Ceres

Unlocking Opportunity

Addressing Livestock Methane to Build Resilient Food Systems

March 2025

About Ceres

Ceres is a nonprofit advocacy organization working to accelerate the transition to a cleaner, more just, and sustainable world. United under a shared vision, our powerful networks of investors and companies are proving sustainability is the bottom line—changing markets and sectors from the inside out. For more information, visit ceres.org.

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The views or opinions expressed in the report do not necessarily reflect those of the individuals, companies, or organizations listed above.

Table of contents

Introduction

The food sector is at a critical juncture. As climate change intensifies, food companies face increasing financial risks—from disrupted supply chains and impacts on farm productivity and yields to growing regulatory pressures. Yet, within these challenges lies an opportunity to drive innovation, build resilience, and create a sustainable and profitable industry.

Reducing methane—a potent greenhouse gas—offers one of the most impactful and immediate opportunities. For food companies sourcing dairy, beef, and pork, methane often accounts for a substantial portion of their emissions.

Given methane's outsized contribution to food companies' total emissions and its potency, near-term action on methane is one of the most effective ways to address the business challenges created by impacts of worsening heatwaves, floods, drought, and storms. Proven strategies—such as optimizing livestock feed, improving manure management, and deploying methane-reducing technologies—can drive measurable progress while strengthening supply chain resilience.

Awareness is growing of the importance of reducing methane emissions to reduce risks. Initiatives like the Global Methane Pledge (with 158 countries committing to a 30% reduction by 2030) and the Dairy Methane Action Alliance demonstrate the appetite for change. Companies like Danone and Nestlé are leading by example, pledging to reduce methane in their dairy supply chains by 30% by 2030 and already reporting meaningful interim progress.

However, too many strategies in the food sector still focus solely on carbon dioxide as a lever to reduce emissions and address business challenges. A comprehensive approach—combining short-term methane mitigation with long-term carbon dioxide reduction—offers the most effective path to ensuring industry resilience.

This report highlights how food companies can turn the challenge of livestock methane into an advantage. This report serves as a resource for companies to seize the opportunity to manage financial risks and deliver long-term business value and for financial investors to understand what companies are considering when addressing livestock methane. The report provides:

- **The Business Case:** The risks and opportunities of reducing methane.
- **Exposure Map:** The sub-industries in the sector, ranging from packaged food and meat companies to restaurants, that face the greatest methane risk exposure.
- **Case Studies:** Examples of leading practices and interim successes from companies already taking action.
- **A Framework for Engagement:** Strategies for institutional investors for identifying the sectors with the biggest risk exposure and assessing corporate action on addressing methane.

The outsized opportunity of reducing methane in the food sector

Methane presents a distinctive opportunity for tackling the business challenges caused by worsening and costly heatwaves, floods, drought, storms, and disease outbreak because of two key characteristics. First, it is an extremely potent greenhouse gas, with a global warming potential more than 80 times greater than carbon dioxide over a 20-year period. Second, it has a relatively short atmospheric life span of just 12 years, compared to carbon dioxide's 100+ years. This means that reducing methane emissions could deliver rapid benefits—eliminating methane emissions today would create a cooling effect within 12 years, while similar short-term reductions in carbon dioxide wouldn't affect temperatures for centuries.

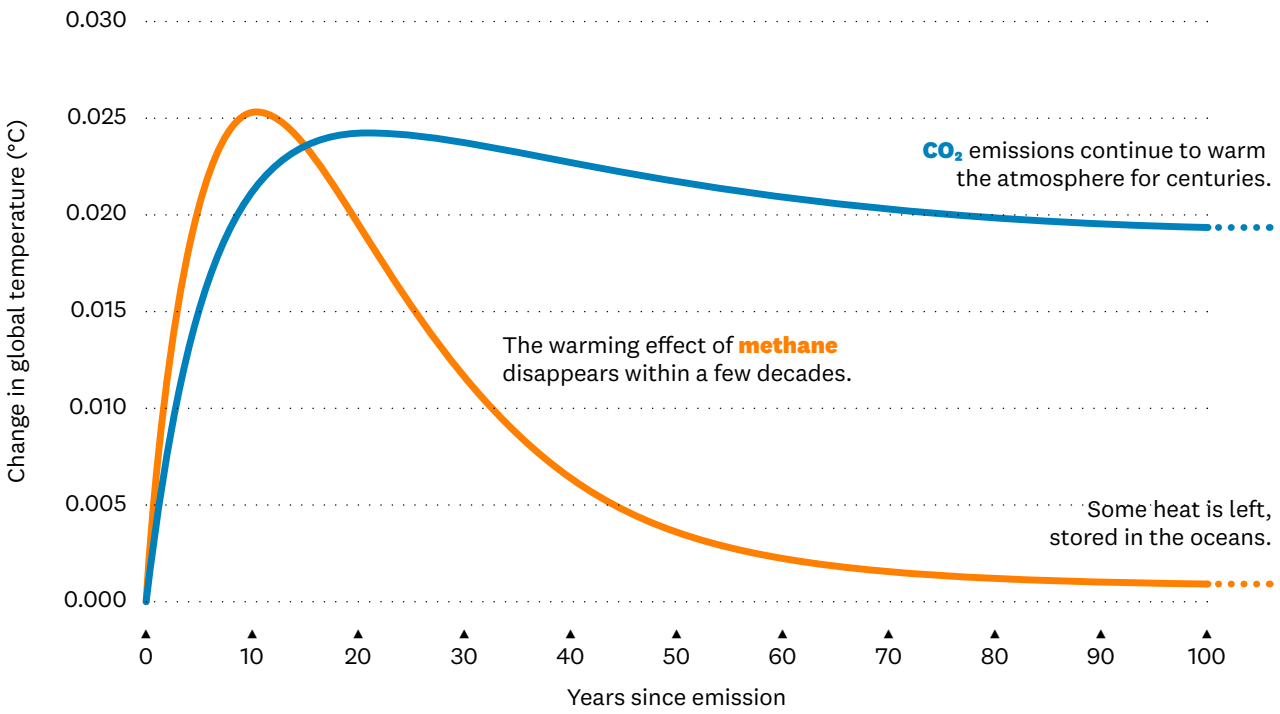


Figure 1. The outsized effect of reducing methane emissions. (Source: CICERO)

Among the handful of industries responsible for significant methane emissions, agriculture stands as the largest source, with livestock, primarily cattle and pork, driving these emissions.

