

## Seeds of Resilience

# The top trends driving agriculture resilience in 2024

2024 stands as a pivotal moment in agriculture — a year in which we expect to see exponential progress in our collective pursuit of agricultural resilience. In recent years, we've seen the beginning of a paradigm shift in agriculture, moving us away from yield optimization and towards a more holistic approach — one in which we work to assure our future food supply while also promoting nature-positive impacts.

Moving forward, we expect to see exponential progress in our collective pursuit of agricultural resilience. Our industry has the technology, infrastructure, and capital in place to rapidly scale this holistic approach to agriculture. And we can do it this year.

In this overview, we break down the four trends we expect to define 2024, how we can harness those themes to scale and accelerate results, and how we can drive innovation to reach our net zero goals by 2030.

## Resilience will bridge the gap between sustainability and core business decision-making.

"Climate change is no longer being considered primarily an environmental issue, but a multifaceted source of economic and financial risks that might threaten the stability of the financial ecosystem."

Sustainability remains a priority for businesses today as it has been for years. However, in 2024 we expect sustainability to be more prominently featured in corporations' core strategies. This is because companies are increasingly realizing that resilience is a key business objective. As <u>noted by McKinsey & Company in September</u> <u>2023</u>, "Many industry leaders expect significant disruption across the agriculture value chain over the next two years, resulting in new opportunities to build and scale green-growth, resilient businesses."

What exactly is resilience? It's a holistic risk mitigation strategy. In 2024 we expect agriculture, food and beverage companies to hedge against two big risks: financial risk and supply chain risk. Both of these risks can be addressed through agricultural resilience.

Resilience ensures food supply chains are stable, core ingredients can withstand a changing climate, and agricultural lands are in harmony with the rest of our global ecosystem. A resilient food system supports business stability, ecological stability and geopolitical stability (a point we'll get to shortly). Put simply, resilience is the next evolution in your leadership and innovation.





## Resilience: an emerging term for the agricultural sector



Google Trends analysis, "Climate resilience." 2019 - 2023

In 2023 we saw language around agriculture resilience take hold. Google Trends shows instances of the term 'climate resilience' up 28% year over year, peaking at COP28, and world leaders are using similar framing to express the need for resilient strategies to manage climate risk.



U.S. President Joe Biden referenced earlier this year in his address to the United Nations, "To the agricultural mission for climate, which brings farmers into climate solutions and makes agriculture more resilient to climate shocks... we need to bring a sense of urgency, commitment and ambition."





Joao Campari, Global Leader of Food Practice at the World Wildlife Fund, said during COP28: "Business-as-usual food systems would use nearly the whole carbon budget for a 2-degree Celsius world." The status quo will not work for the future of our food supply. Resilience is what incentivizes change — those who change are rewarded with financial, supply chain, and environmental stability.



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Peter Bakker, President and CEO of the World Business Council for Sustainable Development, emphasized at the event that we need to manage CO2e the way businesses manage costs. To date, the private sector hasn't shown strength in assessing and managing climate risk. However, businesses are good at assessing and managing financial risk.

Resilience is also catching hold in the financial world, in policy and regulation, and across our geopolitical landscape to address the industry's two core risks: financial and supply chain stability.



## Resilience addresses financial risk

From a financial perspective, lenders are realizing that a resilient borrower is a less risky borrower, and a less risky borrower is a good borrower.

According to the Climate <u>Bonds Initiative</u>, by the end of 2022, more than US \$3.7 trillion in finance had been channeled through green, social, sustainability, sustainability linked and transition bonds. Of those debt instruments (33,849 in total), 6,494 (19%) were identified as having some degree of climate resiliencerelated use of proceeds.

Additionally, conversations between Regrow and stakeholders in the food and agriculture sector indicate that farm-level agriculture resilience practices could increase farmer access to agriculture insurance. Farmers that put resilient practices in place are easier to insure.

There's room to grow — and the financial sector is priming the pump for accelerated growth in the near future.

## Resilience mitigates supply chain, environmental risk through policy and regulation

From a regulatory perspective: policies signed or proposed in recent years increased requirements around emissions reporting, including scope 3 emissions. The <u>Corporate Sustainability</u> <u>Reporting Directive</u> (CSRD), for example, sets specific guidelines for how environmental impact is measured and reported, even mandating all reporting companies undertake a 'resilience analysis' within their disclosures.

