



Sustainable Supply Chains

Each supply chain is unique, and Cargill leverages our size, expertise, and supply chain capabilities in a variety of ways to create a more sustainable, food-secure future. The following chapters provide a deep dive into the sustainability initiatives of several critical supply chains.



Aqua Nutrition

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About this chapter

We report the progress of our Aqua Nutrition business on a calendar-year basis. The data in this report cover our sustainability performance from 1 January 2022 to 31 December 2022.

Combining strengths for greater impact

At Cargill Aqua Nutrition, we find ourselves at the center of our industry's value chain, interacting every day with numerous stakeholders. We know their challenges, and we understand we are in a unique position to help them work more profitably and reduce their social and environmental impacts.

Our impact on sustainability topics is much greater when we design our programs with our partners at the forefront. Working together, we can combine their strengths with Cargill's technical know-how, market insights and global reach, and devise the sustainable practices and products the global market desires.

One example of that principle is our signature SeaFurther Sustainability™ program. Aiming to help reduce carbon emissions from salmon farming by 30% by 2030, we work with salmon farmers as well as ingredient suppliers to reduce greenhouse gas sources embedded in the value chain.

In a 2022 pilot, we teamed with eight United Kingdom crop farms to pilot a 1,000 tonne reduction through using regenerative agriculture practices. Our goal is to sign up more farmers, get to 10,000 tonnes in avoided emissions in 2023, and scale up further from there.

Most recently, World Wildlife Fund (WWF) and Finance Earth announced that Cargill Aqua Nutrition and other partners are bringing their expertise and unique insights to the development

of a new blue financing model, the Fisheries Improvement Fund. This is a crucial step. To reduce supply chain volatility, mitigate supply risk and enhance business value across the sector, the industry must support sourcing from sustainable fisheries through active engagement.

Additionally, we are expanding our range of next-generation feeds and technologies that help increase yields while minimizing environmental impacts. We're extensively using alternative ingredients like insect meal and algae oil, for instance, as well as using packaging that keeps many tonnes of plastic out of the environment.

In a world that is increasingly hungry for protein, aquaculture products must be a growing, healthy and sustainable part of the solution. With the help of our partners, we know that we are getting there.

I am delighted to invite you to read about our progress. Thank you!



Helene Ziv-Douki
Cargill Aqua Nutrition
President and Group Leader

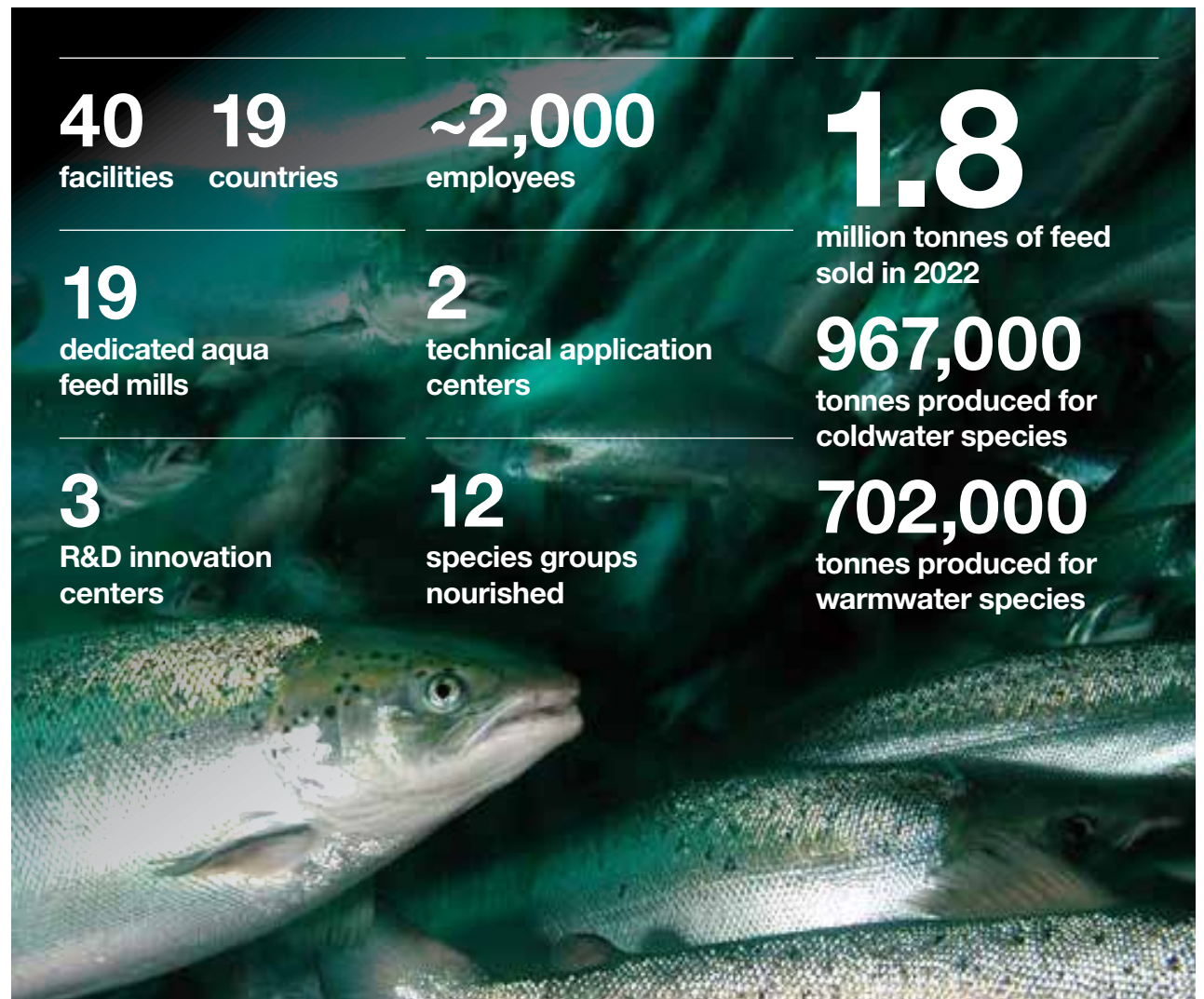
Supply chain overview

What we do

At Cargill Aqua Nutrition (CQN), we help our customers meet the world's growing demand for sustainably grown fish and seafood with high-quality feeds that are tailored to each species' nutritional needs, account for variation in environments, and address specific market requirements and ESG goals of our customers.

Cargill produces aquaculture feeds at 40 facilities. Nineteen of these facilities, across 12 countries, are dedicated to aquafeed production and are the focus of this report. The remaining 21 facilities are outside the scope of this report. They are primarily livestock feed or premix production sites, and their total aquafeed output accounts for less than 5% of our total aquafeed produced. Find out more in our [detailed report](#).

Throughout this report, we reference cold- and warmwater mills. Coldwater mills produce feed for salmonid species. Warmwater mills serve shrimp, tilapia, and other species. See [p. 71](#) for the categorization of each of our 19 aquafeed mills.



Our feed mills



Our species

Cargill Aqua Nutrition has 12 key species groups



Our brands



Our products embody the deep knowledge and expertise built over many years across Cargill, Purina and EWOS brands. As a trusted supplier to the international aquaculture industry, we provide producers with distinctive, proven products and services that drive productivity, sustainability and business growth.

Cargill® offers a full range of animal nutrition and management solutions for producers, feed retailers and feed manufacturers. Our global reach allows us to source the ingredients needed for high-quality aquafeed. Our feed formulation and mill management systems are recognized as the best in the industry.



EWOS® is a longtime leading brand in the aquaculture industry, with a well-earned reputation as a trusted feed provider in all major salmon farming regions, as well as in Vietnam with feed for tropical fish species.



Purina® brings more than 100 years of experience, providing a full program of easily digestible, high-energy nutrition for shrimp and fish.

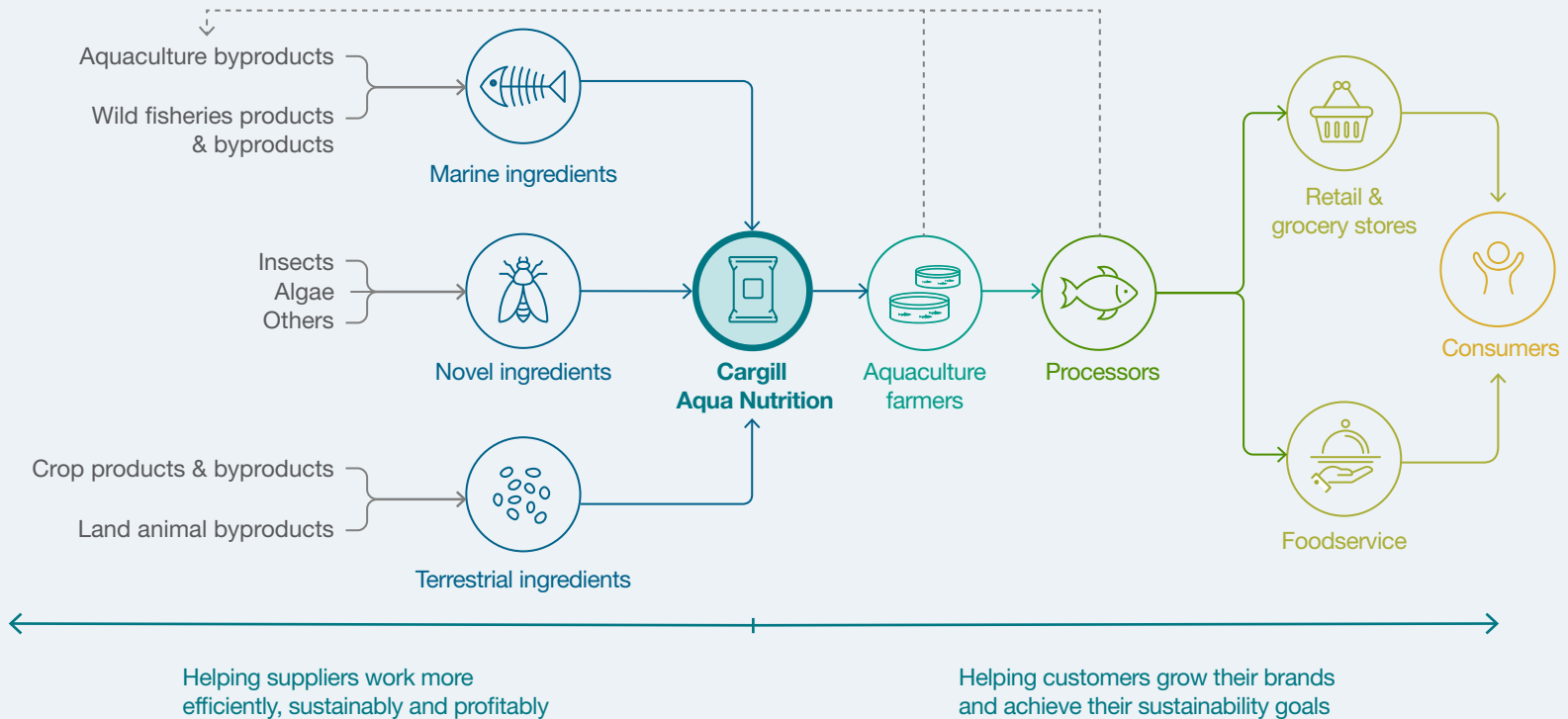


AQUAXCEL® starter feeds give young shrimp a great start in life and support farmer success with superior nutrition and modern extrusion technology.



Liqualfife®, engineered for shrimp post-larvae, uses microencapsulation technology that keeps nutrients intact until consumed. It increases feed availability and nutrient delivery while reducing water quality impacts.

Making a positive impact from the center of the value chain



Cargill Aqua Nutrition sources upstream ingredients, transforms them into nutrient-rich feed for global aquaculture production, and delivers it to our downstream farming customers, who produce the seafood that nourishes people around the world.

Thanks to the scale of our operations and our central position in the supply chain, we can impact the food system positively in all directions.

Backed by our decades of experience and Cargill's technical and market expertise, we are uniquely positioned to connect supply and demand, facilitate the exchange of best practices and information, and help our partners up and down the value chain work profitably while producing more food and using fewer resources.

Focus areas

Making progress that counts

Sustainability is a journey. Every day, we drive steady progress in the three core areas for our Aqua Nutrition business: product, people, and planet. Whether it's promoting the circular economy in our feeds, increasing the number of women in our leadership, or bringing down our greenhouse gas emissions, we're always working to do better.

Product

1.67 million tonnes of feed produced in 2022

Reused fish byproducts make up 59.7% of marine ingredients in our warmwater feeds, and 36.1% of marine ingredients in our coldwater feeds

33.4% sourcing from Fishery Improvement Projects

People

2,000+ employees in 19 countries

1/3 of our managers are women

100% of senior leadership hired from local communities

Planet

10.1% reduction in total energy use for coldwater feeds

11.8% reduction in absolute Scope 1 & 2 GHG coldwater feed emissions

1,000 tonnes of carbon saved using regenerative agriculture

Our 2023 goal: 10,000 tonnes of carbon saved

Product

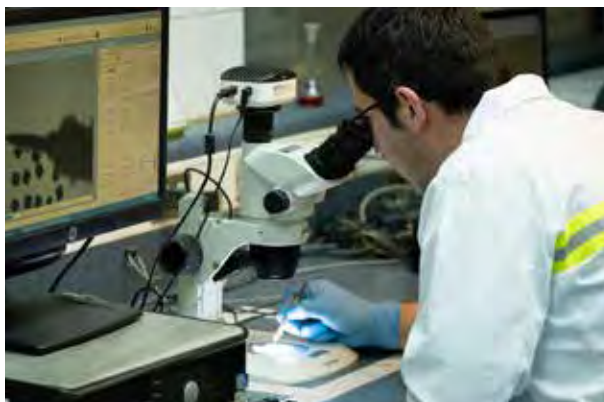
Optimizing our raw material use

Whether it's using byproduct ingredients or steadily reducing the use of ingredients with higher environmental impacts — we're always working to achieve maximal efficiency for our customers with minimal resource use.

We are committed to reducing food systems waste and reusing byproducts. In 2022, our warmwater feeds contained 68% ingredients from co-products. Co-products made up 49% of our coldwater feeds. Compared to 2021, our use of fish trimmings for oil and meal increased to 60% (up 6.5%) for oil and 36% (up 0.2%) for meal in 2022. These shifts happened against the backdrop of the Ukraine conflict, which caused a sharp rise in raw material prices.

We are steadily working to increase our engagement with Fishery Improvement Projects (FIPs), our mechanism to mitigate fisheries' impacts and build more sustainable marine ingredient supply chains.

We are at the forefront of innovation in sustainable terrestrial raw materials. Through our SeaFurther™ Sustainability program, we are pioneering the use of regenerative agriculture practices in raw materials for global aquaculture. Pilot programs started in recent years have yielded positive results and are being scaled up as of 2023 (p. 79).



Promoting fish health to lower aquaculture's environmental footprint

Keeping farmed fish and shrimp stocks healthy lowers environmental impacts. Helping as many animals as possible reach harvest preserves resources and drives sustainable growth for our customers and their communities. Cargill supports fish health and welfare with functional feeds that support animals' immune systems and deliver medication as necessary.

In 2022, functional feed sales reached their highest level since 2017. Functional feeds aim to keep the fish healthy under stressful conditions, reducing the need for medication which is used if the fish become sick. At the same time, antiparasitic and antibiotic feed sales fell significantly across the board (by 43% and 71% respectively since 2017), except for Scotland. No antibiotic feeds were used by our customers in Norway.