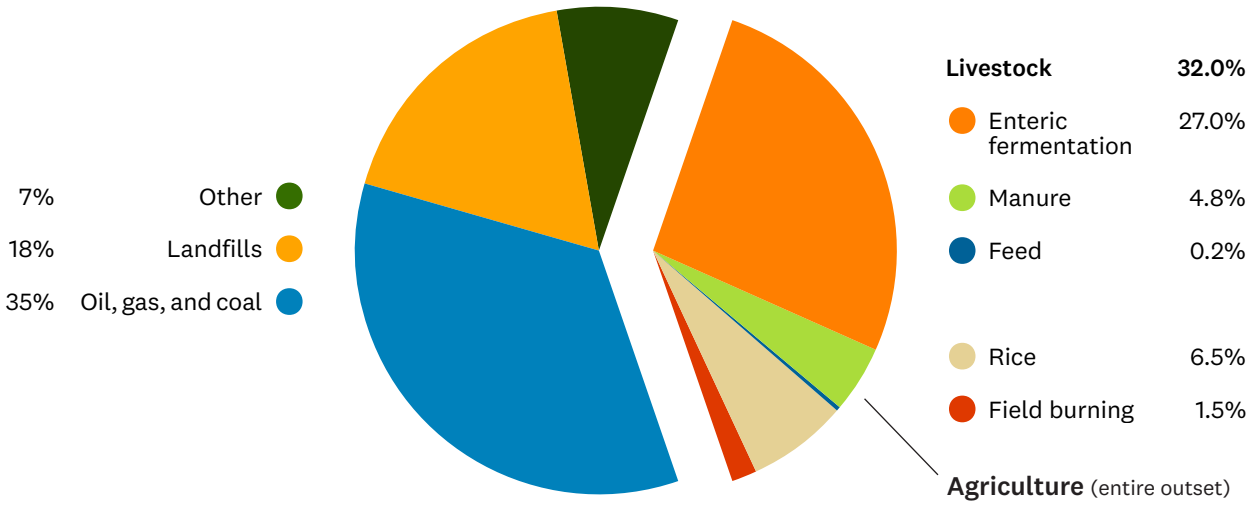


Figure 2. Methane emissions by industry sector. (Sources: Data from WRI and FAO)

Within the food sector, methane emissions from cattle and other ruminants often represent a substantial proportion of total emissions for food companies sourcing meat and dairy products, creating both risks and opportunities. For example, more than half of Danone's total emissions are from dairy, with methane from dairy contributing about a quarter of total emissions.

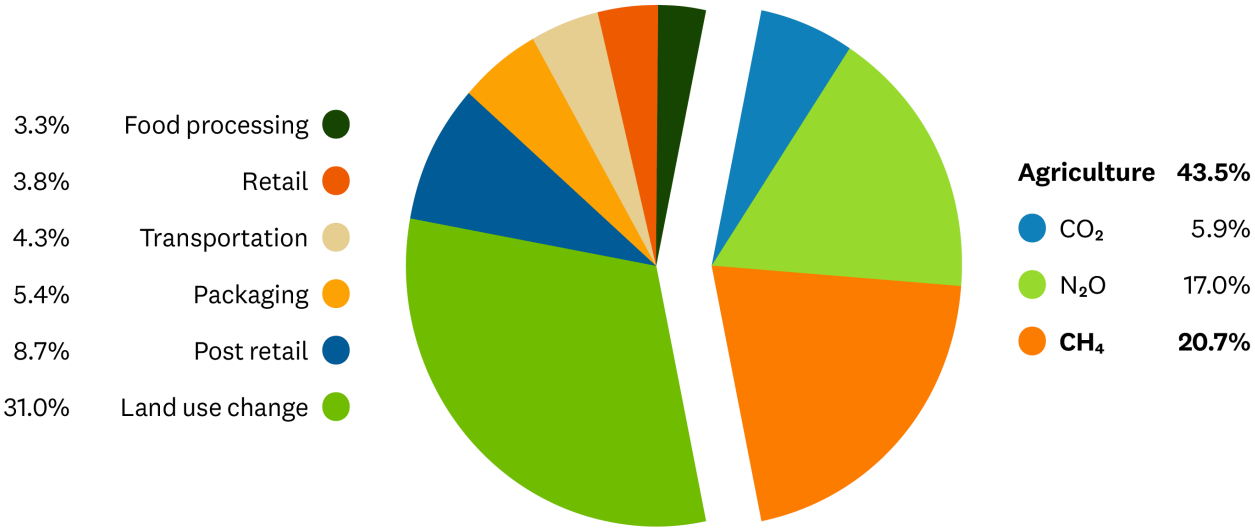


Figure 3. The proportion of methane to the food sector's total emissions. (Sources: Data from Crippa et al. (2021) and WRI)

Business case for addressing livestock methane

For food companies, the business imperative to address methane emissions has never been clearer. Companies that tackle methane emissions position themselves to navigate an increasingly complex regulatory landscape while building more resilient operations and supply chains and ensuring their long-term business value.

The stakes of inaction are equally clear. Emissions from agriculture and their contribution to climate change pose business risks to food companies and their investors and lenders. These risks are outlined in the Global Sector Strategies: Recommended Investor Expectations for Food and Beverage report by Ceres and PRI. Food companies sourcing livestock are particularly exposed to a number of risks if they are unable to mitigate methane emissions, and companies are beginning to note that methane emissions from livestock are material to their business risks.

