# Analysis
## Food Emissions 50 Benchmark Update

May 2025

This brief provides an analysis of the benchmark progress made by 50 of the largest public companies in the food and agriculture sector in North America engaged in the Food Emissions 50 initiative. The Food Emissions 50 Company Benchmark measures corporate progress toward tackling climate risk in the food sector and accelerating the transition to a lower-emissions economy. Companies are assessed based on the quality of their emissions disclosures, reduction goals, and climate transition action plans. In 2025, Ceres updated the list of Food Emissions 50 companies to include global companies that generate significant revenue in North America. These companies are assessed using public disclosures and 2024 data provided by CDP, a global non-profit that runs the world's only independent environmental disclosure system, as of March 10, 2025.

## MAY 2025 TAKEAWAYS

### Overall, companies are making progress in disclosure and taking actions that reduce emissions and prepare the companies to better assess climate risk and seize opportunities in a more resilient food system.

### Key areas of corporate progress:

- **Stronger supply chain disclosure:** Companies are increasingly disclosing detailed information about their supply chain emissions, particularly regarding agriculture and land use. This creates opportunities to map emissions hotspots and pinpoint areas of highest risk. Of the 50 companies, 30 disclose agricultural emissions within their scope 3 reporting, while 22 include emissions from land use change.
- **More sophisticated climate scenario analysis:** Sixteen companies have conducted 1.5°C-aligned climate scenario analyses, helping them identify operational, supply chain, and market transition risks, as well as business opportunities to build a more resilient food system. Companies, including Compass Group, the multinational food service provider, are quantifying the financial impacts of these risks, such as increased costs due to water stress affecting beef and dairy production.
- **Opportunity in reducing potent agriculture emissions:** Agriculture produces methane and nitrous oxide—potent greenhouse gases with significant warming effects. Industry leaders like Campbell's, Nestlé, and Danone are setting gas-specific reduction targets, enhancing risk management of major climate impacts and improving regulatory readiness and supply chain resilience—highlighting an opportunity for others in the sector.
- **Major companies quantifying reduction strategies:** Five companies have detailed, quantified emissions reduction strategies that outline systematic approaches to meeting their goals, managing risk, and leading in value creation. General Mills' Climate Action Transition Plan discloses reduction amounts by category and provides implementation timelines. There is an opportunity for more companies to quantify strategies to build resilience, innovation, and long-term value creation.

## Methodology Change for Company Selection and Update of Food Emissions 50 Companies

In 2025, Ceres reviewed and updated the Food Emissions 50 company selection methodology to increase reach within the global food sector and improve investor engagement potential. The new methodology resulted in changes to the list of Food Emissions 50 companies to include public companies headquartered around the world with high revenue (over $1 billion) generated within North America. Companies were also selected based on their exposure to the highest-emitting agricultural commodities globally including beef, cattle milk, rice, soybeans, pork, maize, poultry, eggs, palm oil, and wheat. The original company selection methodology was established in 2021 and focused on the highest-emitting companies in North America.

Based on the new methodology, 41 companies remain from the original list and nine companies were added. This benchmark analysis will refrain from comparing this set of 50 companies against the previous set of 50 to avoid misleading assumptions about corporate progress. Rather, this analysis assesses the state of emissions disclosures and targets in the food sector.