We use antibiotics only on an as-needed basis. Antibiotics are only added to our feeds on demand from customers with a prescription for the treatment.

Driving responsible reductions in packaging

Cargill Aqua Nutrition is working toward the systematic reduction of packaging waste. We are reviewing our packaging practices and taking initiatives to reduce, reuse and recycle our packaging materials.

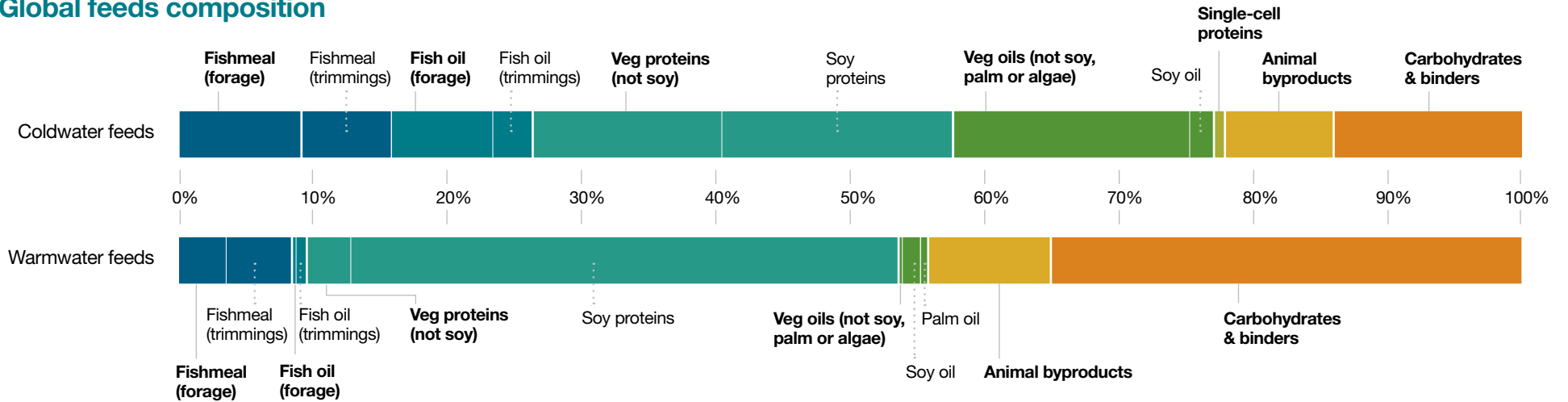
We mainly use plastic in packaging for finished goods. We can collect a limited amount from our customers for recycling. Due to risk of contamination, it is not good practice to use this packaging.

We have started using bags that contain 15% less plastic in Vietnam. These bags, used for our Nurcare and Aquaxcel brands, will keep tens of tonnes of plastic waste and thousands of tonnes of carbon out of the environment over the next few years. Each bag contains 15% less plastic. The move will save 72 tonnes of plastic in 2023 and 144 tonnes per year by 2030. And because making plastic bags takes energy, we'll contribute to prevent 2,500 tonnes of GHG emissions from all Cargill feed bags in Vietnam. We will continue to bring our plastic use down through similar initiatives for other brands and markets.

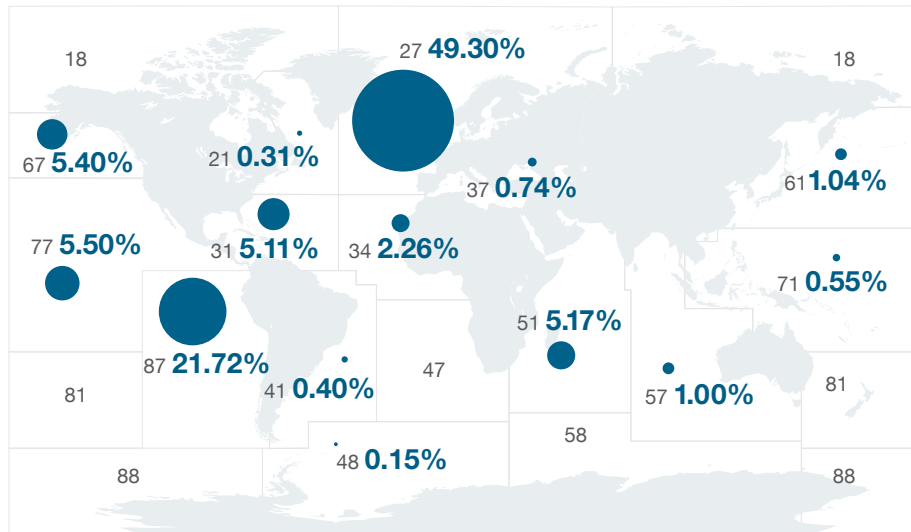


Our raw materials and their origins

Global feeds composition



Origins of marine materials

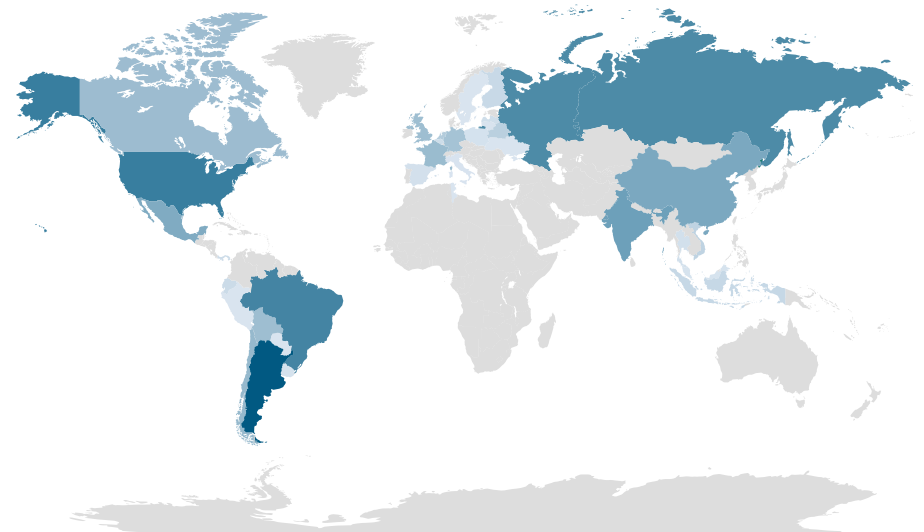


Not definable* 1.34%

FAO Major Fishing Areas [↗](#)

* Country of origin is known, but as many countries transgress multiple fishing areas, the Major Fishing Area is not always defined.

Origins of terrestrial materials



Percent of total
0.00% 13.77%

People

Creating equitable workplaces for our people in our aqua nutrition business

We offer our employees a safe, supportive working environment. We believe our purpose begins with our people. They deliver the quality goods and services our customers expect, and help us advance our sustainability goals.

2022 marked another year of progress toward gender parity. Women representation in our overall workforce, in management and administration, and in senior management increased significantly. The number of women on our global aqua leadership team (4 of 11) remained unchanged.

We have seen a significant increase in the number of women in our North Sea Supply Chain team, defying stereotypes about logistics-oriented businesses.

All of our leadership hires in 2022 came from local communities. There were no instances of child labor reported. We are working to have all of our suppliers sign our Supplier Code of Conduct, which addresses child labor. Ethics and anti-corruption training was completed by 78.8% of our employees.



20.2%
of our employees are women

100%
of senior leadership hired from local communities

30.4%
of our management and administration team are women

67%
women in North Sea Supply Chain team

36.4%
of our global aqua leadership team are women

Planet

Reducing our carbon emissions and embracing accountability



Our impact should be understood holistically.

We seek assurances at the factory and ingredient levels.

Our certifications cover both our marine and terrestrial raw materials, along with our processes and partnerships. We are actively engaging with NGOs, governments, academic institutions, technical partners and other companies to build a thriving, sustainable global aquaculture sector.

Standards, certifications and assurances

- Where appropriate, we apply International Organization for Standardization (ISO) standards for quality, environmental and food safety management, as well as Best Aquaculture Practices (BAP), Global G.A.P., and organic standards for industry-specific assurances as required by our markets.
- At the ingredient level, we prefer Marine Stewardship Council (MSC) and MarinTrust certifications for marine ingredients and ProTerra, the Roundtable for

Responsible Soy, and organic certifications for soy and palm ingredients.

- In 2022, 91% of our marine ingredients for coldwater feeds were certified or classified as improving in a recognized FIP, down slightly from 2021. We saw improvement in our warmwater feeds, with uncertified ingredients down to 33% of the total, compared to 40% in 2021. To increase the amount of certified sustainable marine ingredients available for our feeds, we are increasing our work with FIPs.
- We have been supplying our customers with feed that complies with the ASC Farm Standards since their launch for salmon, shrimp, and yellowtail. With the launch of the ASC Feed Standard in January 2023, our factory and sourcing teams are working to be ready for audits as soon as they can occur. We will start with our coldwater factories, and our warmwater factories will follow according to customer demand.

Managing our climate impact

- **Cargill Aqua Nutrition has been reporting on climate metrics and water usage since 2017.** During this time, we have improved our supplier data and made some emissions reductions in our own operations. This gives us a strong baseline to drive real GHG reductions throughout our value chains.
- **To date, our focus for emissions management has been on coldwater feeds.** This reflects the challenges of building up the data across complex supply chains. We are now in a position to reduce those emissions, while we start to improve our data for warmwater feeds.

- **Energy use in coldwater feed production continues to decrease compared to 2017.** This is true for energy used per tonne of feed produced and in total. It has enabled a 10.1% reduction in Scope 1 & 2 emissions, ahead of Cargill's corporate 2025 goal.
- **We have stabilized warmwater feed energy use per tonne, as well as Scope 1 & 2 emissions.** However, there was still a large increase since 2017. This has mainly been driven by significant process changes that led to higher energy use and emissions. Our teams are working to identify solutions.
- **So far, Scope 3 emissions have only been calculated for coldwater feeds.** We have been developing our supplier data for several years. Based on the best supplier database available for 2022, we report an

average Scope 3 footprint of 1.96 tCO₂e/t feed, compared to 2.54 tCO₂e/t in 2017. We do not claim this as an emissions reduction, but rather a reflection of better data calculations from our supply chain. We will seek to recalculate our 2017 baseline based on these improved data sets.

- **The SeaFurther initiative will be our focus for reducing Scope 3 emissions going forward.** We also aim to get Scope 3 data on warmwater feeds for 2023, and report on those results next year.
- **Water use in our factories has slowly increased over time since 2017.** This has mainly occurred in warmwater feed factories, but since 2022 also in coldwater factories. We are focusing our efforts on enabling a water-positive impact in our operations.

Programs and partnerships

Driving change across the value chain

What makes Cargill unique is our combination of global scale, technical expertise and more than 150 years of experience in many different supply chains. Whether it's supporting our suppliers with best practices, helping farmers produce the sustainable fish and seafood the market demands, or building coalitions with NGOs and industry associations—at Cargill Aqua Nutrition, we feel equally at home with all our partners and stakeholders. It's what allows us to make a positive impact across the value chain: upstream, downstream and in our own operations.



SeaFurther Sustainability

Scaling up early wins with an eye on 2030

Our goal: Help salmon farmers chart a path to lower emissions, with a program aiming to reduce their carbon emissions by at least 30% by 2030.

[Learn more](#) 

Feed and its use on farms can account for up to 90% of farmed salmon's carbon footprint. Applying our leverage as a leading global feed producer, we created SeaFurther™ Sustainability, our signature program for the sector. Taking advantage of our long-term expertise, wide-ranging network and privileged position at the heart of the value chain, our aim is to build a collaborative aquaculture supply chain that supports our customers in their sustainability goals.

Launched in 2021, SeaFurther takes a systematic approach to decarbonization. Making vital connections between suppliers and customers, and adding our own market insights and technical expertise, we work with our partners to track greenhouse gas emissions per kilogram of harvested fish, identify carbon “hotspots” and find ways to reduce or eliminate them.

2022 was a pivotal year for the program. We piloted SeaFurther with customers in Norway, Scotland and Chile, collaborating closely to come up with a tailored approach to fit the needs of each company.

SeaFurther's three pillars

Source

We work with our suppliers to develop and design our feed to minimize its carbon footprint while delivering optimized nutrition.

Optimize

We work with our customers to reduce energy use in feed production and farming, streamline transportation and logistics, and tailor our feeds to the fish and environments for which they are destined.

Care

We develop fish nutrition that promotes and enhances the health and welfare of farmed fish, keeping them healthier and growing more efficiently.



Regenerative agriculture pilot saves 1,000 tonnes of carbon

In 2022, we tested the concept of reducing feed emissions through regenerative agriculture practices. Our pilot program with eight U.K. farms, representing 1,500 hectares of rapeseed and wheat fields, achieved a 1,000-tonne carbon reduction. In 2023, we aim to expand the program, sign up more farmers and save 10,000 tonnes of carbon, while supporting the farmers' profitability.

Regenerative agriculture aims to restore the soil's health and resilience, using techniques like low- or no-tilling, planting cover crops to prevent runoff and oxidation, crop diversity, and pollinator strips. As a result, the soil can sequester more carbon, instead of being a source of emissions. Reducing the carbon footprint of crops grown in it. Healthy soil also holds more water, which makes it drought-resilient and supports more biodiversity, both above and below ground.

Scaling up the regenerative agriculture approach is also key to lowering the aquaculture sector's overall carbon footprint, said Dave Robb, Cargill's Program Lead for SeaFurther Sustainability. “This is a practice we believe in as a key part of decarbonization of aquaculture value chains. The point now is to build longer-term relationships with suppliers and customers and expand our network, so that together, we can generate more benefits at scale along the value chain.”

Our goal for 2023:
Save 10,000 tonnes of GHG

Kames Fish Farming: Producing more, emitting less

Located in Kilmelford, Scotland, Kames Fish Farming, Ltd. is known for its omega-3-rich steelhead trout. The 50-year-old family business was one of the first two companies to pilot Cargill’s SeaFurther Sustainability program.

“We are proud to lead the way,” said Cate Cannon, Sustainability Manager at Kames. “Carbon efficiency will only be fully achieved if we work together across the whole supply chain, so it’s fantastic that this initiative—and open communication—are happening rapidly and at scale.”

After compiling a comprehensive carbon footprint inventory together, we identified raw materials for feed conversions (the amount of feed required to grow the fish) and energy use on the farm as hotspots that were ripe for action. In the first year, Kames focused on energy use, optimizing boat use on the farm and reducing diesel emissions. Along with improving feed conversion rates, it was a choice that, in a year with high fuel costs, would make an immediate financial impact.

Working through SeaFurther, Kames saw a 3.3% reduction in absolute greenhouse gas emissions (GHG) in 2021-22, despite a 60% production increase compared to 2020.