The risks

Operational

Climate change poses a direct threat to livestock health and productivity, disrupting feed availability, reducing quality, increasing heat stress, spreading diseases, and causing higher mortality during extreme weather events. Extreme weather events have and will continue to disrupt the food sector's supply chain, resulting in increased prices for commodities. The U.S. beef herd hit a historic low in 2024 because of rising temperatures and drought and milk processors reported low milk supply because of heat stress, which reduced animal productivity.

Regulatory

While agricultural emissions are not currently federally regulated in the U.S., governments worldwide and some U.S. states are increasingly enacting strong climate policy. Future policy measures may include subsidies for low-carbon farming, carbon taxes, or cap-and-trade systems. These laws aim to shift agriculture to cleaner, more resilient practices by incentivizing farmers to reduce emissions and penalizing inefficient operations.

Regulatory risks for companies unprepared for these changes could include high costs for having to rapidly drive down emissions in line with requirements, compliance penalties, and lost opportunities (in the case of cap-and-trade). Recent regulations include:

- California legislation passed in 2016 to reduce methane emissions from the dairy industry by 40% by 2030 through improved manure management and reduced enteric methane. It encouraged voluntary participation to reduce on-farm methane emissions until 2024 when the regulation became mandatory.
- A carbon tax on agriculture, introduced in Denmark, in an effort to achieve net zero by 2070. Higher methane-emitting farms, such as those producing dairy, beef, and pork, will pay higher tax than lower emitting farms, such as poultry and crops. Revenue from this tax will be used to defray some of the costs of transitioning to practices to reduce emissions.

Reputational

Consumers and investors are increasingly aware of the environmental impacts of meat and milk production and want to see food companies address their negative impacts, including methane emissions. Lack of a plan to reduce total and livestock methane emissions and public disclosure of the steps the business is taking opens a food company to reputational risk and accusations of greenwashing. Companies that do not address these impacts run the risk of negative publicity that could impact their brand reputation and expose them to the risks of losing relevance and being perceived as not innovative or responsive to consumer preferences.

This reputational risk has also extended to institutions that finance the livestock sector. Banks have received scrutiny for continuing to provide new credit to producers of meat, dairy, and animal feed. Critics claim that emissions from livestock undermine the banks' environmental commitments and increase their exposure to risk.

Litigation

Increasingly, legal actions are being taken against high emitting companies, including food companies, that may be responsible for escalating climate-related damages. Food companies sourcing livestock products are facing ligation for inadequate disclosure of plans to reduce methane and total emissions in line with stated goals to reduce emissions and climate risk. Negative publicity from lawsuits further exposes companies to reputational damage.

- JBS, the world's largest beef producer, faces litigation, as well as brand reputation risk from a suit by the state of New York for misleading the public on the business' impact on the environment to boost profits, citing that the company has no viable plan to reduce carbon pollution despite a public goal of net zero by 2040.

- Tyson faces a similar lawsuit from nonprofit Environmental Working Group for failing to disclose a credible plan to reach net zero emissions by 2050 as claimed and marketing "climate-friendly" beef.

Market

Consumers are choosing brands that align with their beliefs. If a product does not meet expectations for sustainability (including options that have lower climate impact), consumers may not just switch to other options. Companies sourcing livestock that fail to adapt to changing consumer demand with innovative products and action to reduce total and methane emissions risk losing market share.

Similarly, suppliers failing to address emissions and methane may be at risk of losing contracts due to not meeting their customers' sustainability standards. Increasingly, downstream food companies including retailers and restaurants are setting targets to reduce their scope 3 emissions and changing procurement strategies if their current suppliers are not reducing emissions. Some upstream dairy and beef companies have begun reducing total and methane emissions after being approached by customers with emissions reduction targets.

Identifying companies with exposure to livestock methane in their supply chains

Throughout the food value chain, from farm to retail, companies sourcing dairy, beef, and pork face varying degrees of methane-related climate risk based on the products that the company offers. For financial institutions, understanding which food companies face the greatest methane exposure is crucial for managing climate risk. The following section maps out the food sector landscape, revealing which sub-industries in the sector have significant livestock methane exposure in their supply chain. (See graphics on page 10.) Using this insight, investors and lenders can better identify priority companies and capitalize on engagement opportunities.

Packaged foods and meats

Packaged foods and meats companies have a variable exposure to methane emissions, depending on the diversity of products they produce.

- **Companies that produce packaged foods and meats primarily offering beef, dairy, or pork products are among the most exposed in the food sector.** Methane will have a significant impact on the company's total and scope 3 emissions. Many of these businesses control everything from processing to marketing, running their own farming operations alongside processing and packaging. This vertical integration means they have both greater exposure to methane risks and more direct control over solutions.

- **Companies in the packaged foods and meats industry that offer diversity of products have a moderate methane exposure compared to their food sector pieces.** While they process beef, dairy and pork, they also work with low-methane commodities such as cocoa, sugar and wheat. This product diversity results in a smaller, still significant, methane impact on their total emissions and supply chain than companies focused primarily on animal products.

Food retail

Food retailers, including grocery and convenience stores, are on the high end of the exposure spectrum compared to other sub-industries, facing medium high exposure due to their meat and dairy product sales. These methane emissions substantially impact their total carbon footprint, particularly in their supply chain. For retailers pursuing externally validated emissions reduction targets, addressing livestock methane is crucial for meeting their climate goals.

Restaurants

Restaurants prepare and serve a diversity of food offerings and have a variable exposure to livestock methane. Reducing livestock methane will have a significant impact on reducing total emissions and will be required to meet emissions reduction targets. For restaurants with more diverse menus, methane from livestock will be a smaller proportion of total emissions but will still be impactful. If the restaurant has any dairy, beef, or pork on the menu, they will be in the top five highest-emitting commodities but individually will have a relatively lower contribution to total emissions due to a diverse supply chain.

