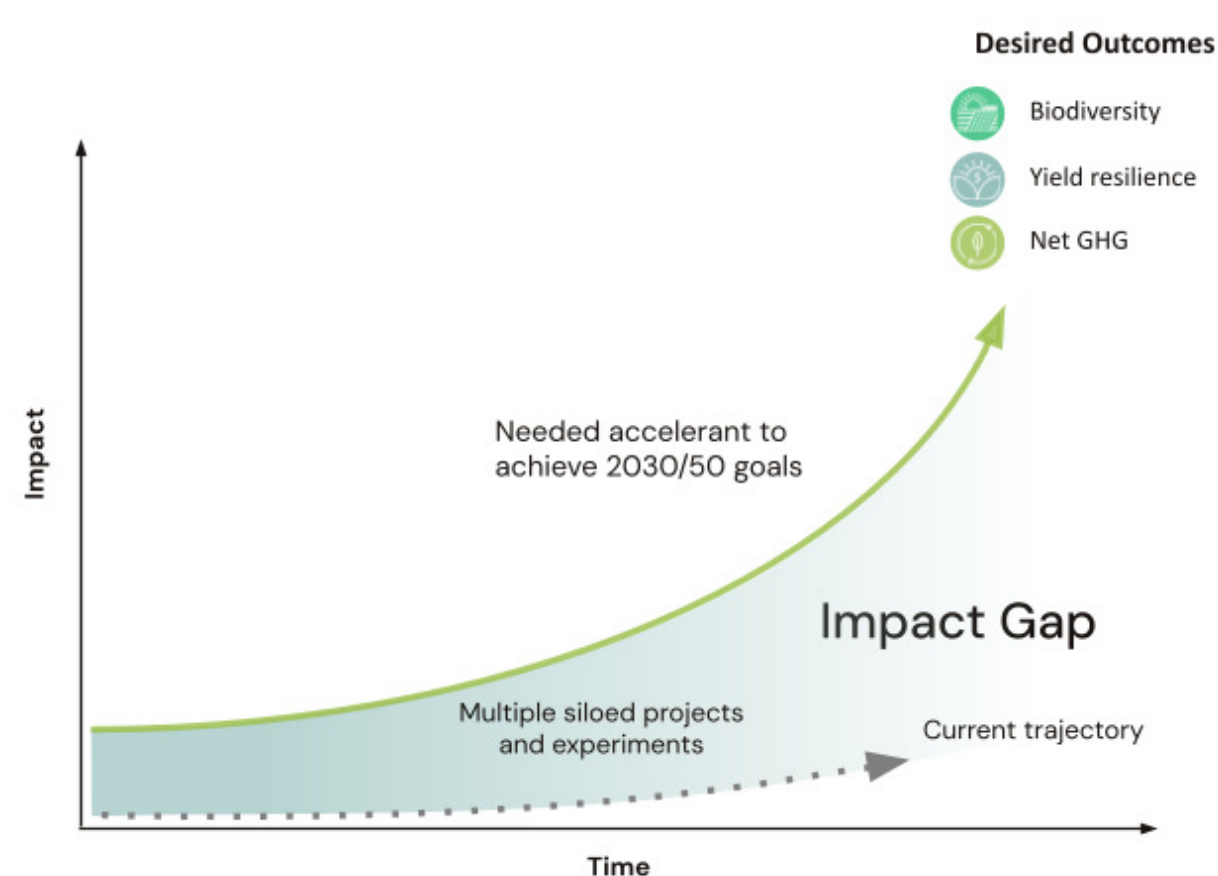
Resilience will be the state that all aspects of society, across industries, will need to achieve in the coming years. Resilience applies to yield resilience in farm productivity and our ability to avoid catastrophic losses due to extreme weather events; it means resilience of agricultural supply chains underpinned by assured supply; it means socio-economic resilience not only for farming communities, but for all businesses that are involved in agriculture or food production.

If we align to the goal of resilience together as an industry, and see it as inclusive to all groups across the agrifood industry, what is stopping us from achieving this goal?



Our challenge in building resilience: the Impact Gap

The Impact Gap is the space between where we are today, and where we need to be. While it may seem easy to set the goal, mapping out the path to achieve can be surprisingly difficult.



The difficulty is two-fold:

1. It is hard to accurately measure baseline emissions. Measuring baseline emissions requires a robust understanding of a company's supply chain, supply sheds, and the agricultural processes that provide source ingredients. For example, in order for a company that sells rice-based products to accurately measure baseline emissions, it must know what region their rice comes from (supply shed), which specific farms or suppliers the rice comes from (supply chain) and which agricultural practices are utilized in those supply sheds.
2. Older approaches to emissions baselining don't provide the specificity to company's supply sheds. These approaches — like using static database information to approximate emissions for commodities — would prevent companies from developing granular emission reductions plans. We need an accounting methodology that can provide both accuracy and scale.

It's hard to identify and prioritize actions that will help close the gap. Calculating the potential benefits of emissions reductions plans across commodities and regions is just as nuanced (if not more so) than calculating baseline emissions. Furthermore, many companies need clear, accurate data on potential strategies to build the business's case for investing in a regenerative farming program. The lack of clarity surrounding the potential outcomes in terms of emissions reductions, alongside the complexity of allocating resources to particular strategies, can stall the company's scope 3 emissions reductions efforts.

However, science and technology is evolving, allowing us increased accuracy in both baselining the emissions and calculating the 'abatement potential' of regenerative practices — that is, how a specific strategy may lower emissions and thus reduce risk and increase resilience of a supply shed.

