



Climate

As our climate continues to change, it's becoming increasingly clear that our food system needs to change along with it. From our place at the heart of the agricultural supply chain, Cargill is uniquely positioned to lead the transformation of our food and agriculture system to address the challenge.

Our approach

Cargill's commitment to climate action spans our entire business and focuses on feeding a growing global population more sustainably.

Climate change presents both immediate and long-term risk to the vitality of our food system. More frequent and severe weather events, changing growing seasons, and declining soil health all threaten the ability of farmers to nourish the world.

Our approach to climate action focuses on empowering farmers through **mitigation and adaptation**. We are committed to helping them produce more food, more sustainably, to adequately feed a growing global population. Our efforts also encompass the other steps in the journey from farm to fork, including how we process and move food and other vital goods around the world with a lower carbon footprint.

Cargill takes a holistic approach to addressing climate change that includes four strategic areas:



Our work contributes to the following SDGs:



Reducing emissions and sequestering carbon

We are taking action across our operations and supply chains to reduce our Scope 1, 2, and 3 greenhouse gas (GHG) emissions against the measurable and time-bound, science-based targets detailed in this report⁹. This includes steps to scale regenerative agriculture in our supply chains, implement process efficiency and technologies in our facilities, expand the use of renewable energy projects at our plants, and decarbonize our ocean transportation business.

Innovating new products and solutions

We are collaborating with customers and suppliers to better enable them to meet their GHG emissions reduction goals through the development of products created from more sustainable raw materials. We are advancing our capabilities by, for example, building out our Life Cycle Assessment (LCA) competencies and developing a carbon footprint screening tool for the research and development of our alternative protein products.

Scaling new markets

We continue to invest in emerging markets that help to decarbonize food, agriculture, and other sectors. We are providing more farmers with access to environmental markets through the expansion of Cargill RegenConnect[®] (see [Land and Water](#)). We're also growing the market for renewable fuels and nature-derived chemistries used for a wide range of applications, such as increased recycled asphalt content for roads and the replacement of petrochemical-derived ingredients in personal care products.

Supporting climate policy and collaboration

We promote decarbonization in agriculture, manufacturing, fuel, and energy sourcing, and advocate for public policies that align with our strategies. We support the Paris Climate Agreement and government actions to address climate change. We actively engage in several pre-competitive initiatives to reduce emissions across supply chains, such as the Midwest Row Crop Collaborative (MRCC), MIT Climate Consortium, and the Global Maritime Forum's Decarbonization Task Force.

Cargill conducts an annual assessment of our climate-related risks across our global operations, as well as upstream and downstream value chains, from a medium- and long-term perspective. This assessment is detailed in our [2023 CDP Climate Response](#)¹² and aligned to our TCFD Disclosure, which is included in the [Appendix](#) section of this report.

⁹ Scope 1 and Scope 2 refer to GHG emissions from our direct operations and from energy purchased from the grid, respectively. Our Scope 3 emissions include the footprint of all agriculture commodities we source from farmers, emissions related to the transportation of commodities and products, and emissions related to the use of the products we sell.

Scope 1 and 2

Our operations and energy purchases

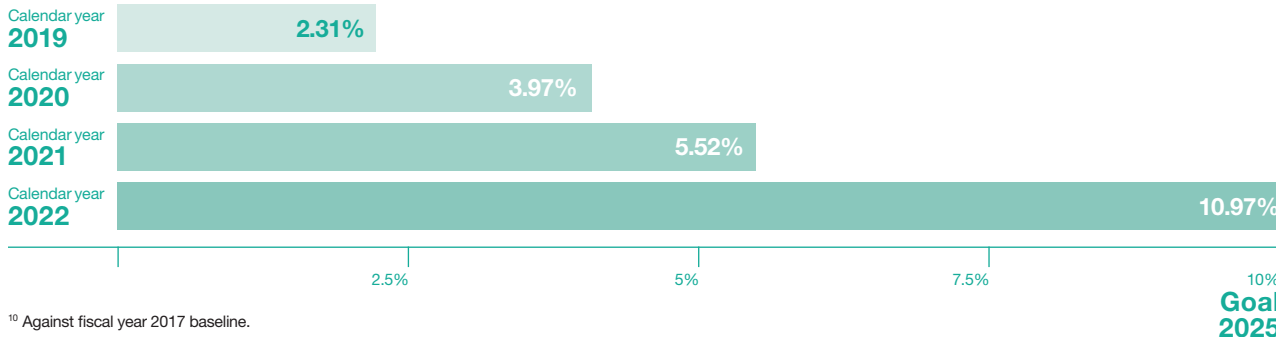
Cargill prioritizes efforts to reduce emissions across our global operations, including facilities that have the most impact on our Scope 1 and 2 emissions. Scope 1 and Scope 2 refer to GHG emissions from our direct operations and from energy purchased from the grid, respectively. Our Scope 1 and 2 target was set and approved by the Science Based Targets initiative (SBTi) in 2019 against a 2017 baseline.