Figure 4. Methane Exposure to Food Companies

Product offerings	Sub-Industry	Example companies	Severity
Mostly dairy, beef, or pork	Packaged foods and meats: packaged meats segment	JBS Dairy Farmers of America	High
	Restaurants	McDonald's Pizza Hut	
	Packaged foods and meats: packaged foods segment	Danone Nestlé Tyson	Medium High
Diverse offerings including dairy, beef, and pork, as well as other commodities	Food retail	Kroger WaWa	
	Packaged foods and meats: packaged foods segment	General Mills Hershey	Medium
	Restaurants	Chili's Starbucks	

Figure 5. Breakdown of Methane Emissions Exposure by Sub-Industry

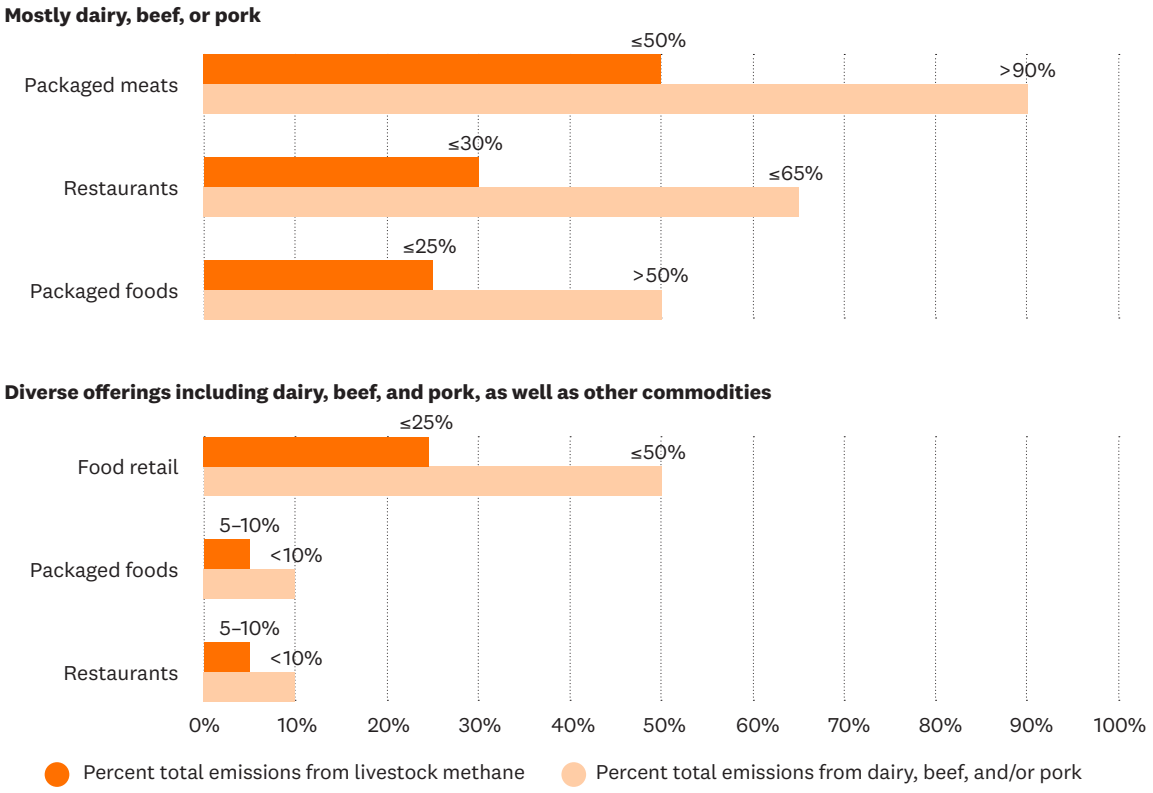


Figure 4 + 5. Methane exposure for food companies. Emissions profiles are estimated based on a selection of publicly disclosed emissions from companies in each sub-industry. Emission data for food retail sourced from McKinsey Decarbonizing Grocery. If methane was not explicitly disclosed, methane was estimated from the proportion dairy, beef, and pork comprised total emissions and multiplied by 0.50. (Methane is approximately 50% of emissions from livestock production.) Emissions profiles are estimates and intended to assist financial institutions to identify companies with exposure to livestock methane within their supply chains.

Strategies for reducing methane emissions in the food supply chain

A company's approach to reducing methane from their supply chain must be tailored for success based on several factors, including the company's position in the value chain, size, location, and ambition to act on business challenges caused by worsening and costly heatwaves, floods, drought, storms, and disease outbreaks. Key steps include:

1. **Assess emissions:** Companies should estimate total emissions and set targets to reduce emissions.

2. **Develop Climate Transition Action Plans (CTAPs):** CTAPs serve as strategic roadmap to reducing emissions, mitigating risks, and boosting operation and supply chain resilience. CTAPs have emerged as a crucial tool to increase accountability and planning in corporate climate action.

3. **Implement sector specific solutions:** For food companies with dairy, beef, and pork, CTAPs should include specific actions to address methane in three strategies: engage the supply chain, accelerate innovation, and advocate for public policy. Ceres' report, The Investor Guide to Climate Transitions Plans in the U.S. Food Sector, is a resource for companies in the food and agriculture sector to develop and disclose CTAPs.