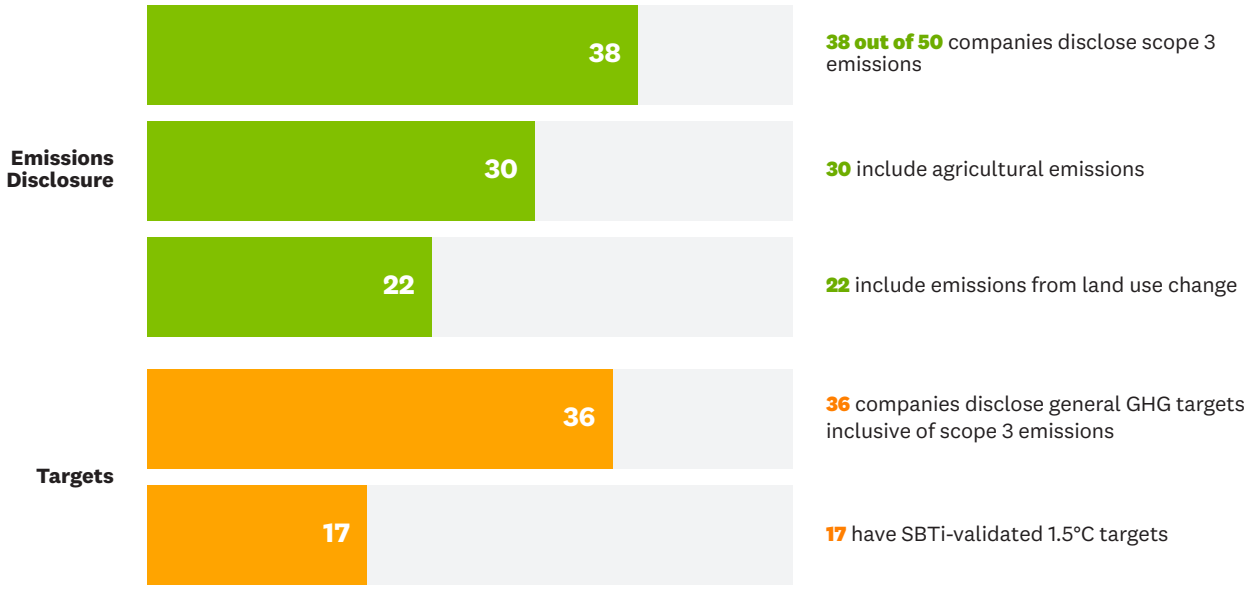


**Figure 1: Companies that disclose GHG emissions and targets.**

### Increased Disclosure of Agricultural and Land-Based Emissions

To reduce climate risks and build more resilient operations, companies need to assess and disclose their supply chain emissions and set clear targets for reducing them. A key part of achieving this is being transparent about whether their scope 3 emissions, which are indirect emissions from a company's value chain, include agriculture and land use—also known as FLAG emissions. These emissions make up about 22% of global GHG emissions and are a major source of climate risk, particularly in food production. By clearly disclosing FLAG emissions, companies help investors and other stakeholders understand where the greatest risks and opportunities lie—and ensure their reduction targets focus on the most significant sources.

Of the 50 companies, 32 disclose scope 3 emissions, and have targets inclusive of scope 3. Only these 32 companies are assessed for all benchmark metrics. Of the companies that disclose scope 3 emissions, 30 companies disclose that their scope 3 emissions include agricultural emissions, and 22 of those companies disclose that their scope 3 emissions include emissions from land use change.

The number of the original 41 Food Emissions 50 companies that disclose agricultural and land use emissions increased. Company progress on disclosure of emissions from agriculture and land use demonstrates that companies are identifying and calculating the highest sources of emissions within their agricultural supply chains, which represent their most significant climate risk exposure. They may be taking this step due to the additional attention that the risks from FLAG emissions are receiving from investors and other stakeholders. Greenhouse Gas Protocol plans to release the Land Sector and Removals Guidance (LSRG) in late 2025 which will describe how companies can accurately report GHG emissions and removals from land management, land use change, and biogenic products. Following its release, the Science Based Targets initiative (SBTi) will require companies to set FLAG targets within six months. Companies that disclose FLAG emissions and have set FLAG targets will be able to maintain their validation status under the new guidance.

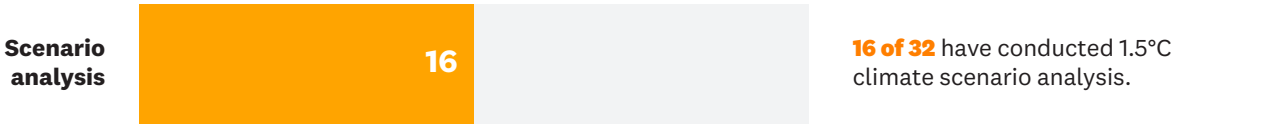


**FIgure 2: Companies that conduct a 1.5 °C climate scenario analysis.**

## Growing Disclosure of Climate Scenario Analysis

Companies in the food sector are particularly vulnerable to climate impacts in their supply chain from extreme weather, including droughts, floods, and soil aridification, all of which can disrupt agricultural yields and drive commodity price volatility. A climate scenario analysis assesses what risks a company is likely to face under different temperature thresholds and what opportunities a climate transition will present. By developing forward-looking strategies to consider how a 1.5°C world will affect production processes, companies can strengthen resilience, safeguard productivity, and reduce risks. Many companies are using climate scenario analysis to assess the resilience of their businesses against a warmer climate, 16 of which have conducted a 1.5°C-aligned scenario analysis that addressed transition risks and opportunities along with physical risks. This type of assessment can help companies determine what impacts their business may face as more of their suppliers and customers begin addressing their GHG emissions.