This year, we exceeded our goal to reduce our absolute operational GHG emissions 10% by 2025, reducing emissions from our operations by 10.97% as of calendar year 2022 against our 2017 baseline. We attribute this accelerated milestone to the systematic implementation of process efficiency and technologies at our facilities, as well as the increased consumption of renewable energy at our plants. While we are proud of this achievement, we also acknowledge the opportunity for continuous improvement to ensure that we maintain our progress alongside future business growth.

Target and progress

Reduce absolute operational GHG emissions 10% by 2025¹⁰

Emission reduction progress¹¹



Adopting green electricity in Indonesia

Over the last year, Cargill has made strides in our efforts to source additional renewable energy. As one example, we have partnered with PLN, the Indonesian government-owned electric utility company, to supply bundled energy and Tradable Instruments for Global Renewables (TIGRs), which are energy attribute certificates obtained from renewable resources like wind, solar, geothermal, and hydropower. In 2022, Cargill purchased more than 70,000 megawatt hours (MWh) of clean electricity from PLN, supporting seven of our sites in Indonesia. This resulted in a reduction of more than 50,000 metric tons of CO₂e.

The renewable energy project in Indonesia is one of 15 Cargill projects online in 12 countries. This was accomplished primarily through the procurement of Power Purchase Agreements (PPAs) for wind and solar. Cargill has also executed four additional contracts for offtake from projects that will come online in the next two years. Once these projects are fully operational in 2024, we expect Cargill's renewable electricity mix will reduce our CO₂e emissions by more than 715,000 metric tons per year.

Company-wide, the renewable electricity consumed in our operations reduced our annual CO₂e emissions by approximately 300,000 metric tons in calendar year 2022.

This is the equivalent of removing more than 67,000 cars from the road for one year.

Transitioning to moist feed

In the United States, Cargill's corn wet mills have been selling moist feed derived from corn processing for years, providing valuable nutrition to cattle while eliminating the need for drying. A similar process change is being made in Europe, where we are exploring the production of fiber-rich feed from wheat processing for cattle. A thorough assessment has considered nutritional value, drying costs, product value, and site-specific GHG emissions. Our site in Wroclaw, Poland, for instance, has discontinued feed drying, resulting in annual savings of 7,000 metric tons of CO₂e. We are now assessing the feasibility of implementing this approach in other wheat processing sites. Additionally, our site in Songyuan, China, has recently adopted the production of moist feed, reducing emissions by approximately 7,000 metric tons of CO₂e annually.

Scope 3

Our supply chains

With agriculture, food, and transportation accounting for nearly one-third of total global emissions,¹² we believe our greatest opportunity for emissions reductions lies within our global supply chains. Our Scope 3 emissions include the footprint of all agriculture commodities we source from farmers, emissions related to the transportation of commodities and products, and emissions related to the use of the products we sell.

With an SBTi-approved goal of reducing our global supply chain emissions 30% by 2030,¹³ measured per ton of product, we are investing in products, services, and programs that are scalable and measurable. As a partner to farmers and customers, we collaborate to find workable solutions that meet our respective business objectives, such as increased productivity and meeting emissions reductions targets. We prioritize our efforts in supply chains that have the greatest impact and opportunity for change, including animal protein, row crop farming, aquaculture feed, and ocean transportation.

We are also working to help advance the industry's progression of standardized metrics such as land-related emissions. Cargill has advised on the development of both SBTi's Forest, Land and Agriculture (FLAG) protocol and the GHG Protocol Land Sector & Removals Guidance. For the latter, Cargill participated as an Advisory Committee Member for two years, including as a pilot test company to provide feedback on the draft protocol. Once the final guidance is published in 2024, we will work to incorporate land-related emissions in our Scope 3 footprint.

¹² Intergovernmental Panel on Climate Change (IPCC) ¹²

¹³ As outlined in this report, we have reduced total Scope 3 emissions by 0.43M metric tons of CO₂e from a fiscal year 2017 baseline. We will report a percent reduction against baseline once we complete our full Scope 3 inventory.