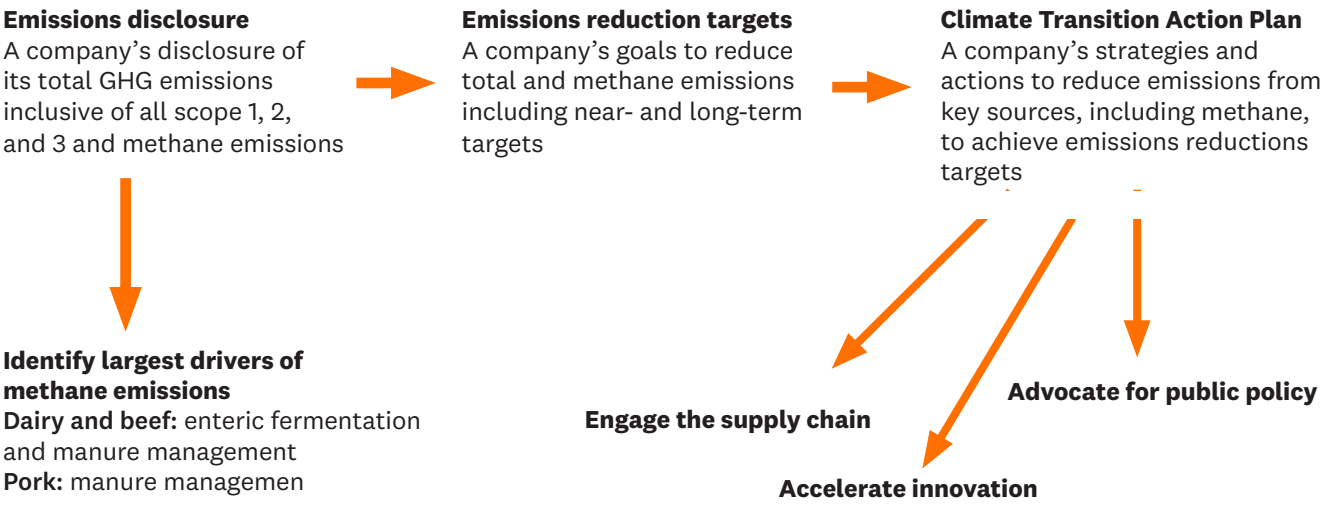


Figure 6. Key steps for companies to reduce methane emissions in the supply chain.

1. Assess methane emissions

Companies begin addressing emissions in their supply chains by assessing their scope 1 and 2 emissions (which are direct emissions from company-owned vehicles, buildings, and other operations, as well as indirect emissions associated with the company's energy use), and scope 3 emissions, inclusive of all relevant scope 3 categories, including from agriculture. Further disaggregating emissions by gas (carbon dioxide, methane, nitrous oxide) and commodity will allow companies to identify primary sources of emissions, like high-methane commodities such as dairy, beef, and pork. Food companies sourcing dairy, beef, and pork should set targets to reduce total emissions (including optional but recommended methane reduction target), which will be met by implementing actions to reduce livestock methane as outlined in their CTAPs.

The Environmental Defense Fund (EDF) developed guidance for dairy companies to account and disclose emissions from the dairy supply chain.

- Danone reported its total emissions of 21.9 Mt CO_2e in 2020, with methane from dairy comprising approximately 25% of total emissions. Danone has set Science-Based Targets initiative (SBTi) targets to reduce absolute scope 1 and 3 emissions by 30% by 2030. Further, Danone has set specific reduction targets for GHG emissions related to land use and land-related activity [Forest, Land, and Agriculture (FLAG)] and methane from the dairy supply.

- **Nestlé** reported that methane emissions accounted for 34% of its total ingredients sourcing in 2023. Nestlé has set an SBTi target to reduce total net emissions by 50% by 2030. The company disclosed that in 2023 it reduced GHG emissions across its value chain by 13.5%, including 15.3% reduction in methane, in part by addressing FLAG emissions through collaborations with suppliers and farmers on ingredients, including dairy.

2. Address methane within a CTAP

For food companies that produce or source dairy, beef, or pork, strategies to address methane emissions should be included in a CTAP.

- Dairy Methane Action Alliance (DMAA) is a coalition of companies in the global dairy supply chain that was formed to advance accountable, transparent, and ambitious climate action in the food industry. Member companies committed to account for and publicly disclose their methane emissions, as well as create comprehensive methane action plans.

Engage the supply chain

As scope 3 emissions make up 95% or more of many food companies' total emissions, a supply chain engagement strategy is critical to meeting emissions reduction targets and strengthening supply chain resilience. With a diverse supply chain, supplier engagement may look different depending on the location of the company in the value chain. Some companies will be well positioned to engage directly with farmers to adopt methane reducing technology and practices while others will rely on engaging with other food companies in their supply chain to achieve methane emission reduction.

Encourage farmers to implement existing technology now

Currently available technology and practices can reduce cattle emissions by 15-20%. Practices that maximize production, such as reducing the time it takes for an animal to reach slaughter weight or increasing milk production per cow, reduce emissions intensity (methane per unit of product), which is a key step in reducing total emissions. Beyond climate, these actions can improve animal performance and farm profitability by reducing inputs and optimizing animal nutrition, health, reproduction, and longevity. Technologies to reduce enteric and manure methane, such as feed additives and anaerobic digestors, are described in the Ceres' report Cultivating Innovation: Practical Solutions for Companies to Reduce Agricultural Emissions.

- Chocolate producer Barry Callebaut implemented its VisionDairy program to engage suppliers and partners in its milk supply chain on animal welfare, farm performance, and environmental stewardship, including by providing incentives to farmers who reduce methane using feed additives and carbon dioxide via regenerative practices.

- Retailer Tesco, a major grocery retailer based in the U.K., is partnering with one of its largest milk producers to pilot a methane-reducing feed additive, Bovaer, from dsm-firmenich. If the pilot is successful, Tesco plans to expand use of the feed additive across the Tesco Sustainable Diary Group, a group of 400 British dairy farmers who receive premium price for their milk so that they can invest more in animal health and welfare, carbon reduction, and biodiversity.

- Solutions provider dsm-firmenich is partnering with many global cooperatives and companies to pilot and scale Bovaer, including Dairy Farmers of America in the U.S., FrieslandCampina, Arla, Nestlé, and Bel Group in Europe, Mengniu & Modern Dairy in China, and Meji in Japan.