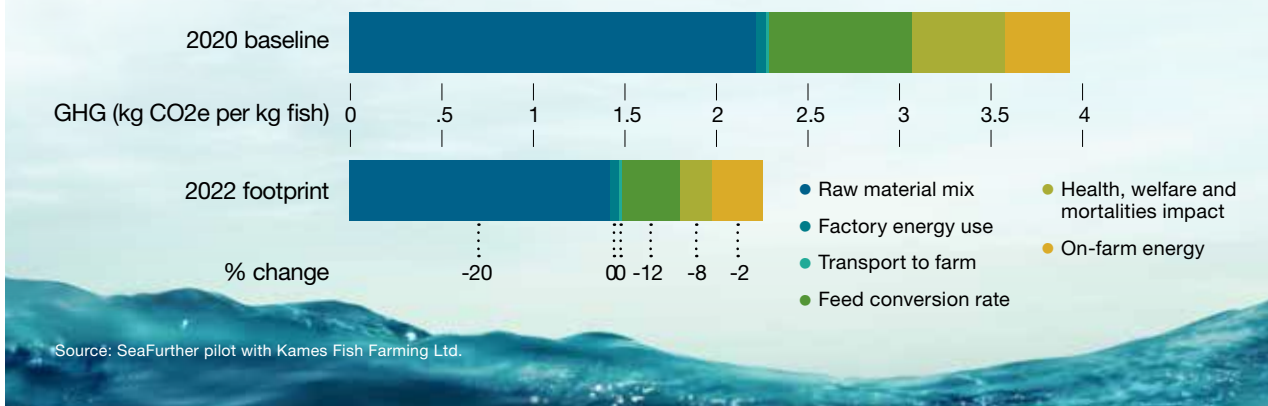
As a next step, Cargill and Kames are working to identify suppliers in Kames’ supply chain who can start working with regenerative- agriculture-based feed sources, so that we can make a five-year plan for reductions.

Reducing aquaculture’s carbon footprint

Although most carbon emissions from farmed fish and seafood stem from the raw materials mix, several other factors can be addressed to reduce its carbon footprint. Improved reporting can help identify and remedy

emissions hotspots. The example below shows reductions achieved by one of our SeaFurther pilot customers in their 2022 production.

Example of harvested fish emissions



“This is not a one-solution-fits-all program, but more of a personalized journey plan with a thoughtful and conscientious team providing tailored guidance. They have helped us make a substantial difference in our emissions without impacting our overall business.”

Cate Cannon Sustainability Manager at Kames



3.3% reduction in GHG emissions while production increased by **60%**

New feeds to deliver lower footprint

In the past, marine ingredients—like fishmeal and fish oil derived from wild-caught fish—were a big component of aquaculture feed. But as the industry grows, aquaculture will need more than the finite supply of marine ingredients to produce enough seafood.

Cargill is helping supplement those marine ingredients with novel inputs like insects and algae oil. Why? Those alternatives offer essential nutrients without further impacting ocean ecosystems.

Take, for example, the recent expansion of our **partnership with Innovafeed**[®], a growing producer of insect meal. This increases the options we can offer customers across novel ingredients and sustainable feeds. Through this collaboration, Innovafeed continues to produce insect meals for salmon feeds, and we are able to add more of their products to our feeds. Beyond being a high-quality feed offering, Innovafeed's insect meal can save up to 16,000 tons of CO₂e for every 10,000 tons of insect protein, depending on the composition of the feed. Our long-term commitment to this partnership has enabled Innovafeed to invest and scale up its production, which will further enable us to incorporate even greater volumes going forward.



For algal oils, we work with the major suppliers to the aquaculture sector and our customers to find ways to include these supplies of long-chain omega-3 fatty acids in our aquafeeds, helping to reduce the reliance on fish oil and increasing the omega-3 content in harvested farmed fish. In early 2022, we committed to incorporating algal oil in all our Norwegian feeds effective almost immediately. This gave a clear signal of our commitments to this ingredient, which is important to our suppliers and our customers to develop the markets.

We are continuing to work further with our customers and their customers to build the market signal for greater novel ingredient use, encouraging increased production and expanding availability. With a combination of conventional and novel ingredients, we will grow our raw material basket sustainably, to support the continued growth of sustainable aquaculture globally.

“A contract of this size and scope for insect ingredients in aquafeed is a first in our industry and marks a major milestone in favour of more sustainable and efficient animal feed, thanks to novel ingredients and insects, more specifically.”

Clément Ray
Innovafeed's co-founder and CEO

Fishery Improvement Projects

Promoting ocean stewardship



We are on a journey to source our marine ingredients produced from wild-caught fish from fisheries that are third-party certified as responsibly or sustainably managed. This is important because according to the Food and Agriculture Organization (FAO), the world is close to its maximum sustainable wild-caught fish production. As it stands today, 35% of the world's fisheries are overexploited and many others are at their maximum sustainable limits.³⁶

At Cargill, we help protect wild fish stocks. We do this by substituting marine ingredients with terrestrial ones, by prioritizing trimmings and byproduct material over whole forage fish material as much as possible, and by maximizing the proportion of responsibly produced marine ingredients certified by organizations such as MarinTrust and Marine Stewardship Council (MSC).

Over the last 20 years, we reduced our use of marine ingredients for the average global salmon feed composition by 80%. In 2022, 41% of our total marine ingredients by volume were sourced from trimmings, as opposed to forage fish. In 2022, 91.4% of the marine

ingredients for our coldwater feeds were from certified or improver program sources. At the same time, 32.7% of the marine ingredients for our warmwater feeds were not certified. The latter is a significant improvement over 2021, but a wide margin for progress remains.

But we don't just want to improve our own supply chain. Our ambition is to use our leverage as a large global feed producer to improve ocean health overall, and to support the sustainable growth of the aquaculture industry. To achieve that goal, we must engage fisheries that are not yet sustainable. We do this by directly supporting credible Fishery Improvement Projects (FIPs) around the world.

By working with FIPs, we help our customers produce the sustainable products the market demands, while also helping drive progress for the fisheries sector as a whole. FIPs reduce fisheries' impact on ecosystems and generate increased benefits for the local communities that rely on them. Over time, FIPs can help restore fish stocks in the areas where they operate, ensuring a long-term supply of fish for food and livelihoods.

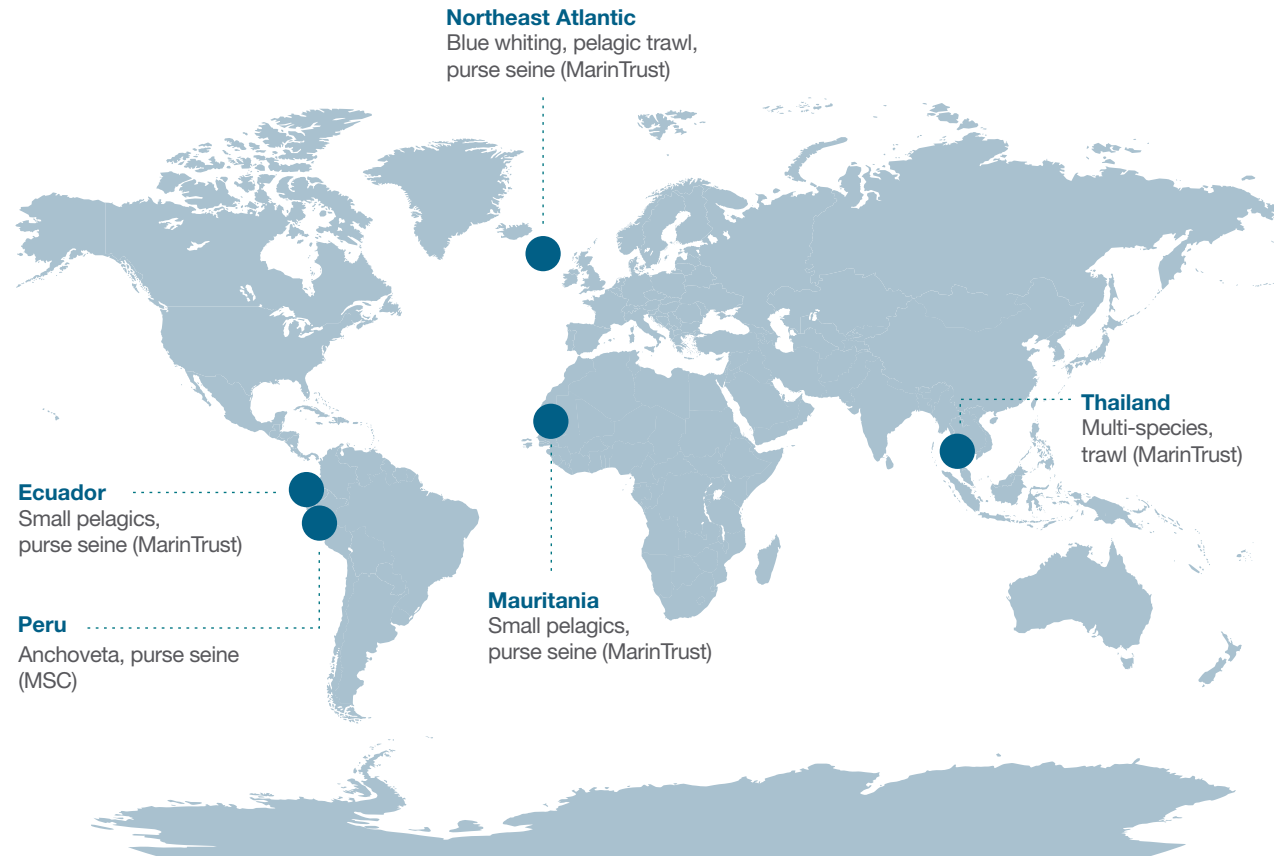
Each FIP is different, but what they all have in common is collaboration. Working with NGOs including the Sustainable Fisheries Partnership (SFP) and the World Wildlife Fund (WWF), local government agencies, industry associations, and often even retailers and our competitors, we create tailored solutions to suit the environmental and socio-economic needs of places as diverse as Peru, Mauritania, and Thailand. In each case, we convene stakeholders, analyze the baseline situation, formulate remedial actions, and create timebound pathways toward sustainable operations and, ultimately, certification.

“The support-not-avoid approach is something we take seriously. By actively engaging fisheries in credible improvement programs, we're simultaneously advancing ocean health while securing a long-term supply of material for a growing aquaculture industry.”

Taylor Voorhees
CQN Sustainability Leader

³⁶ FAO. 2022. The State of World Fisheries and Aquaculture 2022. Towards Blue Transformation. Rome, FAO. <https://doi.org/10.4060/cc0461en>

FIPs we supported in 2022 and their certification goals



Cargill joins WWF and Finance Earth in new Fisheries Improvement Fund

At the 2023 Global Seafood Expo in Barcelona, World Wildlife Fund (WWF) and Finance Earth (FE) announced the launch of an innovative blue finance mechanism, known as the Fisheries Improvement Fund (FIF), to fund the implementation of FIPs. We are proud to be part of this initiative, along with other major companies

including Skretting, Mars Incorporated, Costco Wholesale, Sodexo and philanthropic partners such as the Walmart Foundation.

The FIF will combat the worldwide decline of fisheries by providing support for FIPs in collaboration with

experienced partners on the ground. The new fund aims to spur more than \$100 million in new investments by 2030. Read more about [Fisheries Improvement Fund - Finance Earth](#).

How we innovate

Maximizing performance, minimizing environmental impact

Driving incremental progress to create sustainable aquaculture. Whether it is at our own R&D facilities or in the field with our farmer partners and suppliers, we are always working on new ways to optimize our feeds, save resources, and support our customers and the animals in their care.

In testing alone, over
40,000 fishes
and almost

400 tonnes
of GHG emissions
have been saved in live salmon sampling



Digital scanner revolutionizes salmon sampling

Salmon farmers need to know how their fish are performing during their growth process. In the past, that meant sacrificing animals for chemical analysis, which could take weeks and was costly in terms of wasted resources and lost revenue. That is no longer necessary because Cargill launched SalmoNIR, a handheld scanner designed to analyze live salmon samples for important quality parameters, including fat content, omega 3, and color. The device provides two great advantages:

- Samples can be taken from live fish, which reduces the need for sacrifice and preserves biomass.
- Scans provide immediate answers about conditions in the cages, enabling farmers to track fish quality in real-time. This raises efficiency and saves resources.

Developed by the Cargill Innovation Center in Dirdal, Norway, SalmoNIR can contribute greatly to fish health, revenue and lowering a farm's environmental footprint. In testing, we took more than 40,000 samples of live salmon, representing approximately 140 tonnes in wet weight. Preserving these animals saved almost 400 tonnes of GHG emissions.



Innovation in the field

Micro-pellet shrimp feed keeps water cleaner

For shrimp farmers, water quality can be the difference between success and failure. The same is true for feed quality. Good feed not only helps shrimp grow quickly but also helps keep the water clean.

Thanks to advanced extrusion technology, Cargill's new shrimp feed comes in micro-pellets as small as 0.5 millimeters in Indonesia. Made from high-quality raw materials and fortified with health-boosting vitamins and minerals, the pellets help shrimp grow quickly and support their immune systems—especially in the crucial early development stages when mortality is high.

Because the pellets leach less and take longer to dissolve, it is easier to control—and reduce—the amount of feed delivered to ponds. This, in turn, means cleaner water, less need for water treatment, healthier shrimp, and more revenue.

Sustainable solutions for land-based salmon

As the demand for seafood increases, land-based aquaculture is one of the ways to ensure sustainable growth, and feed is a critical component. Cargill is expanding our tailor-made, sustainable feed options for land-based salmon production.

Working with Norwegian farming company **Salmon Evolution**, we developed a custom-designed feed for salmon grown in tanks. Based on continuous data analysis during production, we updated our models for growth and feed optimization for use in partially recycled water. As a

result, we saw excellent production results along with minimal impacts on water quality.

Lessons learned from our collaboration with Salmon Evolution are ready to be applied at scale in the growing land-based aquaculture sector. In 2022, we also teamed up with another Norwegian customer, **Havlandet**, to pilot the same approach with cod, trialing several varieties of our feed products. Initial results were promising.

Another new feed, **EWOS CLEAR™** is formulated for land-based salmon hatcheries. Because water quality is crucial during salmon's early life stages, CLEAR was designed to reduce pellet degradation and maximize nutrition, allowing growers to produce more smolt using less

feed. The raw materials were carefully selected to ensure good, safe and sustainable nutrition, so that smolts are robust and ready to perform well when transferred to sea.



Innovation inside our own operations

Expanding our sea sites in Dirdal

Oltesvik and Gråttnes, our sea sites in Dirdal, Norway, are used to run verification trials for nutritional models and full-scale ingredient documentation. As we expand our R&D activities, the Oltesvik site has been upgraded from 4 to 12 cages. As a result of our increased trial capacity, fish production is projected to increase to 1,400 tonnes in fiscal year 2024 and 3,000 tonnes in fiscal year 2025, with stocking of new fish slated for September 2023. Investing in increased feed efficiency reduces our products' environmental footprint because it helps farmers produce more fish with less feed.

Driving yields and saving resources with Essential Nitrogen

Not all proteins are created equal. Some are vital to growth, others are not. In many cases, the difference-maker is nitrogen which is central to amino acids, the building blocks of protein. Nitrogen also fills other digestive needs for aquafeed. Getting nitrogen right can mean optimizing the nutrient balance and helping fish stay healthy and grow quickly.

Cargill Aqua Nutrition has long been at the forefront of nutritional modeling and feed design. Since the 1990s, our precursor company EWOS, acquired by Cargill in 2015, used advanced data to track our products' performance. Efficiency in aquafeeds not only means higher yields and revenue for the grower, but also growing more biomass with less feed, which reduces resource and energy use, and cuts down on waste and carbon emissions.

By integrating Essential Nitrogen in our formulations, we're creating the next generation of feeds. It's how we drive

even more efficiency, increase productivity and decrease aquaculture's environmental footprint.

Supporting aquaculture startups

Since 2018, Cargill has supported HATCH Blue, the world's first accelerator program for climate-smart aquaculture startups. So far, Hatch has funded 39 companies, 40% of which are female led. These companies have raised more than \$100 million.

How we manage sustainability

Cargill Aqua Nutrition has our own dedicated sustainability management.