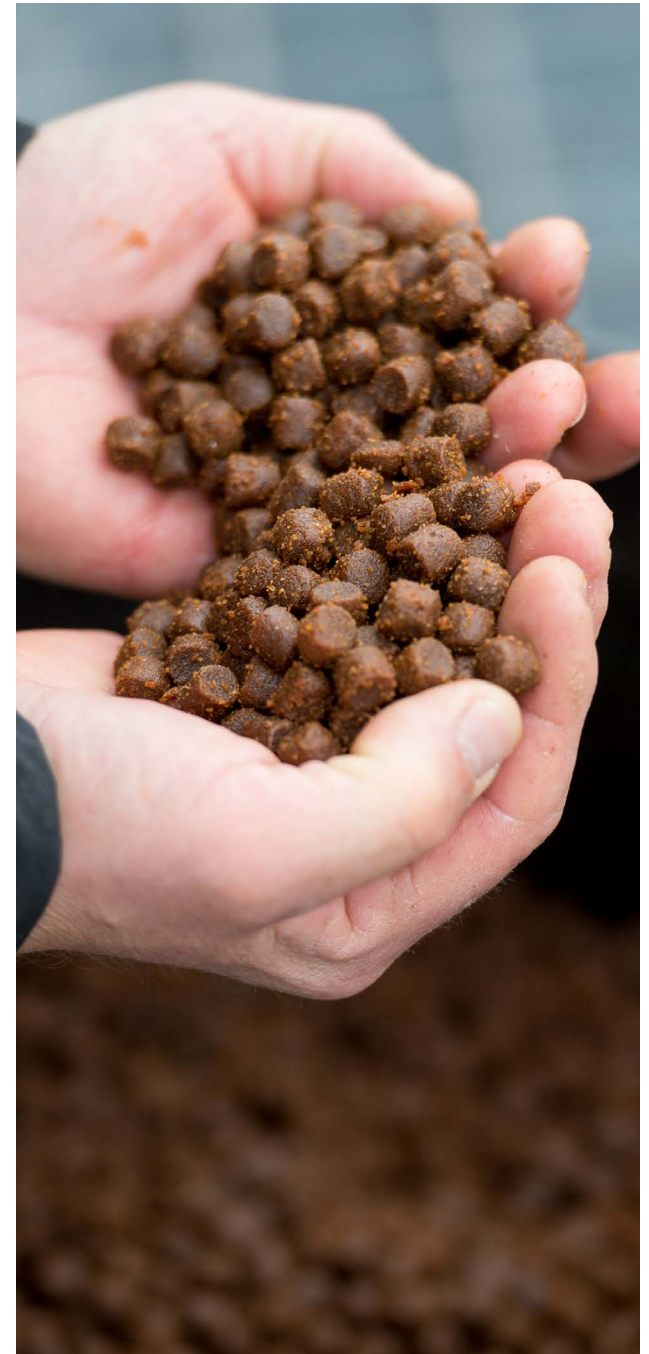
Helping seafood farmers chart a path to a low-carbon future

Seafood is an important source of protein; however, the feed used in aquaculture can be relatively carbon intensive. Cargill's **SeaFurther™ Sustainability** ¹⁴ initiative aims to bring together customers and suppliers worldwide to produce sustainable seafood and minimize its impact. With a goal to reduce the carbon footprint of customers' farmed seafood by 30% by 2030, we provide tailored guidance that supports farmers' businesses while enabling a reduction in their emissions.

This year, we conducted a pilot project to focus on regenerative agriculture methods across eight farms in the United Kingdom, representing 1,500 hectares for the cultivation of wheat and rapeseed. Both wheat and rapeseed are key ingredients in salmon feed. This resulted in a reduction of 1,000 tons of CO₂e. This pilot has helped our customers understand the potential of regenerative agriculture to reduce the carbon footprint of their fish feed. We are now working to scale up the initiative, reaching additional farmers in the U.K. and expanding to France for the 2024 crop with the goal of reducing emissions by 10,000 metric tons CO₂e. This will enable us to support more customers in their emissions reduction goals.

“SeaFurther has helped us trace and certify our feed sources with more accuracy for better reporting; the program has assessed our sites and identified hot spots where we can reduce emissions relatively easily and helped bring in strategy to do this; and it has connected us to more localized and regenerative agricultural sources to further improve our long-term efficiency.”

Cate Cannon
Sustainability Manager, Kames Fish Farming Ltd, Scotland



Our vision is to make regenerative agriculture commonplace across our global supply chains, helping farmers produce food more sustainably while increasing their profitability and resiliency.

Soil has the potential to be a natural solution to climate change. Regenerative agriculture is a way of farming that disturbs the soil as little as possible, providing myriad positive environmental outcomes. Practices include planting cover crops during the winter, reduced or no-till planting, rotational grazing, and agroforestry. For most farmers, adopting regenerative agriculture practices can mean major changes to their operations, which can pose significant financial risks. For that reason, we're partnering closely with farmers to support an economically viable transition to regenerative agriculture that will enable lower-carbon food, fuel, fiber, and feed.