With accurate emissions and abatement calculations comes the opportunity to build a robust plan for climate action.

Science and technology is evolving, allowing us increased accuracy in both baselining the emissions and calculating the 'abatement potential' of regenerative practices.

What makes a successful climate plan?

1

Transparency

The quality of the data collected regarding scope 3 emissions and supply chain resilience, and the reliability of emissions reduction programs. A transparent plan is clear on the data collection, monitoring and reporting methods used in a given plan and the methodologies used to baseline emissions and estimate outcomes.

2

Scalability

In order to close the gap between our current state and our goal state, programs and methods must be widely applicable across commodities and sourcing regions, and scale cost-effectively. This will allow the agrifood industry to establish broad guidelines for operation, and will allow agrifood companies to build programs that achieve the necessary impact at the scale of their sourcing.

3

Compliance

Industry standards and protocols are evolving alongside the industry. A strong climate forward plan will be rigorous enough to meet the requirements of current protocols, and to stay relevant as protocols adjust guidelines and processes.

Roadblocks to developing a strong climate action plan

Problem: inaccurate or generic baselines

Put simply: you can't tackle the Impact Gap if you haven't clearly defined it. Inaccurate or generic baseline data leads to a lack of transparency in building a climate action plan, and contributes directly to our first challenge in assessing the Impact Gap: setting accurate baselines.

Solution: Use granular, robust data to assess baselines.

Data should be specific to a company's supply shed, and should be dynamically updated as agricultural seasons change and climate and farm management practices change. Using granular data is the best way to understand the current state of your scope 3 emissions, and build an action plan to reducing emissions and building agriculture resilience.

Problem: non-compliant methodologies

In the past, there was little to no guidance on how corporations should calculate emissions baselines or take inventory of scope 3 emissions. This lack of guidance led to a lack of clarity around accounting and reporting processes, and in some cases has led companies to withhold information on their climate efforts (something known as [greenhushing](#)).

Solution: Watch for emerging guidance from leading organizations.

Emerging guidelines from Greenhouse Gas Protocol (GHG-P) and Science Based Targets Initiative's Forest, Land and Agriculture guidance (SBTi FLAG) has provided more clarity on the requirements for methodology to be considered compliant. If you're interested in learning more about these emerging protocols, read up on [recent guidelines](#) or watch our [webinar](#) on compliance.

Problem: lack of clarity in prioritizing investments

Many companies lack a clear picture of the potential impact of emissions reduction efforts in priority commodities and supply sheds. This lack of clarity can leave leaders in 'analysis paralysis' when it comes to investing in emissions reduction programs. This contributes to our second challenge in closing the Impact Gap: identifying and prioritizing the actions with the most impact potential.

Solution: Gain clarity on the potential program out ones up front

By estimating the abatement potential of emissions reduction strategies. Robust estimates can help leaders build a business case for investing in agriculture resilience, marshal the support and resources across the organization, and prioritize strategies that will result in most impact achieved.

Where are you in your sustainability journey?

Now that we've established a common understanding of agriculture resilience, identified the Impact Gap and assessed our roadblocks in developing a strong climate plan, it's time to identify the best next steps for your organization, which in turn depend on your place in the journey to agriculture and supply chain resilience.

Some companies are just beginning to consider emissions reduction plans, some are setting goals to guide their work, and some are tackling roadblocks to accelerate existing climate plans.

Take our Agriculture Resilience Assessment to understand your place in this process:

[Take The Quiz](#)

Review Your Results

20-30 points: Resilient Ag Leader

Great work! You have best-in-class planning, reporting and execution currently present in the market. What's next? Support the industry by sharing your experience, contributing to research, or by sharing resources, best practices and scalable methodologies.

12-19 points: Emerging Resilient Ag Leader

You have an understanding of best practices in resilient supply management and sustainability reporting, and are open to embracing opportunities for higher rigor, transparency and bigger scale with your projects. You have the highest acceleration potential through adoption of industry-leading science and technology. Turbo-charge your internal teams by leveraging industry-leading science and technology.

6-11 points: On the Right Path

Great start! You have embarked on your journey to more resilient supply chains, and are navigating the "messy middle" of the process. You likely have an SBTi target and are in the early stages of identifying the risks and opportunities on your path to reaching your climate goals. You have the most to gain from leveraging the experience of your colleagues along and across the supply chain and by adopting industry-leading science and technology.

0 - 5 points: Getting Started

You are early in your sustainability journey, learning about SBTi targets, reporting protocols, and performing materiality assessments. Many investments are still ahead of you, including developing an accurate baselining method and building teams with expertise in the space. Absorb information, which is becoming rapidly available, learn from the industry leaders, and translate their learnings into a path you can chart for yourself.

Let's get a move on

You have a better understanding of agriculture resilience, and where you are on a path to reaching your climate goals. You also have a preview of the roadblocks you may encounter when building an emissions reduction strategy. You also have clarity on the next steps. Now, it's time to take action.

Building agriculture resilience is a journey that requires consistent review, progress assessment and scientific innovation. Regrow can partner with you through each step of this journey and help accelerate it.

Sustainability Insights can help you baseline emissions, estimate abatement potential and calculate the impact of investments and programs. Our MRV can help you establish strong programs and enroll growers looking to adopt resilient farming practices. Our teams can empower you to build and implement strategies and programs to reduce scope 3 emissions across your supply chain, ensure supply for the future and build resilience for your business and your partners.