## Business-as-usual food systems would use nearly the whole carbon budget for a 2degree Celsius world.

— Joao Campari, Global Leader of Food Practice at the World Wildlife Fund

## Resilience contributes to geopolitical stability, reducing risk across supply chains

From a geopolitical standpoint, a threatened food supply is not only a financial and environmental risk, but also a strain on international stability. As our climate becomes more volatile the risks of conflict, migration, and political insecurity are likely to rise—and with this comes supply chain instability.

Other emerging standards, like <u>Science Based Targets Initiative's</u> <u>FLAG guidance</u> and the <u>International Sustainability Standards</u> <u>Board (ISSB)</u> offer businesses a framework for rigorous emissions goal setting and a clearer, more standardized way to quantify environmental risk, respectively. The impact of climate change on our food systems is already driving conflict around the world, according to <u>CSIS</u>. A Harvard University <u>study</u> in 2020 found that below-average rainfall can increase the likelihood of civil war and domestic terrorist attacks in some countries.

Resilience, a term that addresses and aims to mitigate all these risks, is the next evolution of sustainability. It's not just a business objective; it's a global imperative. Our shared language, financial investments, policies and regulations all point to acceleration of this trend in 2024.



## Companies will pool resources to scale impact. Even competitors.

The agriculture value chain consists of a complex web of stakeholders. Food is grown by a farmer, with the help of input providers, sold to an aggregator, transported by a trader, refined by a processor, and then ultimately incorporated into the various food products we eat. Decarbonizing this complex supply chain and building a truly resilient system requires collaboration between these stakeholders.

This is something we've <u>known</u> for awhile. However, we expect collaboration to reach a whole new level in 2024, as researchers, businesses, and nonprofit organizations — with varied goals, funding and ownership — partner to address and mitigate climate risks.

New cross-industry alliances announced at COP28 revealed a welcome willingness for competing brands across the value chain to co-develop plans for emissions reduction. Examples include:

- The International Soil Carbon Industry Alliance, comprising 28 organizations across the globe (including Regrow), established to accelerate agricultural decarbonization.
- The <u>Dairy Methane Action Alliance</u>, formed by the Environmental Defense Fund and some of the world's leading



food brands, designed to reduce methane emissions across the dairy supply chain.

The Dairy Methane Action Alliance alone has representation from Bel Group, Danone, General Mills, Kraft Heinz, Lactalis USA and Nestle. These are brands we typically think of as fighting for market share, not coming together for a common cause.

Cross-industry partnership has also been supported by organizations like the <u>Value Change Initiative</u>, which is developing a method for funding and sharing the benefits of collaborative value chain programs that result in scope 3 emissions reductions. Pre-competitive frameworks and platforms (like <u>SAI</u> and <u>Field to Market</u>) are establishing networks and technologies to encourage collective investment for scaled impact.

We anticipate this momentum will build in 2024, as more alliances are forged and the compounding impact of collaboration are realized.

#### Note:

It's great to see brands joining forces, and there's reason for optimism that these alliances will <u>center farmers in</u> <u>their efforts</u>. For collaboration to be effective, the burdens of cost and risk can't fall disproportionately on those in the field. Let's keep this in mind as we build frameworks for collaboration in 2024.



## Carbon programs will evolve to more holistic naturepositive programs, incorporating water, biodiversity and other stacked benefits.

In 2024, food and ag companies will increasingly focus on creating positive value chain impact *beyond* reducing greenhouse gas emissions. We expect to see more investment in biodiversity, water, and ecosystem integrity – impacts that historically have been harder to quantify, but are just as important as reducing greenhouse gas emissions.

The ecosystems supporting important natural services (like fertile soils, robust pollinator habitats, and a reliable supply of fresh water) are eroding, largely due to agricultural processes optimized primarily for yield, not resilience.

The evidence showing this decline is alarming:

- It is projected that a third of global soils are already degraded (FAO).
- Agriculture, as the biggest consumer of global freshwater (roughly 70%) and habitable land (50%), is the biggest driver of terrestrial biodiversity loss, and both freshwater quality and quantity declines (<u>WWF</u>, 2021) (<u>FAO</u>, 2023; <u>World Bank</u>, 2023).