Develop a financing structure for farmers to promote adoption of methane reducing practices

When new technologies and practices add cost to production, farmers will need incentives or financial support to implement them. In addition to resilient financing solutions available for agribusiness, food companies should help defray the costs of efforts to reduce methane emissions at the farm to improve adoption of technologies.

- Partner with peer companies, suppliers, or customers (for instance, a packaged food and meats company partnering with a retailer) to invest together in emission reduction projects on farms. This will spread out the cost of methane mitigation practices and allow each participant to claim proportional emissions reductions. These types of programs also allow downstream companies to participate in collective strategies to finance emissions reduction projects on farms.

- Cooperatives partnering with downstream customers: Maryland and Virginia Milk Producers Cooperative Association partnered with customers throughout the value chain, including Turkey Hill, Giant, and Starbucks, and the Alliance for the Chesapeake Bay, to fund sustainability projects on the farm through cost-sharing opportunities, direct funding from customers, and grants from government programs. These projects are aimed at promoting best practices among farmers to reduce the impact from milk production and improve water quality.

- Packaged foods and meats company partnering with cooperatives and manufacturers: Mars has partnered with dairy cooperatives and manufacturers globally to work with farmers to adopt practices and technologies that reduce methane emissions, such as improving feed ingredients and introducing feed additives. Mars also prioritizes suppliers who embrace sustainable practices. These partnerships have helped Mars reduce its total emissions by 16% in 2023 compared to its 2015 benchmark, setting the company on the path to meet its target to reduce total emissions by 50% by 2030.

- Retailer partnering with packaged foods and meats companies and cooperatives: One example is the partnership between Ahold Delhaize, owner of grocery stores on the east coast of the U.S., Kellanova (recently acquired by Mars), a large packaged foods and meats company with a diverse supply chain, and Barlett, a grain cooperative. Together, these companies are working to help North Carolina wheat farmers adopt regenerative practices that improve soil health and lower greenhouse gas emissions. Wheat from these farms will be used to make Kellanova's Cheezits and Club Crackers that will be sold exclusively at Ahold Delhaize's U.S. grocery stores starting in 2025. The food retailer also recently announced a similar partnership with General Mills to invest together in targeted supply sheds to accelerate the adoption of regenerative agriculture practices for key commodities.

- Implement procurement policies to reduce the risk to farmers to transition to low-methane practices, such as offering long-term contracts and adopting a yield-gap guarantee which would guarantee farmers a threshold price for dairy products if their production falls below an expected yield, providing them with the financial cushion to implement these solutions.

  Downstream companies can also implement procurement policies with their suppliers to help reduce their emissions, such as by setting maximum methane intensity ranges for dairy, beef, and pork or requiring GHG emissions data from suppliers.

- Identify federal or other government programs to share the cost of implementing practices (including methane mitigation solutions) with farmers, such as Partnerships for Climate-Smart Commodities and the Environmental Quality Incentives Program (EQIP).

Signal demand

The path to methane reduction can stall out at the farm level not from lack of interest but because of the risk to farmers in adopting new technology or production practices. By offering premiums and committing to purchasing low-methane ingredients, companies can lower the risk of investments required to produce those products, easing the transition for farmers in implementing methane mitigation strategies.

- The First Movers Coalition for Food is creating demand through purchasing agreements from multi-national corporate and research partners (including Nestlé, Danone, Cargill, and others) to accelerate the adoption of sustainable farming practices.

Accelerate Innovation

While current technology can successfully reduce methane emissions on farms, further innovation will be required to achieve the global goal of reducing methane emissions by 30% by 2030 and 50% by 2050. Novel solutions are needed to accelerate the pace and increase the scale and availability of methane reductions in agriculture, with a specific focus on developing technologies that reduce emissions in grazing cattle.

Companies can leverage methane reduction initiatives to enhance operational efficiency and strengthen the bottom line, such as through reducing waste in the supply chain. By investing in and implementing innovative methane reduction technologies, business can develop cutting-edge products and processes that provide a competitive advantage and expand market reach. Companies can support innovation in direct and indirect pathways:

- Directly fund research at public or private research institutions to pilot potential late-stage innovation.
  - Nestlé's Institute of Agricultural Sciences researches ways to reduce dairy emissions, including methane-reducing feed supplements, manure management, and improved diets. The Institute works closely with external stakeholders, such as farmers, universities, research organizations, start-ups, and industry partners, to test solutions before they are ready to be implemented on farms in Nestlé's larger supply chain.