We are aligned with corporate strategies. Cargill Aqua Nutrition is part of Cargill's animal nutrition and health enterprise. A group sustainability lead and a sustainability signature program lead centralize sustainability management. Together with sustainability staff embedded in local and regional businesses, they collaborate on implementation with commercial teams. This structure allows us to address global priorities as well as local issues, including customer and stakeholder engagement, market and ecosystem conditions, raw material impacts and other relevant topics. We continue to build capacity and expand our capabilities to address sustainability issues and accomplish our goals.

Where our most salient risks occur

The matrix below indicates where the most salient risks from our material sustainability topics occur in our value chain, from supplies of raw materials (upstream),

through our mills and operations (production) and to end use at farming facilities through the fish to the ultimate consumer (downstream).

	Upstream	Production	Downstream
Business ethics	●	●	●
Food safety	●	●	●
Health and safety	●	●	●
Over-fishing	●		
Deforestation	●		
Plant raw materials	●		
Human rights	●	●	
Labor practices	●	●	
Emissions to air and water		●	●
Energy		●	
Water		●	●
Waste		●	●
Local communities		●	●
Feed efficiencies			●
Animal health			●
Antibiotics and medicines			●
Animal husbandry and welfare			●
Farmer livelihoods			●
Human health and nutrition			●

Accountability through policy and certification

It is Cargill Aqua Nutrition's ambition to have the most sustainable aquafeed supply chain in the world. Among our primary tools toward that goal is our Supplier Policy, which stipulates that those who sell raw materials to us must abide by our sustainability principles and have environmental and social risk management procedures in place. The policy sets out our expectations on environmental and social performance, aligned with third-party standards where applicable. Each year, we conduct audits to ensure our suppliers meet the requirements.

We use the power of certifications to demonstrate compliance, both for our own products and suppliers. We set the same clear and consistent standards internally, for our sourcing teams, and externally, for our suppliers.

- We work toward compliance with emerging human rights legislation such as the UK Modern Slavery Act (2015) and the Norwegian Transparency Act.
- Our feed mills are certified to a variety of international standards. We have multi-sector certifications for environmental management, food safety and occupational health and safety, and certifications tailored specifically to the seafood industry. The majority of our feed mills are certified under the Best Aquaculture Practices (BAP) Feed Mill Standard. We are preparing for certification under the Aquaculture Stewardship Council (ASC) Feed Standard, launched in January 2023.
- For our marine ingredients, we source preferentially from fisheries that are already managed responsibly. An increasing share of our marine ingredients is certified by MSC and/or MarinTrust. We also support Fishery

Improvement Projects (FIPs) that are working toward those same certifications in the Northeast Atlantic, Mauritania, Peru, Ecuador and Thailand. In 2023, we joined the launch of the Finance Earth Fisheries Improvement Fund with WWF, Mars and Skretting, with the goal of generating \$100 million fund for FIPs.

- Our terrestrial ingredients fall under Cargill's broader sustainability policies, goals and commitments on climate, land, water and people.
- As demand grows for novel ingredients such as insect meals and algal oils, which can alleviate pressure on fisheries and terrestrial biomes, we are forming partnerships to facilitate their commercialization. We work with our customers, research institutions, ingredients makers and retailers to shape the market conditions for greater novel ingredient use.



Progress through partnerships

Stakeholder engagement is key to any successful sustainability program. That's why, to achieve maximum global impact, we partner with our diverse stakeholders and often with others in the industry. We are proud of our membership in initiatives that bring together NGOs, governments, academic researchers, standards holders, and other industry members.

Full membership

Global Roundtable on Marine Ingredients [↗](#)

North Atlantic Pelagic Advocacy Group [↗](#)

SeaBOS [↗](#)

Committee representation

Task Force I CEO-level sponsor [↗](#)

Task force III leader [↗](#)

Sustainability Committee [↗](#)

Governing Body Committee [↗](#)

Social and Ethical Committee [↗](#)

Stakeholders Council [↗](#)

Feed Standard Steering Committee [↗](#)

BAP Vanguard Feed and GHG Working Groups [↗](#)

Associate membership and general partnership and participation

Global Salmon Initiative (GSI) [↗](#)

Ocean Disclosure Project (ODP) [↗](#)

Global Dialogue on Seafood Traceability (GDST) [↗](#)

Sustainable Fisheries Partnership (SFP) [↗](#)

United Nations Global Compact (UNGP) [↗](#)

Millennial Salmon project [↗](#)



Cocoa & Chocolate

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About this chapter

This chapter refers to the crop year 2021-22 as well as 2022-23 up to and including June 2023. Information in this chapter is for that time period unless otherwise noted.

For previous progress reports, visit [our website](#) [↗].

In 2012, when we launched our comprehensive sustainability program, the Cargill Cocoa Promise, we hoped that path would take us to the top of a hill, where we'd look back at a job well done. Little did we know, we were setting out to scale Mount Everest, we were doing it without a map, and behind every ridge, we'd find a series of new hills to climb.

It's been a decade since those early days, and we've learned an enormous amount. Today, we manage a holistic program, built on the understanding that the sector's issues are multifaceted, and that Cargill is uniquely positioned to connect the dots and apply smart solutions.

Throughout this chapter, you can learn about how we are working to close gaps and drive positive change. As we step up our effort going forward, two axes for action stand out: gender and technology.

As a signatory to the U.N. Women's Empowerment Principles, we adopted our cocoa-specific **Gender Equity & Women's Empowerment Strategy** [↗]. Through training and financing, we are helping women increase their earning power and become community role models. As incomes go up, kids are more likely to stay in school and households grow more resilient.

Meanwhile, in parts of Ghana and Côte d'Ivoire where GPS polygon mapping of farms is largely complete, we observed less than 0.01% gross primary forest loss since 2014, showing that, with the appropriate technologies and farmer engagement, we can leverage digital tools to help accelerate transparency and target interventions for impact.

We are proud of what we have achieved, but there's much more to do. We will continue to go deeper, expand due diligence measures across our sourcing regions, intensify our focus on learning, and bringing everyone along on the journey. We know we haven't yet reached the top of the mountain, but working with our valued partners, we now know that we have the map, the tools, and the team to get there.



Emiel van Dijk
Managing Director
Cocoa & Chocolate Europe & West Africa

Supply chain overview

We create cocoa and chocolate products to meet the global market’s growing demand for quality, innovation, transparency, and sustainability.

Our customers are chocolate, confectionery, and manufacturers across the globe.

Our products include cocoa powder, cocoa butter, and cocoa liquor as well as chocolate, coatings, and derivatives for cosmetics and personal care products.

Our operations span five continents. We directly source, trade and implement the **Cargill Cocoa Promise** TM in Brazil, Cameroon, Côte d’Ivoire, Ecuador, Ghana and Indonesia.

43
years of experience in cocoa and chocolate

64
locations across the globe

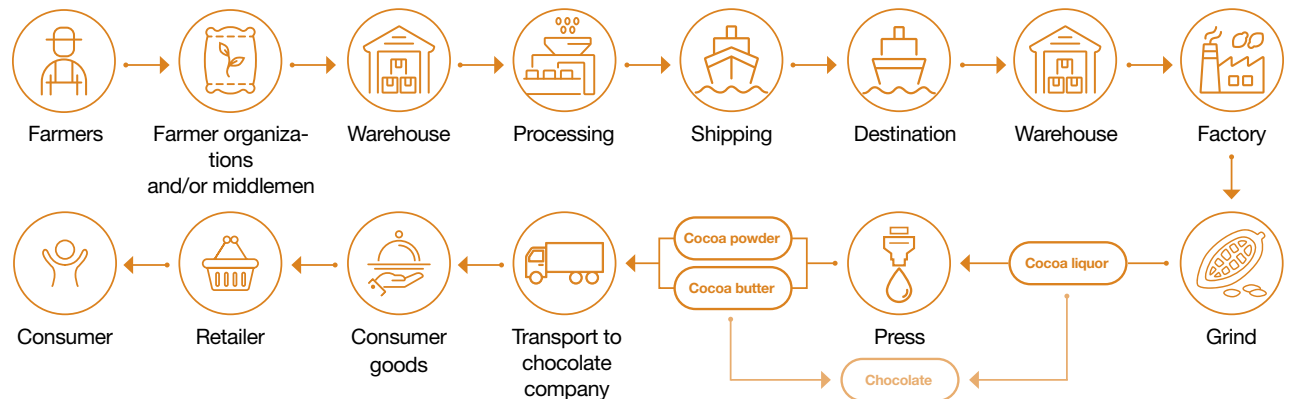
31
processing plants

6
origins from which we source cocoa directly

4,700
employees

Creating delight: The journey from bean to bar

How we make our products



Dashboard

Each year, we report on our sustainability progress. We have been reporting on this for several years, in accordance with our [theory of change](#)³⁷. In the sections following this dashboard (“Programs and partnerships”), we detail the efforts we made toward achieving these goals.

We work with an external assurance provider, KPMG, to provide limited assurance on the selected sustainability KPIs in the table below. KPMG’s assurance report is included on [pages 109-110](#).

The assured datapoints in the chapter are listed below:

Sustainability goals	Assured KPIs	Definition	Scope of assurance: country of origin					
			Côte d’Ivoire		Ghana		Cameroon	
			2021-22	2022-23	2021-22	2022-23	2021-22	2022-23
	1. # of farmers supported through Cargill Cocoa Promise activities³⁷	The number of farmers that are sustainability certified and take part in at least one Cargill Cocoa Promise activity, such as training or coaching.	107,572	127,595	25,818	32,582	38,055	40,237
	2. # of farmer organizations, districts, and buying stations in Cargill Cocoa Promise	The number of farmer organizations in Ivory Coast, districts in Ghana, and buying stations in Cameroon defined as organized associations of farmers in CCP.	131	147	10	13	12	12
Farmer livelihoods	3. # and % of farmers coached³⁸	The number and percentage of farmers that received one-on-one coaching on Good Agricultural Practices (GAPs).	75,921 71%	94,993 20%	11,720 45%	1,635 5%	12,559 33%	17,425 43%
	4. # and % of farmers GAP compliant³⁹	The number and percentage of farmers that are successfully implementing the Pruning GAP, as well as 3 out of the other 4 GAPs.	5,315 7%	10,011 39%	7,180 61%	761 47%	4,492 36%	5,410 31%
	5. Average yields⁴⁰	Amount of cocoa beans produced per area, an indicator of productivity of a cocoa farm.	574	742	547	715	695	715

(continued)

37 Certified/verified farmers are considered farmers that are in various stages of the sustainability certification/verification cycle of Rainforest Alliance, Fairtrade or Promise Cocoa Verified: Cargill’s independent verification scheme.

38 % farmers coached in Ghana for CY22/23 is lower because coaching started later in the year, and this was the figure at time of assurance. It is expected to reach YoY consistent figures during the full implementation cycle.

39 All indicators involved in the GAP compliant show an enhancement in Côte d’Ivoire for the current crop year (22/23). There is a significant difference in the pruning and the pest & disease GAPs. This explains the large increase between CY21/22 and CY22/23 numbers.

40 Yield calculation relies on what farmers report as cocoa production of prior year (for 22/23 farmers reply with 20/21 production).

Sustainability goals	Assured KPIs	Definition	Scope of assurance: country of origin					
			Côte d'Ivoire		Ghana		Cameroon	
			2021-22	2022-23	2021-22	2022-23	2021-22	2022-23
Farmer livelihoods	6. % of farmers using crop protection	The percentage of coached farmers that have reported to use either fungicide or insecticide.	75%	73%	62%	67%	94%	95%
	7. % of farmers reporting to do composting and applying it on farms	The percentage of coached farmers that have reported to apply compost on their farms.	9%	16%	11%	22%	3%	10%
Community wellbeing	8. # of farmers monitored through Child Labor Monitoring and Remediation Systems (CLMRS)	The number of households that received a CLMRS monitoring visit.	24,835	55,475	9,235	21,557	6,843	6,792
Protect our planet	9. # of farms GPS/polygon mapped	The number of plots that have been GPS/polygon mapped.	104,979	134,791	61,532	73,844	20,458	32,190
	10. # and % of farmers GPS/polygon mapped	The number of mapped farmers that do not have duplicate polygons or polygons that overlap by at least 20% with one or more polygons.	94,586 88%	122,238 96%	24,873 96%	30,529 94%	16,971 45%	28,130 70%
	# and % of farmers that do not have duplicate polygons and/or >20% overlap		77,179 72%	94,000 74%	19,176 74%	24,780 76%	14,792 39%	21,234 53%
Consumer confidence	11. # and % of farmers delivering volume through first-mile traceability system ⁴¹	The number and percentage of farmers who have delivered cocoa beans through either Cooperative Management Systems or digital first-mile traceability.	97,178 90%	122,684 96%	13,632 100%	19,458 100%	5,857 15%	11,364 28%
	12. % of sustainable volume in first-mile traceability	The percentage of Rainforest Alliance or Promise Verified beans that were delivered through digital traceability solutions such as the Cooperative Management System in Côte d'Ivoire and the barcode system in Ghana to trace cocoa from the farm level to the first purchase point.	98%	95%	100%	100%	15%	38%
	13. # and % of farmers paid via mobile banking	The number and percentage of farmers that have received premium payments through a mobile money solution.	4,168 4%	10,582 8%	13,632 100%	19,458 100%	Not in scope	Not in scope
	14. % of sustainable volume sold ⁴²	The percentage of cocoa and chocolate products in bean equivalent sold as sustainable (Rainforest Alliance, Fairtrade, Promise Verified, or customers' own programs.)	49% globally	48% globally	49% globally	48% globally	49% globally	48% globally

41 For Ghana the % of farmers delivering volume through first-mile traceability is smaller than the farmers supported through CCP, but the percentage is still 100%. This is because we are looking only into farmers who chose to deliver and sell volume to Cargill.

42 For KPIs 1 through 13, the timeframe for assurance is Crop Year 2021-2022 as well as Crop Year 22-2023 up to and including June 2023. These KPIs refer to our direct supply chain. For KPI 14, the timeframe is Calendar Year 2022 and Calendar Year 2023 up to and including June 2023. It covers our entire supply chain (direct and indirect).

Focus areas

Delivering on our commitment to a thriving cocoa sector

Our vision

At Cargill, we take a holistic approach to sustainability within the cocoa sector, recognizing that many challenges are deeply intertwined. We are in a unique position to help connect the dots and spur progress across the value chain. We work with partners from ground level to government, advancing best practices and deploying cutting-edge technologies for full transparency. Our shared goal: a thriving cocoa sector for generations to come.

Our program

Since 2012, the **Cargill Cocoa Promise** [↗] has been the cornerstone of our sustainability approach. Our goals are aligned with the UN Sustainable Development Goals (SDGs) and our **theory of change** [↗]. Following our **results framework** [↗], we continuously monitor and evaluate our programs, so that we can maximize our positive impact.

Cargill Cocoa & Chocolate goals



Farmer livelihoods

We will champion professional cocoa farming practices, to strengthen the socio-economic resilience of cocoa farmers and their communities.

[+ Read more](#)



Community wellbeing

We will enhance the safety and wellbeing of children and families in cocoa farming areas.

[+ Read more](#)



Protect our planet

We will promote environmental best practices in our business and across our supply chain.

[+ Read more](#)



Consumer confidence

We will help consumers around the world choose sustainable cocoa and chocolate products with confidence.

[+ Read more](#)



Transformation, together

We will use the power of partnerships to accelerate and magnify our efforts to achieve a level of sector transformation that cannot be accomplished alone.

[+ Read more](#)



Responsible business

Across our business operations and supply chain we increase efficiency, maximize safety, and minimize our environmental footprint.