We have identified the following on-farm benefits of regenerative agriculture:

- **Enabling** carbon sequestration in the soil, which is a natural climate solution
- **Building up** healthy soils, which increases resiliency and biodiversity
- **Using inputs** and resources more efficiently, which improves productivity
- **Improving** water quality and use through better soil health and more efficient irrigation technology
- **Optimizing** fertilizer use, which often reduces costs, improves water quality, and reduces GHG emissions

“The cover crop from Cargill’s regenerative agriculture program helps hold moisture in the ground, so we don’t have to use as much water. The crops look better, and the corn is holding longer than if we would have worked the ground.”

Steven Flaig

Owner of Bobridge Farms in Montezuma, Indiana, U.S. and Cargill RegenConnect® participant



Spotlight

Scaling up regenerative agriculture



See **Land and Water** to learn more about our approach to scaling up regenerative agriculture across our supply chains.

This work cuts across our focus areas contributing to:



Moving food sustainably around the world

While our climate action starts at the farm, it continues throughout the supply chain, including decarbonizing a global transportation network that moves food by ship, truck, and rail. Through these efforts, we're also accelerating the shift to lower-carbon energy sources that can fuel the transportation industry.

Charting a course toward zero-carbon ocean transportation

Most food miles take place on water¹⁴, which is why Cargill is working to make zero-carbon shipping a reality. Decarbonizing the shipping industry will span decades, but we are taking action now through various solutions that are available today, such as wind-assisted propulsion technology, biofuels, and energy saving devices.

Since 2021, Cargill has been offering FAME (fatty acid methyl ester) biofuel to ships traveling between Singapore and the ports of Rotterdam and Amsterdam in the Netherlands, one of the world's most densely used shipping routes. Combined with other fuel-saving measures, biodiesel can help ships lower their carbon emissions by more than 20%. Cargill has the end-to-end structure in place to supply FAME biofuel and it can be used without any further investment. It's a solution that is ready for use right now.

This year, Cargill teamed up with Mitsui & Co. to order two dual-fuel, methanol-powered Kamsarmax bulk carriers, which was followed by a similar alliance with J. Lauritzen for three ships. Set for delivery beginning in 2025 or 2026, these vessels will be the world's first methanol-fueled bulk carriers to enter commercial service and will help customers advance their Scope 3 climate goals. It's also the first step on the journey to our goal of 5% zero-carbon ships on the oceans by 2030¹⁵.

¹⁴ Data analyzed from [study published in the journal Science](#).

¹⁵ See Cargill [Ocean Transportation Decarbonization Report 2022](#) for more information.

¹⁶ [Study published in the journal Nature Food](#).

¹⁷ WindWings were designed by Cargill and BAR Technologies, produced by Yara Marine Technologies, and installed on Mitsubishi's Corporate Pyxis Ocean at the COSCO shipyard in Shanghai, China. The WindWings project is part of a project that has received funding from the European Union's Horizon 2020 research and innovation program under grant agreement No 955286.



“We have a responsibility to pioneer decarbonizing solutions across our supply chains to meet our customers' needs and the needs of the planet. A technology like WindWings¹⁷ doesn't come without risk, and as an industry leader – in partnership with BAR Technologies and shipowner Mitsubishi Corporation – we are not afraid to invest, take those risks, and be transparent with our learnings to help our partners in maritime transition to a more sustainable future.”

Jan Dieleman

President, Cargill Ocean Transportation and Chair of the Global Maritime Forum

Accelerating the transition to cleaner, renewable fuel

Nearly one-fifth of all carbon emissions in the food system are from transportation.¹⁶ Lowering the carbon footprint of agricultural supply chains requires alternative, cleaner fuel sources for trucking, ocean-freight, and on-farm machinery. Renewable fuels offer an opportunity to decarbonize not only the movement of food, fiber, and feed, but the broader transportation sector. Cargill provides customers with a range of feedstocks to support renewable and more sustainable energy sources, including biomass-based biodiesel, renewable diesel, and waste-based solutions.

This year, we announced the completion of our **first state-of-the-art biodiesel plant** in Ghent, Belgium. The plant, one of Europe's largest, employs industry-leading technology to convert all types of liquid waste oils and fats, including used cooking oils, into advanced biodiesel to support the maritime and trucking sectors in their decarbonization efforts.

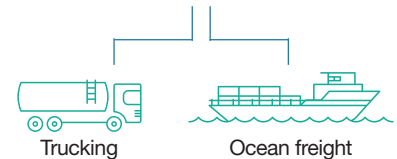
The facility is one of the largest biodiesel plants in Europe and will



Convert liquid waste



Into **120,000 metric tons** of advanced biodiesel each year to support the decarbonization of



That's enough to reduce transportation emissions by an estimated 418,000 metric tons, which is equivalent to removing roughly 90,000 cars from the road for a year.