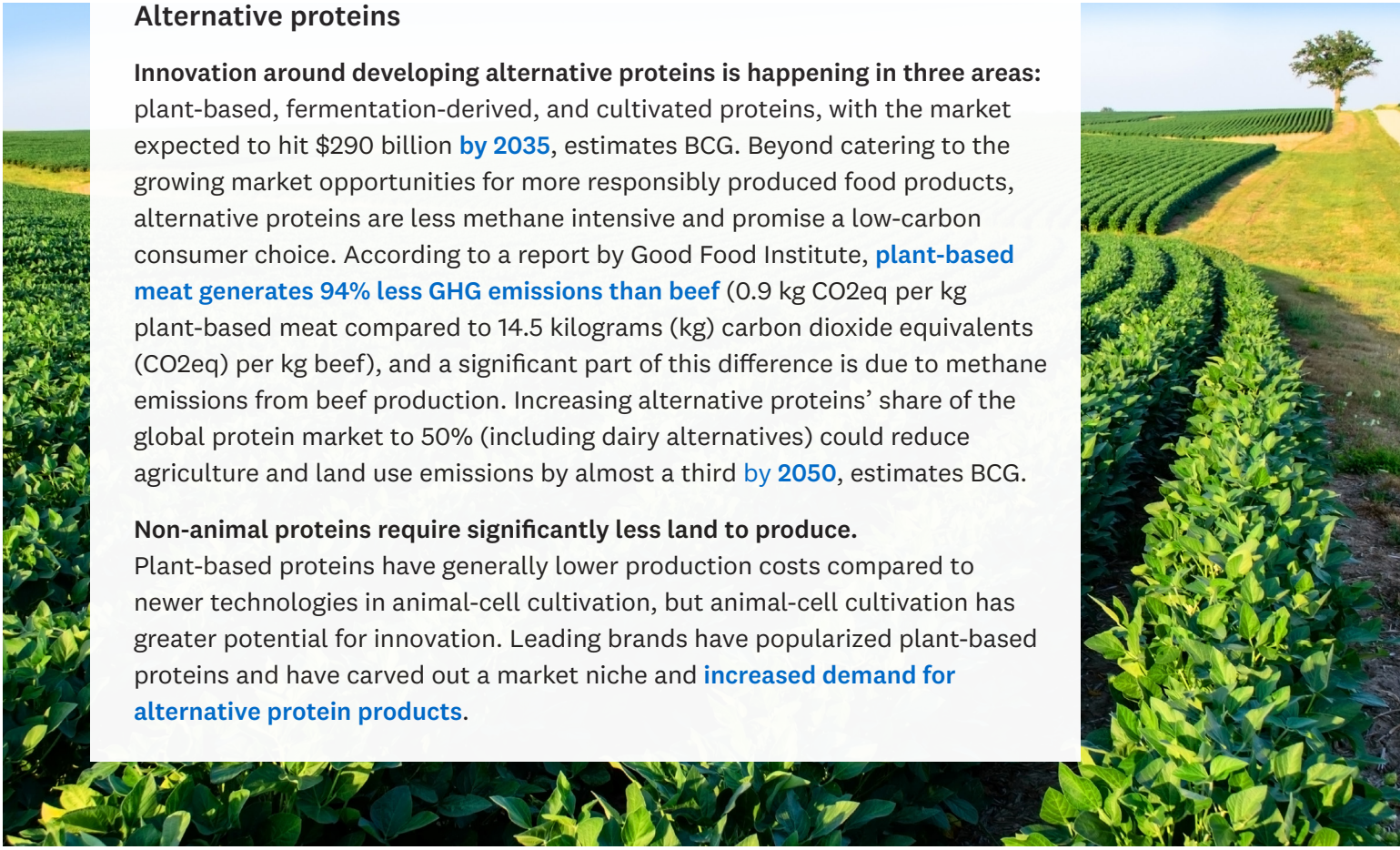
- Invest in early-stage, emerging methane-abating technologies.
  - Danone Ventures is a corporate venture group within Danone seeking to ensure a strong future for food. The group has invested in methane reducing technology providers such as Symbrosia, a seaweed-based feed additive to reduce methane emissions, and ImaginDairy, a producer of animal-free dairy products.

- Innovate around plant-based and alternative protein products (see call out box) to offer consumers a more diversified product mix and further reduce emissions from livestock.
  - Hershey worked to replace milk solids with roasted grain flour to develop their dairy-free chocolate.

- Participate in public-private partnerships and collaborate with other companies to identify industry-wide issues and goals and pool resources to fund research.
  - Foundation for Food & Agriculture Research's (FFAR) Greener Cattle Initiative supports research on the cattle microbiome, breeding practices, feed additives, and other topics.

- Advocate for funding public research institutions to conduct basic research and develop new technology.

- Support pilot testing and development of methane measurement, monitoring, reporting, and verification infrastructure.



Alternative proteins

Innovation around developing alternative proteins is happening in three areas: plant-based, fermentation-derived, and cultivated proteins, with the market expected to hit $290 billion **by 2035**, estimates BCG. Beyond catering to the growing market opportunities for more responsibly produced food products, alternative proteins are less methane intensive and promise a low-carbon consumer choice. According to a report by Good Food Institute, **plant-based meat generates 94% less GHG emissions than beef** (0.9 kg CO2eq per kg plant-based meat compared to 14.5 kilograms (kg) carbon dioxide equivalents (CO2eq) per kg beef), and a significant part of this difference is due to methane emissions from beef production. Increasing alternative proteins' share of the global protein market to 50% (including dairy alternatives) could reduce agriculture and land use emissions by almost a third by **2050**, estimates BCG.

Non-animal proteins require significantly less land to produce. Plant-based proteins have generally lower production costs compared to newer technologies in animal-cell cultivation, but animal-cell cultivation has greater potential for innovation. Leading brands have popularized plant-based proteins and have carved out a market niche and **increased demand for alternative protein products**.

Advocate for public policy

Supportive public policies can increase the effectiveness and affordability of methane action by unlocking government support, smoothing the transition to mitigation for farmers, and accelerating innovation. Leading companies are advocating for and ensuring the effective implementation of vital policies because they know that they are critical to helping them meet their own business goals, reducing climate risk, and making the industry more competitive. Companies can advocate for supportive public policies in the following ways:

- Support policy initiatives and programs that enable efforts to mitigate livestock methane emissions, such as those that:
  - Advance methane measurement and monitoring methods and improve access to livestock emissions data.
  - Provide financial and technical support for implementing methane solutions.
  - Fund public agricultural research and development in appropriations bills, the Farm Bill, and other legislation and initiatives.
- Support regulatory reform to streamline the approval process for feed additives and other methane solutions and ensure an efficient and safe regulatory process.
- Engage trade associations and industry groups to align their lobbying activities with methane reduction and goals to avoid worst financial impacts of climate change.

Engaging companies

To address their own exposure to climate risks and ensure they are creating good returns for beneficiaries and clients, financial institutions invested in companies exposed to livestock methane should engage those companies on their methane accounting, disclosure, and action plans to reduce emissions. The information provided by the companies will give insight to their preparedness to address this potent greenhouse gas and its contribution to their total emissions.