[+ Read more](#)

Our approach



Farmer livelihoods

We empower farmers who manage their farms as businesses, maximizing profitability, and growing prosperous. We do this through a holistic approach that goes beyond productivity to diversify farmers' incomes and strengthen their resilience.

[+ Read more](#)



Community wellbeing

To meet specific community needs with the Cargill Cocoa Promise, we work with partners to implement concrete solutions related to accessing quality healthcare, nutrition, and education, addressing child labor, and improving access to economic opportunities for women and youth.

[+ Read more](#)



Protect our planet

Cargill's "Protect Our Planet" strategic action plan details the steps we are taking to make our supply chain deforestation-free. It outlines concrete actions to achieve 100% cocoa bean traceability, programs to grow more cocoa on less land, and support for farmers to adopt agroforestry and conservation practices. This also contributes to reducing our supply chain carbon footprint in line with Cargill's science-based targets and the Paris Agreement.

[+ Read more](#)



Transformation, together

Farmers and farmer organizations are our key partners to ensure a sustainable supply of cocoa well into the future. Our success is linked to theirs. To create a more sustainable cocoa supply chain globally, we work with a multitude of stakeholders across the industry, using individual strengths and abilities to drive lasting and transformational change.

[+ Read more](#)



Consumer confidence

We seek to provide clear, robust, and transparent information powered by technology, and to partner with independent parties to ensure our data is accurate and assured. This applies both to our direct supply chain, which is covered by the Cargill Cocoa Promise and accounts for about half of the cocoa we source, and to our indirect supply chain.

[+ Read more](#)

Programs and partnerships

Farmer livelihoods

We empower cocoa farmers to grow their incomes in sustainable ways. With our partners, we help them optimize their businesses while improving access to education and financing, and enabling women to become successful entrepreneurs.

Want to know more?

- Learn how we aim to [expand our reach](#) with the [Cargill Cocoa Promise](#) by 2030.
- Explore the [Living Income Roadmap](#) developed by our partner IDH.
- Backgrounder: Why closing gender gaps is [crucial to closing income gaps](#)

Farmer deemed to be benefiting from the Cargill Cocoa Promise are sustainable-certified and participate in Cargill Cocoa Promise activities. Our impact measurement is not limited to farmers in our direct supply chain. Although farmers are not obligated to sell their cocoa to Cargill they can always participate in Cargill Cocoa Promise activities. We also cover our indirect supply chain in our impact measurement.

At a glance

222,000+

Farmers reached by the Cargill Cocoa Promise from January 2022 through June 2023.

This includes: 810 in Brazil, 40,237 in Cameroon, 127,595 in Côte d'Ivoire, 32,582 in Ghana and 21,041 in Indonesia benefiting from training on sustainable agriculture, business management, and gender equity.

Key progress

In Côte d'Ivoire, we reached 80,000 farmers with our long-term Farm Development Plans. To create these plans, we work with farmers through one-on-one coaching, and formulate tailored sets of recommendations to help improve farm productivity and profitability, including pruning, the smart use of inputs, and other best practices.

In Cote d'Ivoire, we helped our customer Nestlé expand its [Income Accelerator Program](#), which delivers mobile cash payments to help cocoa farming families close the living income gap and reduce child labor risks by encouraging changes in behavior and rewarding positive practices. Participants are rewarded for keeping kids in school, and receive support to adopt GAPs and participate in additional income-generating activities.

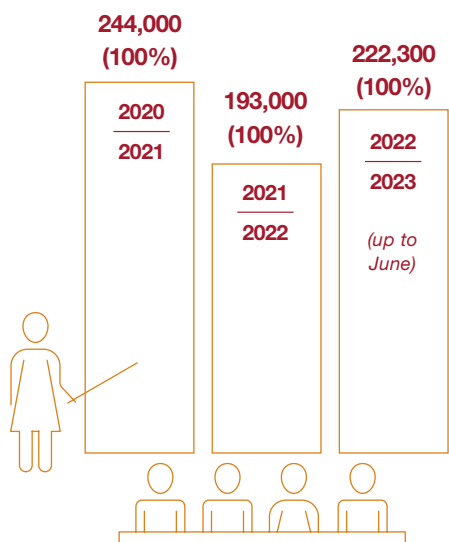
To deliver on our gourmet brand Veliche's [sustainability promise](#), we collaborated with TechnoServe on the Awalé project, supporting 1,400 women and youth in Côte d'Ivoire. [The program](#) helps build entrepreneurship skills and has invested \$40,000 in income-generating activities. Participants' incomes increased by an average of 56%.

Our Ghana Chillies project, which helps farmers boost their incomes by growing hot peppers, expanded from 1,800 to 5,000 participants. With [Unilever](#), through its AWA by Magnum female empowerment program, and [100WEEKS](#), we co-funded digital cash transfers to 400 women in Côte d'Ivoire, promoting financial literacy and gender equity. In Ghana and Côte d'Ivoire, we helped cocoa cooperatives set up shared services to increase yields and incomes.

Learnings and next steps

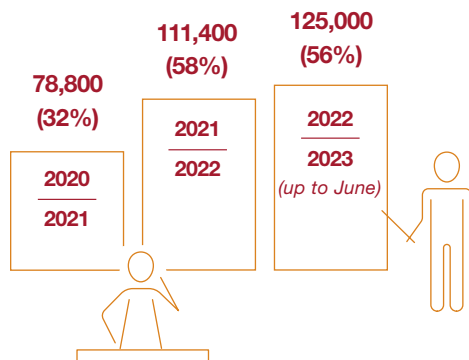
We will continue to partner with farmers and farmer organizations to expand our farm service delivery models, providing producers with access to the tools and support they need to implement Farm Development Plans, maximize profitability, and sustainably increase their incomes.

Through a new strategic collaboration with [IDH The Sustainable Trade Initiative](#), we will determine the most effective methods to close the living income gap across the Cargill Cocoa Promise network and use that information to help customers contribute to closing this gap.



CCP farmers trained

Farmer training, offered in group setting, builds foundational knowledge of GAPs and key social and environmental topics.



CCP farmers coached

Farmer coaching provides individualized support, including on-farm diagnostic surveys and tailored Farm Development Plans addressing key improvement priorities.

CCP farmers using crop protection

	Côte d'Ivoire	Ghana	Cameroon
2022 - June 2023	18,769 (73%)	1,096 (67%)	16,611 (95%)
2021-2022	57,222 (75%)	7,309 (62%)	11,743 (94%)
2020-2021	31,575 (69%)	5,583 (62%)	6,893 (92%)

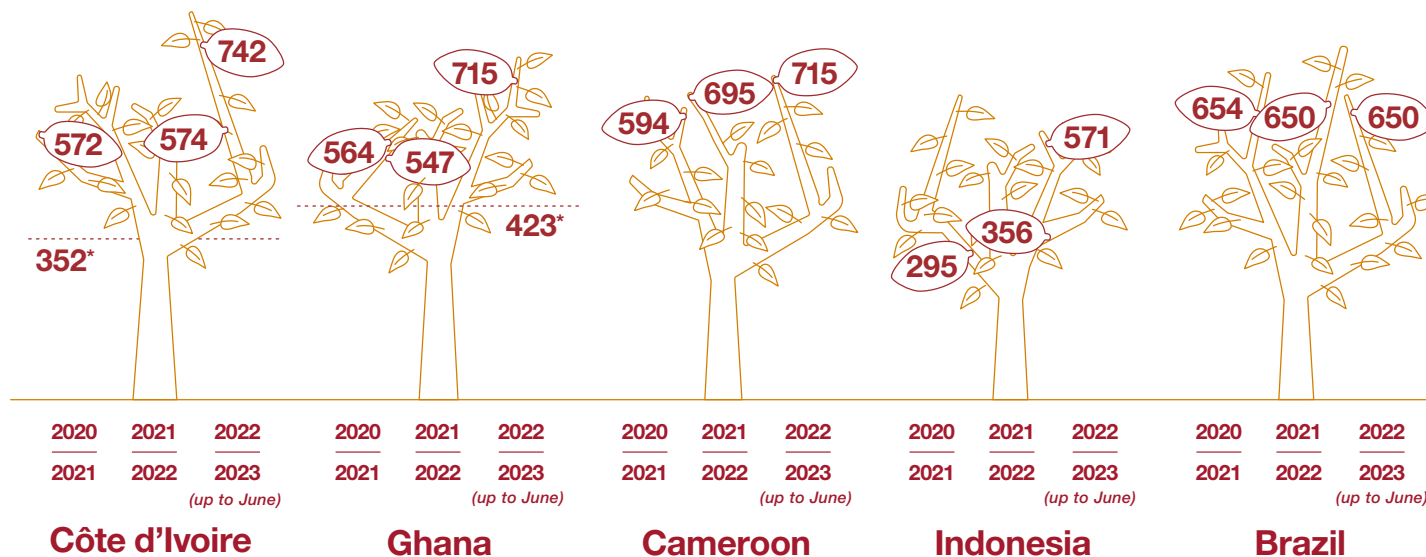
CCP farmers composting and applying it on farms

	Côte d'Ivoire	Ghana	Cameroon
2022 - June 2023	4,151 (16%)	353 (22%)	1,683 (10%)
2021-2022	6,978 (9%)	1,323 (11%)	396 (3%)
2020-2021	1,812 (4%)	251 (3%)	12 (0.2%)

When Good Agricultural Practices are used, yields increase

Over the years, results show that when cocoa growers implement GAPs, they see higher yields and returns. Although productivity depends on many factors and practices do not change linearly, the trend line within the CCP network is consistent.

Average yields in kilograms of cocoa per hectare, calculated as reported production divided by the mapped farm size.



* Country averages according to a study by KIT, the Dutch Royal Tropical Institute.

Community wellbeing

Over the past decade, we have addressed the links between child labor and gender equity in cocoa-growing communities. Our Child Labor Monitoring & Remediation System (CLMRS) has evolved into a holistic community well-being approach with a strong emphasis on access to education and women's empowerment.

Want to know more?

- An [explainer video](#) from the World Cocoa Foundation lays out the challenge of child labor in the cocoa sector. Here's [what Cargill is doing about it](#).
- Watch this [video](#) to learn how Village Savings & Loans Associations (VSLAs) bolster the economic position of women in cocoa communities.

At a glance

In 2022, we launched our [Gender Equity & Women's Empowerment Strategy](#). The roadmap for implementation, set for publication in 2023, consolidates what we have learned and accelerates our impact. At the same time, we continue our effort to bring water, sanitation & hygiene (WASH) and nutrition training to cocoa communities.

Key progress

2022 saw the successful conclusion of the Promoting a Sustainable and Food Secure World Program (PROSPER) II, a three-year collaboration between Cargill and CARE. In West Africa, this partnership focused on improving the economic position of women through women-led Village Savings & Loans Associations (VSLAs), which finance small, non-cocoa businesses that improve families' resilience and resulted in an overall 31% decrease in poverty, and a 27% reduction in food insecurity. The next phase aligns with three change areas in the Cargill-CARE framework: access to inclusive markets, access to productive resources and agency, and strategic partnerships and advocacy.

Doubling down on what works, we are expanding other partnerships that support closing gender gaps, including income generation and diversification activities for women. With our partner Empow'Her and the International Finance Corporation (IFC), we are offering financial literacy and entrepreneurship training through the Cargill Coop Academy. Our collaboration with LadyAgri focuses on high-potential members of women's groups, provides them with financing and technology, and connects them with professional women from Africa and elsewhere for coaching and mentorship.

Throughout our cocoa sourcing countries, we continue to advance our integrated approach to child labor and community wellbeing. To address the root causes of child labor, we are combining CLMRS with preventative measures such as community development, women's empowerment, and opportunities for youth. We continue to refine our current CLMRS approach by rolling out a risk-based CLMRS approach across all origins, which allows us to target tailored remediation steps where they have the greatest impact. This approach has been in place in Cameroon since 2022. Implementation is underway for Côte d'Ivoire, with other origins to follow.

Learnings and next steps

When women can act on an equal footing with men, become entrepreneurs, and raise their incomes, families are more resilient and children are more likely to stay in school. For that reason, we aim to strengthen our efforts to break inequitable gender patterns and empower women. We will continue to drive change and intensify our impact, using an integrated approach to child labor and gender equity, and concentrating resources in high-risk areas to achieve the best results.



Expanding CLMRS

By June 2023, more than 93,000 farming households were monitored through CLMRS in Côte d'Ivoire, Ghana, Cameroon, Indonesia, and Brazil, up from nearly 52,000 in 2020-2021.*

*The proportion of farmers monitored by CLMRS increased significantly across our sourcing sites, with most of the country results doubled since the last report. Varying results across origins can be explained by level of maturity of CLMRS programs and farmer turnover rate.

We are rolling out a risk-based CLMRS approach across all origins, which allows us to target tailored remediation steps where they have the greatest impact. We will continue to expand our scope of regions covered and improve the model where possible. We are also in the process of aligning all origins to a shared approach consistent with ICI guidance.

Broadening access to education

With our partner CARE, we built six schools in Ghana, benefiting 730 students from kindergarten to junior high school.

More communities, greater impact

Our reach has grown along with our expertise. Our programs and partnerships are present in more communities than ever, promoting health, nutrition and gender equity.

Community action plans

2020-2021

613

2021-2022

841

Changing lives with WASH

Working with Global Water Challenge, Cargill financed and installed water wells in cocoa-growing communities. One community hadn't had access to a well since 1992.

In total:

67,000

people benefiting from improved WASH

+36

boreholes giving access to clean and potable water

+83

water committees established

We apply an integrated approach to WASH. For instance, at one school, we installed a well that also irrigates vegetables growing in an adjacent field. Furthermore, we built separate sanitation spaces for girls, so they no longer have to stay home during their periods.

Nearly 48,000 people in Cameroon, Côte d'Ivoire and Ghana benefited from improved WASH thanks to Cargill Currents, in partnership with the Global water Challenge. This includes 17 communities, 12 schools, and four health facilities. An estimated 17,000 women were empowered through time savings and other project activities, and more than 28,000 people were educated on safe water and hygiene.



Empowering women, inspiring men

While we're helping women grow, we're bringing men along and including both women and men in gender awareness programs. The benefits are shared by all.

Understanding

By June 2023 all 222,265 farmers took gender awareness training. Furthermore, more than 50% of women reported improved participation in decision-making.

Financing

In Crop Year 2021/2022, 1,012 Village Saving & Loan Associations (VSLAs) helped 17,318 women boost their incomes, up from 11,359 last year

Training

2,040 women received entrepreneurial training through the Coop Academy.

Protect our planet

We aim to drive lasting change across the cocoa sector. Grounded in the belief that sustainable cocoa farming and forests can and must flourish together, we pursue a holistic approach, combining digital traceability tools with hands-on collaboration on the ground.

Want to know more?

- Our [2022 Cocoa & Forests Initiative \(CFI\) report](#) highlights our progress in Côte d'Ivoire and Ghana, where most of the world's cocoa is grown, and presents a detailed plan for future efforts.
- Read our broader [Protect Our Planet Strategic Action Plan](#) to learn how we will help transform the cocoa supply chain.
- As public regulation increasingly drives sustainable development, the new EU Regulation on Deforestation-Free Supply Chains ([EUDR](#)) will be transformative for the sector.

Progress at a glance

1,400,000+
non-cocoa trees planted in West Africa in 2022.

Agroforestry helps promote biodiversity, climate resilience, and stable yields and incomes for cocoa farmers. Planting shade trees also sequesters additional carbon in above-ground biomass.