**Compass Group**, the multinational food service provider, disclosed a climate scenario analysis which models how climate change creates physical risk to its operations and supply chain, according to data provided by CDP (2024). The analysis showed that the most significant potential impact is from chronic water stress in the U.S. and Australia. By 2050, water stress will cause the business an estimated annual cost increase in the range of 2.5% to 5.0% of the total amount spent on impacted food categories across the U.S., U.K., Australia, and France. Beef and dairy production are likely to be most affected by water stress, leading to an increase in the cost of procurement for the company in the long term. The company's climate scenario analysis considers the geographies of production and key commodities most affected by climate change. Additionally, the company's analysis assesses the material costs associated with these negative climate effects. A cost analysis is necessary to effectively maintain profitability while a company's supply chain is threatened by the adverse effects of climate change.

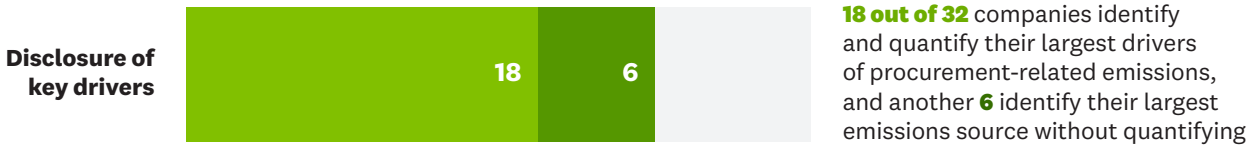


**Figure 3: Companies that identify their largest sources of emissions.**

## More Specific Disclosure of Companies' Largest Sources of Emissions from Purchased Goods and Services

Companies can play a critical role in reducing supply chain emissions—and the associated climate-related financial risks—by engaging and incentivizing suppliers and agricultural producers to adopt lower emission practices that address the risks they face. A key first step is to assess and disclose which commodities and processes account for the largest share of supply chain emissions, helping companies prioritize where action is most needed. In the food sector, purchased goods and services make up the largest category of supply chain emissions and must be disclosed before companies are able to show how they will reduce their emissions. Among the Food Emissions 50 companies, 18 quantify and disclose emissions sources within the purchased goods and services category while another six disclose sources without quantifying emissions. This information is key to understanding if companies' actions are working towards reducing the largest sources of emissions in their supply chains.

Best practices include disclosing which commodities are responsible for the largest portion of a company's supply chain emissions and quantifying the volume of emissions from those high emitting commodities.

**Ingredion** disclosed that corn is its largest source of emissions in its supply chain, reporting that 1.9 million metric tons $CO_2e$ were attributable to corn in 2023, according to data provided by CDP (2024). The company also disclosed emissions from its next highest emitting commodities: cassava, stevia, potatoes, and pulses. The company used this information to work towards its goal of 100% sustainable and regenerative sourcing of high priority agricultural products including corn.

**Maple Leaf Foods** lists hogs and poultry from contracted growers as the largest contributor to scope 3 purchased goods and services emissions, totaling 35.4% of these emissions. The company identified anaerobic digestion where organic material, such as animal manure, food waste, or wastewater are broken down by microbes in airtight containers, as a scalable solution to reduce emissions produced from hog manure. In addition, this process will produce biofuel, a renewable natural gas. By investigating its largest source of emissions, Maple Leaf Foods was able to find a cost-saving solution to reducing emissions and risks through manure processing.