Engagement questions to assess a company's action on methane

After identifying companies with the biggest exposure to livestock methane, financial institutions can use the questions outlined in this section to engage companies and assess a company's current status, future plans, progress, and ambition to mitigate their climate-related risks. In addition to questions to ask companies, this section includes rationale and context for the information gathered, as well as critical considerations which may indicate companies are not considering methane reduction.

Question

How is methane included in an existing climate transition action plan?
If it is not, is there a plan to address methane emissions in a future CTAP?

A robust CTAP should address how the company will mitigate GHG emissions in the near term (5-10 years). CTAPs should include emission disclosure, including emissions broken down by gas and commodity, emission reduction targets, and concrete actions to meet emissions reduction targets. Since methane acts differently from carbon dioxide to cause temperature warming, actions to mitigate methane will differ from those for carbon dioxide. Companies should develop a plan to address emissions from high-methane commodities such as dairy, beef, and pork. Addressing methane emissions will contribute to a company's total emissions reduction; therefore, specific methane reduction targets could be a useful tool to drive total emissions reductions. Companies should include a variety of pathways to reduce food production-related emissions, such as feed additives to reduce enteric methane and regenerative agriculture practices to reduce carbon dioxide emissions.

Critical considerations:

- The company has not disclosed an assessment of its scope 3 emissions hotspots, including high-methane commodities such as dairy, beef, and pork.
- The company has high exposure to livestock methane (such as packaged foods and meats offering primarily dairy, beef, or pork), but the CTAP does not include actions to address methane emission. As a result, the plan falls short of fully supporting the company's emissions reduction target, as it focuses solely on reducing carbon dioxide but not methane emissions.
- The CTAP only mentions regenerative agriculture practices to address agriculture emissions. While regenerative agriculture practices are good for reducing carbon dioxide and generating other soil and water benefits, they do not reduce methane emissions and should not be considered when describing methane reducing actions.

Question

What efforts has the company made to identify and engage with high-emitting suppliers as part of a plan to reduce methane emissions?

Supply chain engagement is critical to reducing methane emissions, as most, if not all, methane emissions for food companies are from the value chain. Depending on the sub-industry, supply chain engagement will look different for every company. Packaged foods and meats companies with high exposure to livestock should engage directly with farmers and ranchers to reduce methane emissions. Packaged foods and meats companies with low exposure, as well as restaurant, food distribution, and retail companies can engage with co-ops, processors, and manufacturers to address methane in their supply chain. Companies can engage with suppliers to partner on advancing methane reducing practices, such as financing and farmer outreach. Identifying workable financing structures is going to be critical to fund practice adoption with farmers and may take the form of premiums for low-methane products, cost-sharing with companies along the value chain, government subsidies, or grants.

Critical considerations:

- The company only includes plans to reduce scope 1 and 2 emissions.
- The company cannot identify which suppliers are highest emitting in supply chain.
- The company does not engage suppliers of dairy, beef, and pork on methane.
- The company does not disclose how they plan to finance or support practice adoption.

Question

What is the company's innovation strategy for reducing livestock methane? How do potential new technologies contribute to emissions reduction targets?

New technology is needed to meet ambitious reduction targets, and companies must have a clear strategy for investing in innovation to plan for the future and meet long-term emission reduction goals. An innovation strategy can include directly and indirectly supporting research on new technology, pilot testing new-to-market technology, and building new partnerships with stakeholders in the value chain. Adopting new technology, partnerships, and processes will take time to implement. Early, gradual action will smooth the path to success and prevent abrupt and potentially expensive measures to meet late-stage requirements. If companies have already begun testing new technology, they may have some early results from pilot trials, plans to scale up technology and practice adoption, and an understanding on how these innovations can help them meet emissions reduction targets.

Critical considerations:

- The company does not have any plans to conduct pilot testing on new technology or practices.
- The company does not have an innovation strategy that includes actions to reduce livestock methane.

Question

How does the company engage with policy advocacy?
What policies or bills does the company support?
What industry or trade groups does the company engage for lobbying activity?

Public policy advocacy helps lawmakers understand the business need for legislation that removes roadblocks, accelerates the pace of adoption for low-methane technologies and practices, and helps bolster competitive advantages. Companies can advocate for research funding and regulatory reform. Trade associations lobby on behalf of their member companies. Companies should also be aware if trade associations are equally advocating for policies that align with their goals to reduce methane emissions.

Critical considerations:

- The company does not engage on policy issues.
- The company engages with trade or industry groups that have lobbying activity in contrast to the company's climate goals.

Engagement steps on CTAPs and methane emissions

Companies with CTAPs that address methane are responsible business leaders and should be encouraged to strive for maximum ambition with cutting-edge climate action. In engagements, financial institutions can **encourage further refinement of methane action**, such as:

- Request disclosure of progress towards total emission reduction targets and how methane is contributing to meeting those targets and, optionally, set a goal for reducing methane emissions.
- Assess the current action plan and revise for successes and failures.
- Continue adopting technologies and practices as new developments are released.

For companies that have an existing robust CTAP but are not currently addressing methane, action on methane will allow them to meet their targets, potentially ahead of schedule, or even increase the ambition of their targets and business goals. In engagements, financial institutions can **encourage the company to include specific methane action in their CTAP**, such as:

- Request disclosure on the impact of livestock methane reduction on total emissions reduction and optionally set a goal for reducing methane emissions.
- Develop a strategy to engage their supply chain.

For companies that do not have emissions reduction targets or a CTAP, financial institutions can **encourage the company to set targets and create a comprehensive CTAP.** As a starting point, companies can focus on developing CTAPs for their highest priority emissions and focus specifically on addressing methane emissions from livestock.

For further support and resources, financial institutions can join Food Emissions 50, an investor-led initiative to engage 50 of the largest emitting companies in the food sector. The Food Emissions 50 website provides additional resources from Ceres on topics relevant to engagements on climate transition plans in the food sector, including deforestation and land use change.