Key progress

Land use change represents 66% of CO₂ emissions from our cocoa and chocolate supply chain. Based on an assessment by sustainability consultant Quantis, we developed a strategy to eliminate deforestation-related emissions. (Learn more on [p.105](#))

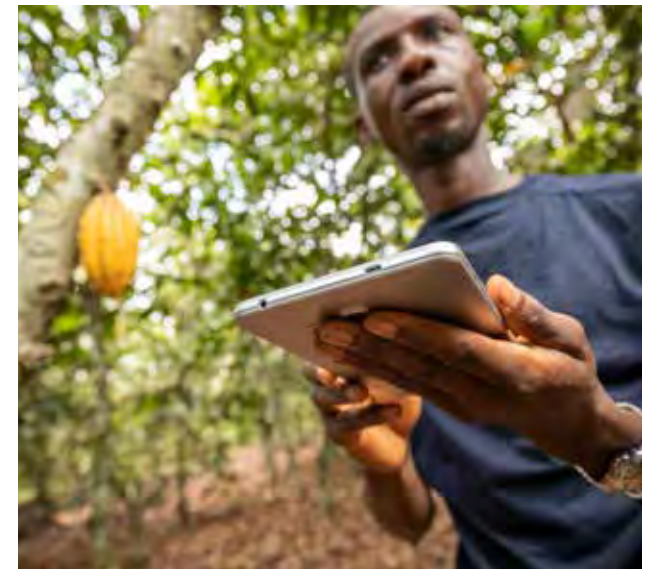
We identify deforestation hot spots intersecting with our supply chain through the use of GPS polygon maps of cocoa farms. Once we know farms' exact locations and perimeters, we can determine whether they operate on recently deforested lands or in proximity to still intact forests. Through on-site audits, we can mitigate issues and provide farmers with tailored training, and other support for sustainable practices.

Land rights issues are among the most prominent risk factors for deforestation. Working with government, industry, and our partner Meridia through the Côte d'Ivoire Land Partnership Program (CLAP), we aim to participate in delivering more than 10,000 land rights documents to farmers by 2024. With their rights secured, farmers are more likely to intensify production within property lines rather than deforest new areas.

We have significantly expanded the number of farmers we have trained in agroforestry and planted more than 1.4 million non-cocoa trees in 2022 alone. These extra trees sequester carbon, promote biodiversity, improve climate resilience, and protect the cocoa trees, which grow better in the shade. When GAPs are applied, shade trees can help stabilize cocoa yields. Fruit- and nut-bearing varieties can also provide additional income.

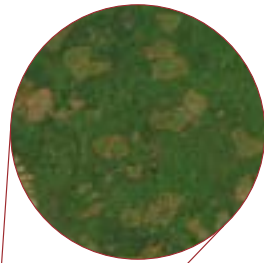
Learnings and next steps

Scaling up digital mapping and monitoring will allow us to focus and optimize our on-site engagement practices, and offer our farmer partners the best ways to work profitably and sustainably. The new CFI 2.0 action plan guides our efforts along these lines in Côte d'Ivoire and Ghana. It will serve as a model for other countries. We also continue to support emerging regulations, driving transformative action on issues including deforestation, decarbonization, and human rights.

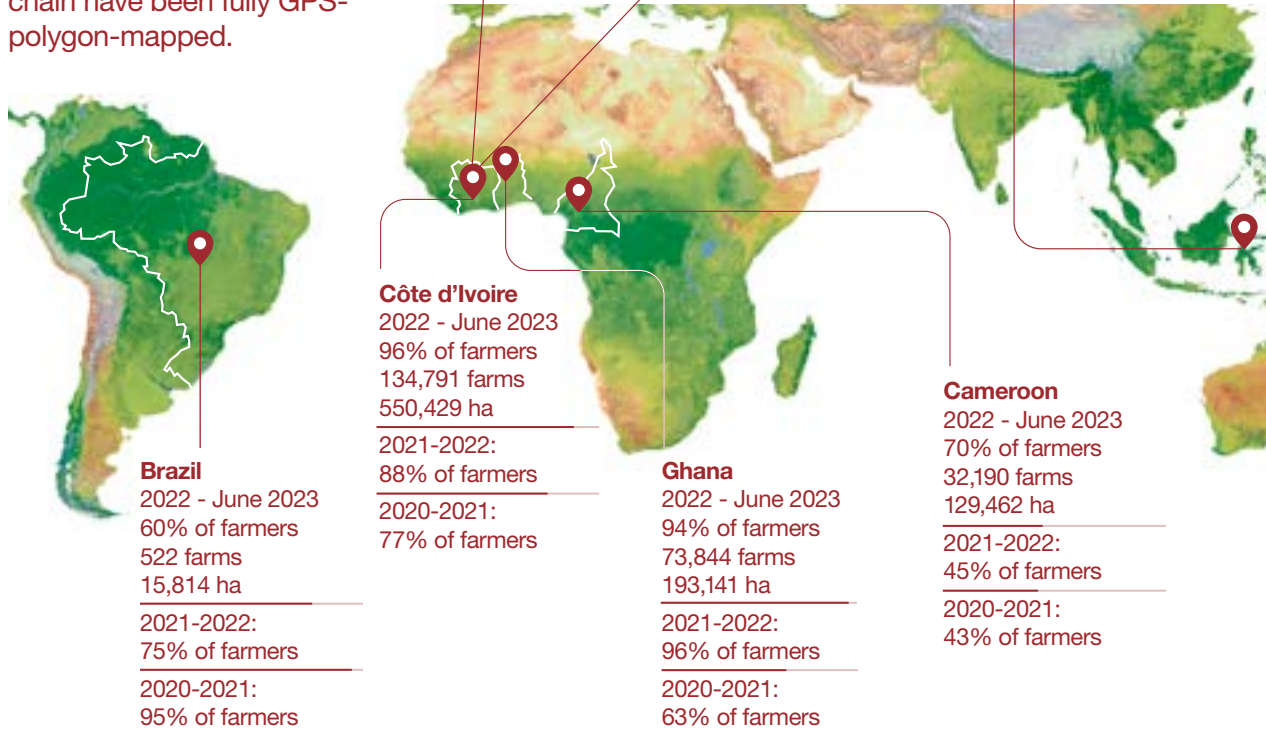


Mapping farms to protect forests

2022 - June 2023: **72%** of farmers in our direct supply chain have been fully GPS-polygon-mapped.



We use GPS polygon mapping and satellite imagery to detect and remedy deforestation. (See next page)



More community and landscape-level restoration initiatives

16,600+

Farmers in West Africa adopted high-intensity agroforestry systems in 2021-2022. Since 2017, we have reached 22,024 farmers, based on deforestation risk at jurisdictional and cooperative levels.

2.6+ million

Trees distributed since 2017-2018. It takes an estimated 3.3 trees planted in a cocoa agroforestry setting to sequester 1 metric ton of CO₂e over a twenty-year period.

- We source more than 60% of our cocoa beans directly from farms or farmer groups and implement direct supply chain action within our direct sustainable supply chain. We install the traceability tools ourselves, in partnership with farmer groups and technology service providers such as Farmforce and Koltiva.
- For indirect volumes, we rely on intermediaries. Knowing that supply chain transparency may vary, we perform due diligence to assess risk and provide traceability information. Due to local regulatory environments, sourcing 100% of our volumes directly is not possible everywhere. Furthermore, we value working with local partners.

Through our supplier engagement efforts, we support them in creating value, improving transparency, and building domestic sustainable supply chain capacity.

- We assess deforestation risk by overlaying farm mapping data with geospatial satellite data made available by the World Resources Institute (WRI)'s Global Forest Watch Pro platform. We also assess legality of production. Production in protected areas is primarily measured using data from national governments on Protected Area boundaries. Where this is not possible, we rely on IUCN and UNEP-WCMC's World Database on Protected Areas.

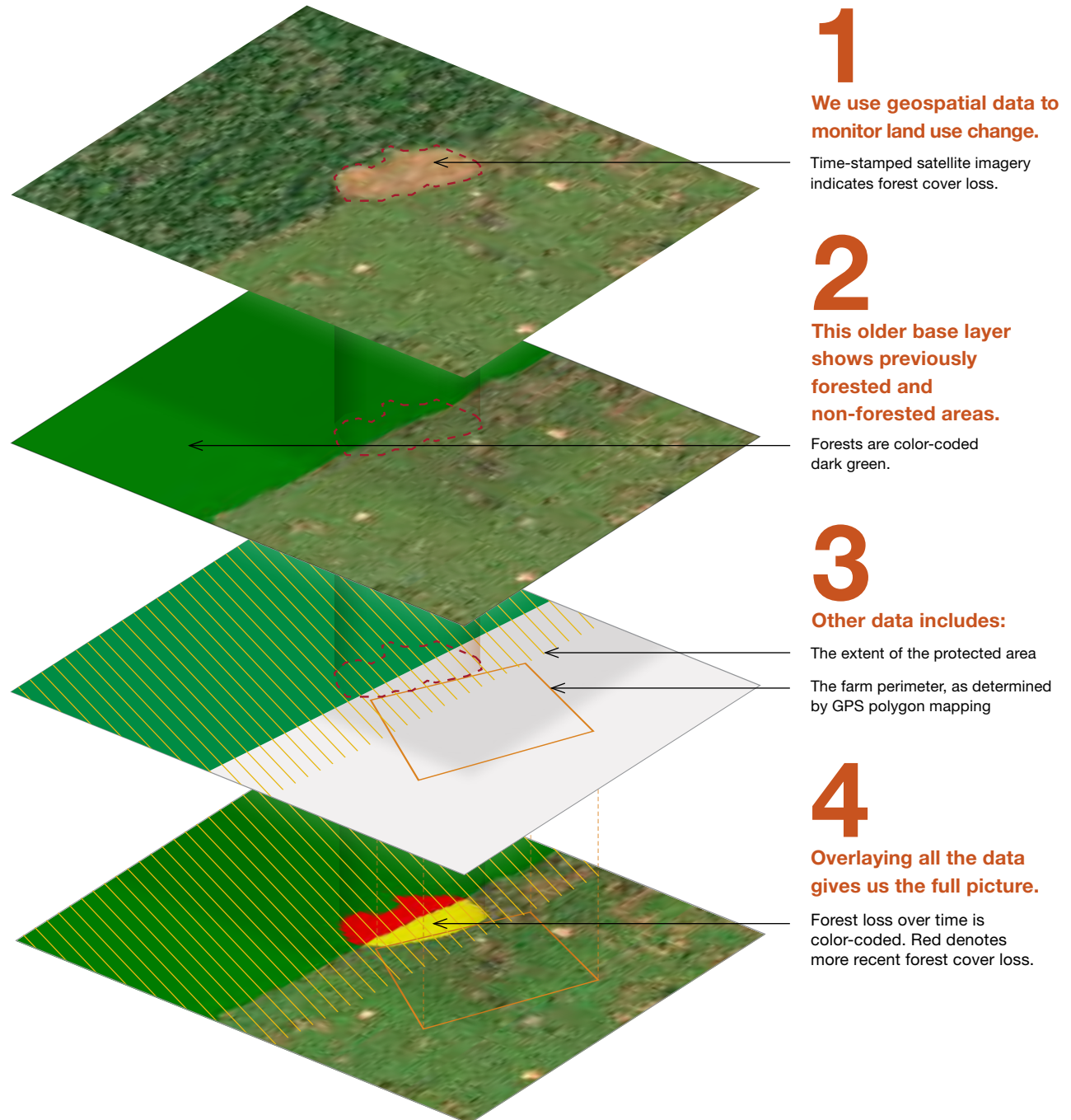
- We refer with GPS polygon mapped farms to all farms of certified farmers that have been mapped in either 2021-2022 or 2022-2023. Farm maps reported here may include geometry issues. We found that, depending on the country, 6% - 22% of our mapped farmers have duplicate polygons or polygons that overlap by at least 20% with one or more other polygons. Solving these issues is among our key priorities in the coming years.
- In Brazil, the number of farmers participating in the Cocoa Promise has more than doubled since 2020-2021 (203 farms). Because our mapping effort has much more ground to cover, the overall mapped percentage has decreased.

GPS polygon mapping explained

Overlaying satellite imagery with GPS polygon maps, we can detect forest cover changes on our suppliers' farms and in nearby forests and protected areas. Creating a GPS polygon map requires walking around a farm's perimeter with a smartphone or another small GPS-equipped device.

Once we know each farm's shape, location, and ownership, we can engage directly with farmers to remedy existing issues or mitigate future deforestation risk. Action steps can include training on sustainable practices like agroforestry and the correct use of inputs, solving land rights issues, and income diversification.

While cocoa cultivation is an important driver of deforestation, it is not the only factor. In many cases, deforestation is driven by third-party wood extraction, mining, or conversion for other crops, such as rubber.



Consumer confidence

Global demand for responsibly and sustainably sourced cocoa is rising. Customers and consumers expect transparency. Government regulations are growing more ambitious. As we expand our use of digital traceability technology, we are increasing our capacity to provide the sustainable products the market expects.

Want to know more?

- Learn what the new EU Regulation on Deforestation-Free Supply Chains (EUDR) [means for the cocoa sector](#).
- Read this [Environmental Research Letters article](#) on why full farm-level traceability is a prerequisite for deforestation-free cocoa.
- Find out how Cargill's [CocoaWise™ portal](#) helps our customers access sustainability data for our supply chain directly.

Progress at a glance

100%
of our partner cooperatives in Côte d'Ivoire have implemented digital traceability.

Key progress

The way forward is best illustrated in Côte d'Ivoire, where we are approaching our goal of 100% verified traceable cocoa. As of October 2022, all 147 of our partner cooperatives had implemented digital traceability measures. As of June 2023, 96% of certified farmers in our Côte d'Ivoire supply chain had their farms polygon-mapped, up from 88% in 2022. Collaborating closely with key digital technology provider Farmforce, we expect to reach 100% before the start of Crop Year 2023-24.

As a result, the cocoa delivered to our Cargill facilities as Promise Verified and Promise Rainforest Alliance in Côte d'Ivoire is now digitally traceable to the farm, and digital sustainability premium payments are growing rapidly. During the 2021-22 growing season, we paid out CFA 450M (\$750,000). Midway through the 2022-23 season, farmers had already received CFA 850M (\$1.4 million).

We are partnering with the Ivorian Conseil du Café et Cacao to implement a national traceability and digital payment system. In Ghana, we are supporting a traceability pilot launching late 2023 in the Assin Fossu district. Traceability efforts are expected to accelerate as the sector works to meet the EUDR by the end of 2024. With our NGO partners TechnoServe and Meridia, we are supporting compliance efforts throughout our direct and indirect supply chains.

Learnings and next steps

We will complete polygon mapping globally for the Cargill Cocoa Promise, and work with our farmer partners, NGOs and governments to expand the use of traceability and digital payment technology. At the same time, we will support farmers in their efforts to adapt to the EUDR's requirements. Combined, these measures will accelerate progress toward a transparent, sustainable global cocoa supply chain.

Certified sustainable cocoa volumes sold



2020-2021

49%

2021-2022

49%

2022-June 2023

48%

Expanding traceability throughout the supply chain

2022-June 2023

Up to farmer organization / first point of purchase level



Up to farmer level



Up to farm level



100%

of cocoa in our direct supply chain is traceable up to the first point of purchase. For our indirect supply chain, through our due diligence system with suppliers, 14% of the cocoa is traceable to the first point of purchase, up from 10% in 2020-2021.

75%

of farmers in our direct sustainable supply chain, 165,768 in total, are delivering volume through first-mile digital traceability systems, up from 48% in 2020-2021.

72%

of farmers in our direct supply chain are GPS polygon mapped and monitored for deforestation risk (see Protect our planet), up from 70% in 2020-2021.