This can have drastic impacts on land's ability to produce food or filter water – trends that, compounded, can disrupt supply chains and commodity prices.

Given the probability for supply chain disruption and increased commodity prices, we believe more companies will invest in protecting and rebuilding ecosystems in 2024.

Progress has already begun. A number of voluntary and mandatory frameworks have been established to guide companies towards

a better quantification, disclosure and management of risk across nature-based supply chains.

We expect to see more investment in biodiversity, water, and ecosystem integrity – impacts that have historically been harder to quantify, but are just as important as reducing greenhouse gas emissions.

- The Kunming-Montreal Global Biodiversity Framework (GBF) has been hailed as the Paris Agreement for biodiversity, setting the ambitious goal of halting and reversing biodiversity loss by 2030.
- To help facilitate this goal, the Science Based Targets Network (SBTN) introduced a parallel framework (to the Science Based Targets Initiative) for goal-setting specifically aimed at biodiversity and water outcomes.
- The Taskforce for Nature-related Financial Disclosures (TNFD) released their first round of guidance which will standardize how financial institutions disclose their nature related risk and impact.
- The European Union's Corporate Sustainability Reporting Directive (CSRD) will make it mandatory for companies subject to the regulation to disclose their nature-related risks and impacts as well.

With so much time and energy rightly focused on greenhouse gas reduction, we can lose sight of the fact that this collective action is not just about climate math. It is in service of a larger goal: maintaining the natural balance of our increasingly fragile ecosystems. We believe that in 2024, more leaders will address ecosystem services to maintain stability.



## Access to more granular data will unlock scaled climate action.



In 2024, companies must begin to actualize their ambitions for scaled climate action. The progress we make this year will help us meet climate goals for 2030 and beyond.

But without data, there will be no action.

Despite lofty corporate commitments around reducing climate impact, we remain off-track in meeting the goal set in the Paris Agreement (limiting global warming to 1.5 degrees celsius).

In a recent analysis of corporate climate commitments of the world's largest companies, <u>Accenture</u> noted that "nearly all (93%) will fail to achieve their goals if they don't at least double the pace of emissions reduction by 2030." In a separate analysis, the <u>New York Times</u> found that 20 of the largest food and restaurant companies have not made any progress against their stated emissions reductions goals.

This lack of progress is largely a function of companies scaling climate action too slowly.

Most companies lack the precise data needed to make risk-informed decisions on where and how to invest in decarbonizing their supply chain.

This is especially true for agricultural supply chains, where most of the climate impact lies on the farm. According to <u>Resonance Global</u>, scope 3 emissions — like those on the farm — constitute 89% of food and beverage companies' total emissions on average. These companies also have an impact on water, biodiversity and other factors that affect our climate (it should be noted that globally, farms use 70% of all water consumed annually, according to <u>OECD</u>).

Companies have historically relied on generic emissions factors and stock-standard assessments. These LCAs typically do not capture the location-specific environmental variability that is needed to turn insights into scaled investment.

Regrow customer Oatly is experiencing this need firsthand. Julie Kunen, Director of Sustainability for North America, told Regrow, "Companies need systems to help them measure data at appropriate scales. Some types of data are needed at regional or supply shed scales, others at the scale of the specific supply chain. Some at farm level, others at individual field level. Providing platforms and technical support to peg the right data set to the right scale for corporate needs—and to do so in a way that is not cost-prohibitive—is essential."

It's clear that we need granular data to reduce the risk of a project. While other industries may be able to take action informed by more simplified and generic emission factor data, this playbook won't work for food and ag companies because the majority of these companies' climate impact is on the farm (and thus, that's where the biggest investment opportunity lies). With more precise, location-specific data, we are excited to start seeing food and ag companies transition from insights to action in 2024!

## Moving Ahead

As we close out 2023, there's much to reflect upon. Our progress to date has illuminated a path towards resilience — but we are still in the early phases of this journey, and there's more to be done.

Now, it's our responsibility to embark on this path with rigor, passion and determination, using these trends — resilience, collaboration, co-benefits and comprehensive data — to accelerate our rate of change and help transform our food system.

### Learn more about agriculture resilience

### resilience.regrow.ag



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