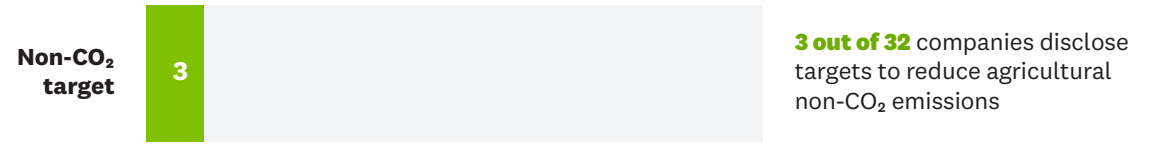


**Figure 4: Companies that set targets to reduce non-$CO_2$ emissions.**

## Room to Take Advantage of Setting Targets to Reduce Agricultural Non-$CO_2$ Emissions

Methane and nitrous oxide—two potent greenhouse gases—pose significant climate risk and agriculture is one of the largest sources of both. These emissions come mainly from livestock production and fertilizer use, making companies that produce or sell dairy, beef, or fertilizer-intensive crops like corn and wheat especially exposed. Because methane and nitrous oxide have a far greater warming potential than carbon dioxide, reducing them offers companies a powerful opportunity to cut risk quickly and cost effectively and strengthen supply chain resilience. Only three companies have set goals for reducing either methane or nitrous oxide.

**Cambell's** discloses the only nitrous oxide target of the Food Emissions 50 companies, with the goal to reduce nitrous oxide emissions by 20%. The company already exceeded this target in 2023, achieving a 25% reduction by limiting nitrogen fertilizer application to tomatoes, according to data provided by CDP (2024). Reducing the application of nitrogen fertilizer is also a practical cost cutting measure.

**Nestlé** and **Danone** also have non-$CO_2$ emissions reduction targets for reducing methane emissions. Both companies have dairy intensive supply chains, and their methane reduction targets represent a commitment to address one of their largest sources of emissions and biggest opportunities for risk management.

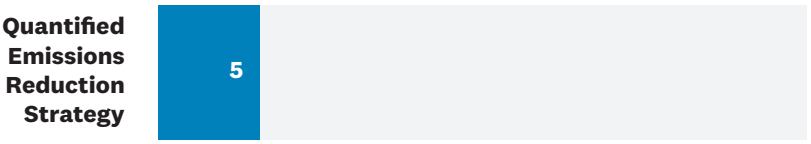


**Figure 5: Companies that quantify strategies for reducing emissions.**

## Opportunities in Quantifying Strategies for Reducing Emissions and Risk

A quantified GHG emissions reduction strategy lays out how a company plans to systematically reduce emissions across its operations and supply chains and demonstrates how the company plans to meet those targets. Such strategies demonstrate an advanced level of preparedness for transitioning to a resilient food system. This form of active and quantified planning not only demonstrates risk management, it also positions the company to lead in resilience, innovation, and long-term value creation.

Of the Food Emissions 50 companies, only five disclosed such strategies, including three new companies added to the benchmark. To be effective, these strategies should clearly describe the specific actions a company will take with defined implementation timelines.

**General Mills** released its Climate Action Transition Plan in 2024 which includes a quantified emissions reduction strategy. The company listed areas in its business where it seeks to reduce emissions and by how much. According to the company's transition plan, agriculture and ingredients make up the largest portion of emissions and consequently make up the largest portion of planned emissions reductions, totaling 33% of the company's total planned emissions reductions across all scopes. General Mills further specifies by how much the company plans to reduce emissions for grains and dairy and through planting trees and elaborates how it will specifically introduce regenerative agriculture practices like low tillage, reduced fertilizer use, and cover cropping to reduce emissions and improve productivity. The company also sets out a timeline for its actions, including its actions to date and those that will help it achieve its 2030 goals and its 2050 net zero commitment.

## Conclusion

Companies are disclosing sensible emissions reduction actions and targets which are beneficial to their bottom line. Companies are making progress particularly on benchmark metrics related to disclosing detailed information about their supply chain emissions. Scenario analyses, key commodity emissions disclosures, non-$CO_2$ agricultural emissions reduction targets, and quantified emissions reduction strategies work together to identify and address risk in a company's supply chain and operations.

While these are areas of demonstrated progress, there are other actions that companies can pursue to reduce emissions and benefit from the opportunities presented by a resilient transition. In particular, none of the Food Emissions 50 companies disclose a forward-looking target to align future capital expenditures and operational expenditures with GHG emissions reduction targets. Committing to align capital with a climate transition ensures that planned investments will drive concrete and long-term changes within companies' operations and supply chains and is a major step towards building resilient and sustainable businesses. Emissions disclosures, targets, and climate transition actions all set food companies up to maintain resilient supply chains and shore up their vulnerabilities through adaptation and even cutting costs of production. Addressing risk through action will ensure production and profitability into the future.