More mobile payments accelerate digitalization

2020-2021

56,700

farmers registered with mobile banking systems (23% of total)

26,200

farmers receiving mobile premium payments (11% of total)

2021-2022

66,600

farmers registered with mobile banking systems (35% of total)

19,800

farmers receiving mobile premium payments (10% of total)

2022-June 2023

73,400

farmers registered with mobile banking systems (33% of total)

36,600

farmers receiving mobile premium payments (16% of total)

Responsible business

In everything we do, we aim to save valuable resources, and minimize our environmental footprint. Across the supply chain, from bean to bar, we work around the clock to deliver delightful products in a safe, responsible, and sustainable way.

Want to know more?

- Go to our [website](#) to learn more about our approach to sustainability governance, ethics, and compliance.
- Familiarize yourself with Cargill's [CDP responses](#) and our ESG scorecard.

Progress at a glance

66%

of our carbon emissions stem from land use change.

That's why our climate action roadmap makes tackling deforestation our #1 priority, in line with Cargill's commitment to make our agricultural supply chains deforestation-free by 2030.

Honoring ethical standards, every day

Cocoa & Chocolate adheres to Cargill's corporate [Code of Conduct](#) and Supplier [Code of Conduct](#). These codes set standards for doing business around the world based on the company's seven [Guiding Principles](#).

A climate action plan for cocoa and chocolate

In 2022, we worked with environmental consultancy firm Quantis to assess Cargill's cocoa and chocolate-related carbon footprint. Together, we determined that 4% of our emissions are linked to our manufacturing activities (scope 1 and 2) and 96% to our supply chain (scope 3). We identified four carbon hot spots – energy use, transportation, dairy ingredients, and land use change from cocoa cultivation – and formulated a plan to address them.

This roadmap identifies 32 quantifiable actions. Taken together, we estimate that the top 10 actions can help us reduce our emissions by more than 65%. Among these, eliminating deforestation is the most impactful action we can take, as it remains the supply chain's largest source of emissions.

We will intensify our effort to end deforestation within our supply chain by increasing traceability and investing in programs to protect forests and develop agroforestry approaches. For further details, see the [Protect our planet](#) and [Consumer confidence](#) sections in this chapter, as well as our [website](#).

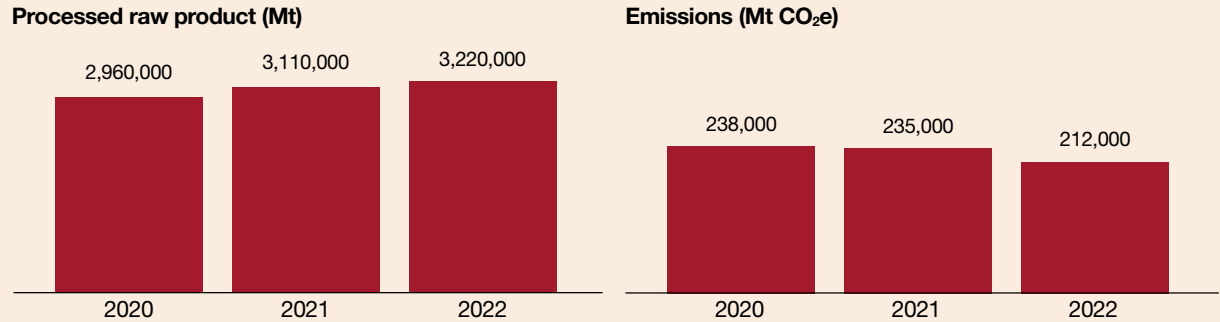


Decarbonizing our facilities

Despite growth in production volumes, emissions from our own locations (scope 1 and 2) have steadily fallen since 2020 (see chart). These results account for improved energy consumption reporting due to better data gathering, and a revision of the 2017 baseline to include facilities that were not included previously.

Cargill is working to identify opportunities for green energy use at its facilities company-wide.

As production grows, processing emissions fall



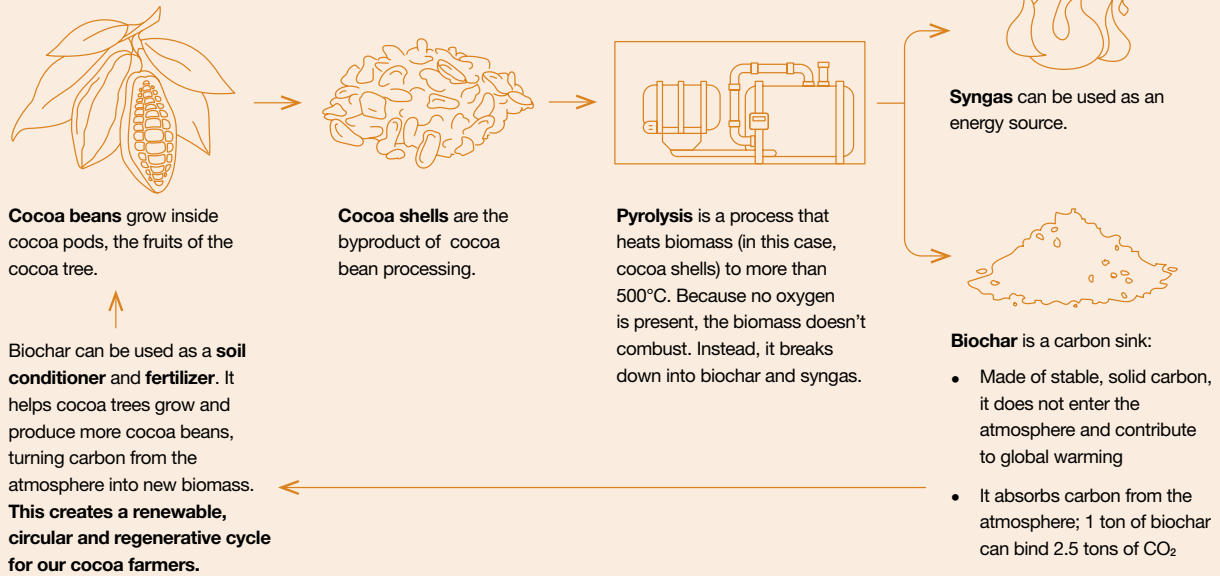
Making renewable biochar to bind carbon and boost yields

Cocoa bean shells have traditionally been discarded as waste, but that is changing. Working with the U.K. Biochar Research Centre at the University of Edinburgh and our NGO partner PUR Projet, we have launched a pilot project to convert cocoa shells into syngas, a renewable fuel, and biochar, a carbon-sequestering fertilizer.

Our pilot facility in Côte d'Ivoire is expected to start production by the end of 2024. The installation can create up to 5,000 tons of biochar per year. We will use the syngas to make steam for our processing requirements.

Pyrolysis can potentially be applied at all our cocoa processing facilities. We plan to supply the biochar to farmers free of charge, driving circularity, regenerative agriculture and higher yields and incomes.

How it works



Transformation together

One of the most important things we learned in the decade since we launched the Cargill Cocoa Promise is that issues facing the cocoa sector are interlinked. Creating lasting, industry-wide progress requires holistic solutions that connect the dots and benefit all people, organizations, and ecosystems involved.

Want to know more?

- Learn how we apply the power of partnerships to [deliver systemic change](#).
- Follow the stories on [Cargill Cocoa Promise website](#) to find out how our partnerships make a positive difference for the people and communities who grow our cocoa.
- As new E.U. sustainability regulations take effect, the [European Cocoa Association](#) (ECA) acts as the voice of the industry.

Progress at a glance

More than
60 partnerships

26 NGOs and foundations, 5 producing governments, 11 multi-stakeholder initiatives, 7 social enterprises, 4 knowledge institutes, 5 technology providers, and 4 financial institutions.



Key progress

At Cargill, we use our position at the center of the supply chain to bring stakeholders together and accelerate our combined impact. That is especially true in the cocoa sector, with its many interwoven issues facing the many tens of thousands of smallholders across our six origin countries. In response, we have developed an equally tightly woven web of partner organizations, providing hands-on expertise with farm mapping, land rights, digital payments, agroforestry, child labor prevention, and many other issues.

The last two years saw the successful renewal of several key partnerships, for instance with CARE, Empow'Her and LadyAgri (p. 98). As we move forward together, we will continue to combine practical, cutting-edge technology with time-tested relationships on the ground, making a tangible difference for our farmer-partners and their communities.

At the same time, we are involved in several industry associations and public-private partnerships, collaborating across borders with government agencies, NGOs, customers, and even our competitors to address the big issues facing the sector. Among the most notable example is our CFI 2.0 Action Plan (p. 100).

Learnings and next steps

Our goals remain as relevant as ever. Through new and existing partnerships, we aim to accelerate progress toward a truly sustainable cocoa supply chain. We will strengthen our focus on gender equity and scale up successful partnerships in support of food security and living incomes. Working with our partners from the farm level to the international forums, we will advance compliance with the EUDR, which we see as a strong impetus for sustainable cocoa.

Making a difference for real people

Beyond the project charters, acronyms and abstractions that come with the daily realities of ESG, we never forget that the work is about human beings and their communities. Farmers are always the focal point of our efforts. In the 2021-2023 period, we have steadily expanded our reach

and worked with our farmer-partners to promote sustainable agriculture, advanced management skills, and gender equity, and supporting women as economic actors and community leaders. Here are just some of the remarkable individuals we are privileged to know.



Photo credit: Sandrine Bénitah

When her husband's cocoa-buying business fell on hard times, **Marie Adjehi Nanou Bla** from Côte d'Ivoire worked with her local Village Savings and Loan Association (VSLA) to start her own venture, selling fish, chicken, and eggs. "I am completely financially independent and I am the one who provides for all my family's expenses," she said soon after.



Photo credit: LadyAgri

Farmer **Dorothee Messina** supports a household of 11. Starting with trainings to grow her management skills – from food safety to social entrepreneurship – she worked her way up to become a leader in her local farming cooperative, representing the voice of women. "We are the heart of the Cameroon food system," she said.



Photo credit: Unforeseen Studio

If there's one thing that breaks **Ouatarra Shaka's** heart, it's the sight of trees going down. That's why this Ivorian cocoa farmer became a champion of agroforestry. "I am replanting trees for my children, to keep living from cocoa and provide a livelihood for my family. Trees are our common heritage, that's why we must take care of them."



Assurance report of the independent auditor

To: the Executive Team of Cargill B.V.

Our conclusion

We have reviewed the selected sustainability indicators as included in the Sustainability chapter of the Global ESG report 2023 (hereafter: 'the Report') of Cargill B.V. (hereafter: Cargill) at Schiphol for the crop-years 2021-2022 and 2022-2023 (2022-2023 ending at 30th June) (hereafter: the sustainability indicators). A review is aimed at obtaining a limited level of assurance.

Based on the procedures performed nothing has come to our attention that causes us to believe that the sustainability indicators are not prepared, in all material respects, in accordance with the reporting criteria as described in the 'Reporting criteria' section of our report.

The sustainability indicators in scope consist of the indicators included in the report in the table at pages 92 and 93.

Basis for our conclusion

We performed our review in accordance with Dutch law, including Dutch Standard 3000A 'Assurance-opdrachten anders dan opdrachten tot controle of beoordeling van historische financiële informatie (attest-opdrachten) (assurance engagements other than audits or reviews of historical financial information (attestation engagements)). This engagement is aimed to obtain limited assurance. Our responsibilities in this regard are further described in the 'Auditor's responsibilities' section of our report.

We are independent of Cargill B.V. in accordance with the 'Verordening inzake de onafhankelijkheid van accountants bij assurance-opdrachten' (ViO, Code of Ethics for Professional Accountants, a regulation with respect to independence). Furthermore, we have complied with the 'Verordening gedrags- en beroepsregels accountants' (VGBA, Dutch Code of Ethics). We believe the assurance evidence we have obtained is sufficient and appropriate to provide a basis for our conclusion.

Reporting Criteria

The sustainability indicators need to be read and understood together with the reporting criteria. Cargill is solely responsible for selecting and applying these reporting criteria, taking into account applicable law and regulations related to reporting.

The reporting criteria used for the preparation of the sustainability indicators are the applied internally developed reporting criteria as disclosed in the section 'Dashboard' on pages 92 and 93 of the Report.



Materiality

Based on our professional judgement we determined materiality levels for each relevant part of the Report / the sustainability indicators and for the sustainability information as a whole. When evaluating our materiality levels, we have taken into account quantitative and qualitative considerations as well as the relevance of information for both stakeholders and Cargill.

Limitations to the scope of our review

The sustainability indicators includes prospective information such as ambitions, strategy, plans, expectations and estimates. Inherently the actual future results are uncertain. We do not provide any assurance on the assumptions and achievability of prospective information of the sustainability indicators.

References to external sources or websites related to the sustainability indicators are not part of the sustainability indicators itself as reviewed by us. Therefore, we do not provide assurance on this information.

Our conclusion is not modified in respect to these matters

The Executive Team Responsibilities

The Executive Team of Cargill is responsible for the preparation of the sustainability indicators in accordance with the applicable criteria as described in the 'Reporting criteria' section of our report, including the identification of stakeholders and the definition of material matters. The choices made by Management regarding the scope of the Sustainability chapter and the reporting policy are summarized on pages 92 and 93 of the Report.

Furthermore, The Executive Team of Cargill is responsible for such internal control as it determines is necessary to enable the preparation of the sustainability indicators that is free from material misstatement, whether due to fraud or error.



Auditor's responsibilities

Our responsibility is to plan and perform our review in a manner that allows us to obtain sufficient and appropriate assurance evidence for our conclusion.

Procedures performed to obtain a limited level of assurance are aimed to determine the plausibility of information and vary in nature and timing, and are less in extent, compared to a reasonable assurance engagement. The level of assurance obtained in a limited assurance engagement is substantially lower than the assurance that would have been obtained had a reasonable assurance engagement been performed.

We apply the 'Nadere Voorschriften Kwaliteitssystemen' (NVKS, Regulations for Quality management systems) and accordingly maintain a comprehensive system of quality control including documented policies and procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.

We have exercised professional judgement and have maintained professional skepticism throughout the review, in accordance with the Dutch Standard 3000A, ethical requirements and independence requirements.

Our review included among others:

- Performing an analysis of the external environment and obtaining an understanding of relevant societal themes and issues, and the characteristics of the company;
- Evaluating the appropriateness of the reporting criteria used, their consistent application and related disclosures in the sustainability indicators;
- Obtaining an understanding of the reporting processes for the sustainability indicators, including obtaining a general understanding of internal control relevant to our review;
- Identifying areas of the sustainability indicators where a material misstatement, whether due to fraud or error, are most likely to occur, designing and performing assurance procedures responsive to these areas, and obtaining assurance information that is sufficient and appropriate to provide a basis for our conclusion. These procedures included, amongst others:
 - Interviewing management and relevant staff at corporate level responsible for the strategy, policy and results;
 - Interviewing relevant staff responsible for providing the information for, carrying out internal control procedures over, and consolidating the data in the sustainability indicators;



- Determining the nature and extent of the review procedures for reporting countries. For this, the nature, extent and/or risk profile of these reporting countries are decisive. Based thereon we selected countries to visit. The visits to 2 countries, Ghana and Cameroon, are aimed at, on a local level, validating source and registration data by evaluating the design and implementation of internal controls and validation procedures;

- Obtaining assurance information that the sustainability indicators reconciles with underlying records of Cargill;

- Reviewing, on a limited test basis, relevant internal and external documentation;

- Performing an analytical review of the data and trends.

- Evaluating the consistency of the sustainability indicators with the information in the report which is not included in the scope of our review;

- Evaluating the presentation, structure and content of the sustainability indicators;

- Considering whether the sustainability indicators as a whole, including the disclosures, reflects the purpose of the reporting criteria used.

We have communicated with the Executive Team of Cargill regarding, among other matters, the planned scope and timing of the review and significant findings that we identify during our review.

Amstelveen, 31 October 2023
KPMG Accountants N.V.

D.A.C.A.J. Landesz Campen RA
Partner



Palm Oil

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About this chapter

Unless stated otherwise, the content in this chapter covers calendar year 2022, including KPI progress metrics.

Cargill's palm oil supply chain extends from our own plantations and mills to trading and refining palm oil around the world. In 2022, we took tangible steps toward meeting our No Deforestation, No Peat, and No Exploitation (NDPE) commitments in our global supply chain.

In addition to signing the **Agriculture Sector Roadmap to 1.5°C**[☞], we revised our 2025 palm roadmap to accelerate our commitment to be deforestation-free in our palm oil supply chain by 2025. We continue our active role as co-conveners of the **Palm Oil Collaboration Group**[☞] and we advocate for adoption of the **NDPE Implementation Reporting Framework (IRF)**[☞] across the palm industry. In 2022, 54% of our global refinery volumes achieved the NDPE IRF highest category of “Delivering.” We are closing the gap on our goal to achieve 100% traceability to plantation by 2025, reaching 72% globally in 2022 compared to 65% in 2021.

We are preparing for the implementation of new regulations affecting the palm supply chain, such as the **European regulation**[☞] impacting products associated with deforestation and forest degradation. In 2022, we accelerated our engagement with suppliers focused on collecting polygon maps of plantations to improve analysis and detection of deforestation activity. We also developed new platforms to improve due diligence processes.

Cargill continues our active role in multistakeholder platforms, organizations and working groups, such as representing traders and processors on the Roundtable on Sustainable Palm Oil (RSPO) Board of Governors, participating in the RSPO North America Sustainable Palm Oil Network, and sponsoring the first RSPO Interamerican Conference in May 2023. In Colombia, Cargill has been elected to the steering committee of the Alliance for Sustainable Palm Oil of Colombia (APSCO), the main initiative to produce sustainable palm oil in the region.

We will continue to transform our palm oil supply chain—and the industry—in the years ahead.



Natalia Orlova
Managing Director,
Cargill Edible Oils
North America



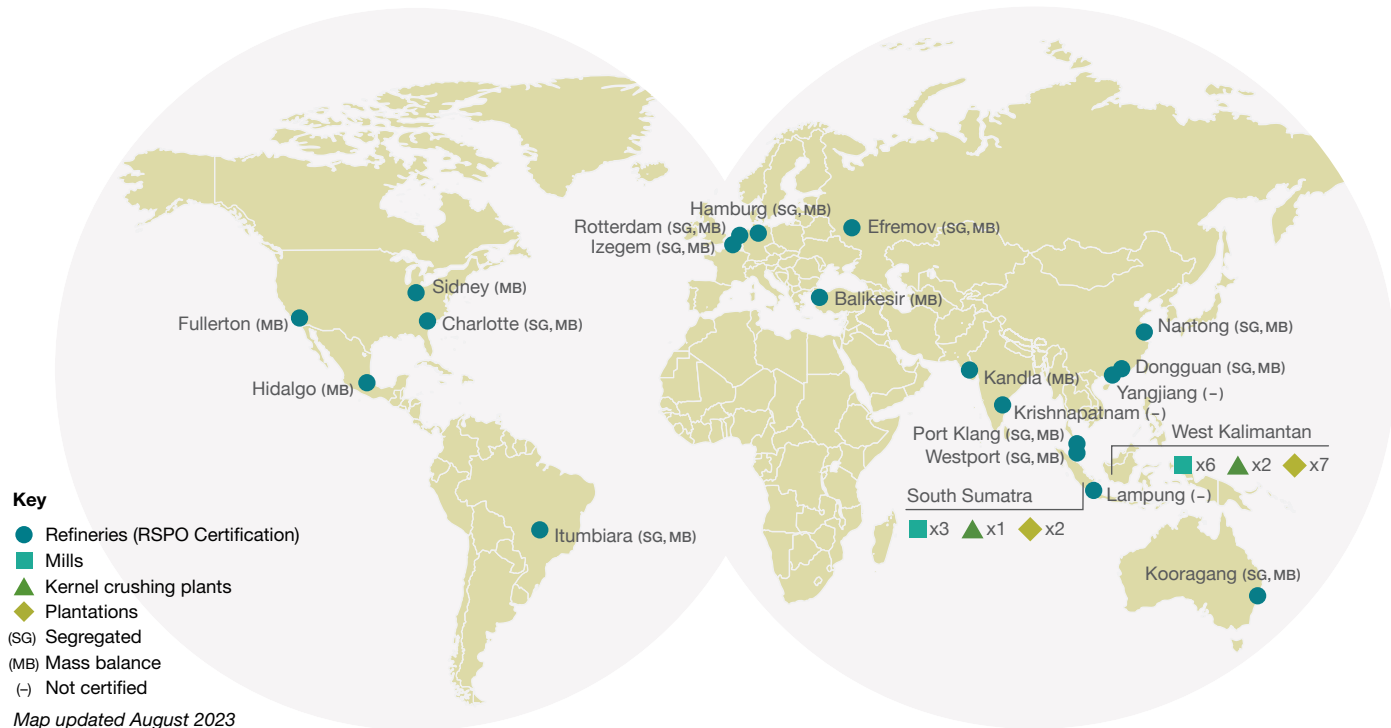
Daniel Stregels
Managing Director,
Cargill Edible Oils
Europe

Supply chain overview

Cargill palm oil operations

Cargill operates a global palm oil supply chain with physical assets in the form of plantations, palm oil mills, kernel crushing plants, and refineries. As a trader of major commodities around the world, our key activities in the palm supply chain include sourcing, trading, and refining oil from third-party mill suppliers.⁴³ We buy some of the oil directly from mills; the majority of the oil is sourced indirectly via traders and refiners on the open market. We also purchase from smallholders through cooperatives and indirectly from independent smallholders.

⁴³ Our mill list can be found on our [Palm Sustainability Dashboard](#).



 **19** Refineries

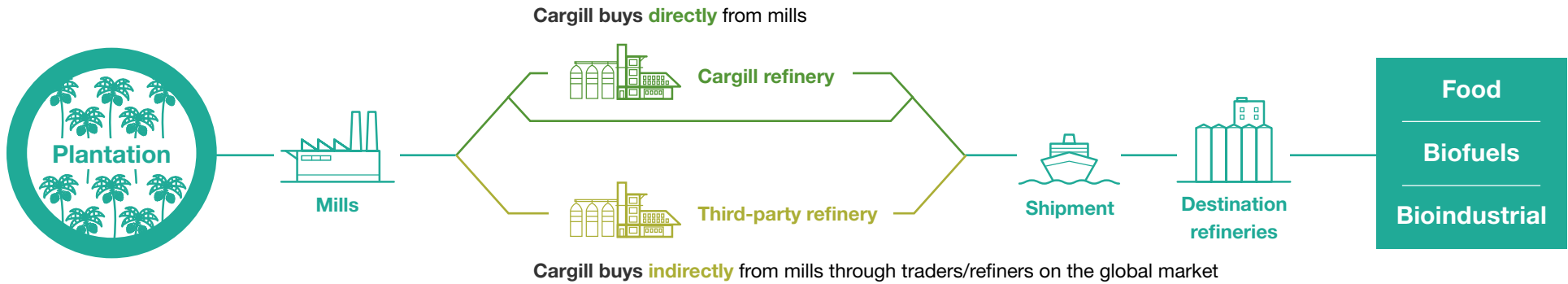
 **12** Mills
Includes palm oil mills and kernel crush plants

 **9** Plantations

 **24,000** Smallholders
Smallholders we partner with in our own operations

Not part of Cargill's operations
 **1,640** Third-party mills

Our palm oil supply chain



29%
of all Cargill volumes physically certified (RSPO SG & MB)

Direct and indirect mills sourcing

1,366
Indirect mills

283
Direct mills

Our commitments

Protect forests

We are taking steps to protect forests in our palm oil supply chain in line with the High Carbon Stock Approach (HCSA) and consistent with Cargill's companywide commitment detailed in our [Forest Policy](#).



Respect human rights

We treat people with dignity and respect, provide equitable, safe and supportive workplaces and take action to promote human rights in our supply chains as described in our [Human Rights Policy](#).



Help ensure a traceable, transparent and sustainable palm oil supply chain

Cargill's commitment to producing and sourcing palm oil in an economical, environmentally sustainable, and socially responsible manner is detailed in our [Policy on Sustainable Palm Oil](#). In accordance with NDPE practices, Cargill commits to a supply chain that:

- Protects high conservation value (HCV) areas, high carbon stock (HCS) forests, and peatlands regardless of depth
- Respects and upholds the rights of workers, indigenous peoples, and local communities
- Enables smallholders to become successful businesspeople, improving their livelihoods through responsible production, maximizing yields, and improving quality
- Upholds high standards of transparency through reporting of traceability, time-bound implementation plans, resolving grievances, and achieving third-party verified policy compliance

Cargill palm oil sustainability roadmap

Purpose Nourish the world in a safe, responsible and sustainable way

Priorities






Goals

	Climate Change	Land Use	Water	Farmer Livelihoods	Human Rights
2025	Support our Science Based Targets initiative (SBTi) goal to reduce Scope 1 and 2 absolute greenhouse gas (GHG) emissions in our operations by 10% against a 2017 baseline	100% traceable to plantation (TTP) All palm oil volumes are in the “Delivering” category of the NDPE IRF (Implementation Reporting Framework) ⁴⁴			Human Rights due diligence (HRDD) processes activated at 100% of Cargill-owned palm plantations 100% of direct suppliers have human rights commitments in their NDPE policy
2030	Support our Science Based Targets initiative (SBTi) goal to reduce our Scope 3 GHG emissions from our extended supply chain by 30% per ton of product, against a 2017 baseline		Enable improved access to safe drinking water in our priority communities in Indonesia for 25,000 beneficiaries Enable a water positive impact in priority regions	60,000 farmers supported through services and partnerships	100% of direct and indirect suppliers have human rights commitments in their NDPE policy HRDD processes activated at 100% of direct suppliers’ operations 100% of indirect suppliers have been trained on how to create and implement a HRDD action plan

⁴⁴ We updated our palm sustainability roadmap in 2022 with a commitment to be deforestation-free by 2025. We are measuring our progress using the NDPE IRF for the percentage of our refinery volume on the “Delivering” category.

Dashboard

This dashboard aligns with our current palm oil sustainability roadmap and includes the key performance indicators (KPIs) we are using to track and share progress toward our 2025 and 2030 goals.⁴⁵

Roadmap pillar		Goal/KPI	2022 progress
 Climate	Climate Change	2025 Support our Science Based Targets initiative ⁴⁵ goal to reduce scope 1 and 2 emissions by 10% against a 2017 baseline	Please refer to the Climate section
		2030 Support our Science Based Targets initiative ⁴⁵ goal to reduce scope 3 GHG emissions by 30% per ton of product against a 2017 baseline	Please refer to the Climate section
 Land & Water	Land Use	2025 100% TTP	72%
		All palm oil volumes are in the “Delivering” category of the NDPE IRF ⁴⁶	54% Delivering
	Water	2030 Enable improved access to safe drinking water in our priority communities in Indonesia for 25,000 beneficiaries	1,193 beneficiaries
 People	Farmer Livelihoods ⁴⁷	2030 60,000 farmers supported through services and partnerships by 2030	27,167
		Number of farmers who received training	23,149
		Number of farmers who are certified/verified under a sustainability program	9,837
		Number of landscape programs in which Cargill participates	9
	Human Rights	2025 100% of Cargill-owned palm operations have implemented our HRDD process	100%
	100% of direct suppliers have human rights commitments in their NDPE policy	72%	

⁴⁵ As communicated in last year's report, 2022 was the final year of reporting on the previous KPIs that corresponded with our earlier roadmap. Going forward, we expect to track year-over-year progress using the new KPIs shown here.

⁴⁶ We updated our palm sustainability roadmap in 2022 with a commitment to be deforestation-free by 2025. We are measuring our progress using the NDPE IRF for the percentage of our refinery volume on the “Delivering” category.

⁴⁷ Referring to all programs registered up to the end of December 2022.

Focus areas

Cargill plantations

Cargill has been advancing sustainable practices in our palm plantations in Indonesia since joining the RSPO in 2004, including working directly with smallholders in the surrounding communities. At our nine plantations across Indonesia, located in South Sumatra and West Kalimantan, we maintain new developments in line with the High Carbon Stock Approach (HCSA) and peat conservation commitments and we continue to protect human rights.

2022 Progress

Certification

In 2022, we maintained the RSPO certification for every mill and palm kernel crush plant in our operations. Most of our facilities are also certified under the Indonesian Sustainable Palm Oil scheme (ISPO).

Reforestation and conservation

Our efforts to restore a peat swamp forest near our Hindoli plantation in South Sumatra have been successful in reforesting the area. Careful selection, tree planting, and conservation monitoring have improved the density of flora and fauna, and maintaining surface water levels helps to prevent potential fires. After four years, the project achieved the following positive impact in 2022:

- **100%** of the area is reforested
- **10,000** native trees (26 local species) have been planted
- **Eight** protected bird and animal species have resettled in the reforested area
- More than **50,000-ton** reduction of carbon dioxide equivalent (CO₂e) and nearly 14,000 tons of carbon stock sequestered

This project has been recognized as an example of collaboration by government, private sector, and

100%
Mills RSPO certified

84%
Plantations RSPO certified

64%
Smallholders RSPO certified

100%
Fresh fruit bunches originate from NDPE-compliant sources

100%
Cargill operations and surrounding communities covered by a fire prevention and awareness program

NGO partners to preserve peat swamp forests with high conservation value and diversity.

We also continue our involvement in the Nanga Lauk community forestry conservation project in West Kalimantan. The project supports the local indigenous community in protecting biodiversity and critical ecosystems across more than 1,400 hectares of forest through sustainable land-use practices and patrolling against illegal logging. Orangutans have been returning to the area, and the project aims to expand to cover more than 9,000 additional hectares.

Methane capture

To reduce the greenhouse gas (GHG) footprint of our palm oil operations in Indonesia, we have been identifying and quantifying emissions sources and are implementing nine projects to capture methane gas emissions from wastewater treatment facilities at our mills. The collective impact of these projects is an estimated reduction of 270,000 metric tons of CO₂e, helping to meet Cargill's goal to reduce GHG emissions in our operations by 10% by 2025, against a 2017 baseline.

The captured methane is being used to generate power for use in our mill operations and housing for workers and their families. Two biogas plants in West Kalimantan are currently operational, two others are being built and five additional projects are targeted for completion by the end of 2024.

Decent Rural Living Initiative

Cargill joined the **Decent Rural Living Initiative** [↗] in 2022, a pre-competitive collaboration by five leading palm oil producers working together with relevant experts and stakeholders to develop long-term practical solutions that



benefit rural workers in the palm oil industry. Initially focused on Indonesia, the initiative is guided by seven principles:

- Commit to experimentation and scaling solutions
- Be worker-centric
- Provide additionality, ensuring efforts complement rather than duplicate existing programs
- Take a systemic approach, recognizing transformation requires social and structural change
- Be transparent
- Be future-oriented, considering the impact of industry trends on the well-being of rural workers
- Engage relevant experts to inform and validate solutions

Women's empowerment

To expand the role of women in palm oil plantation communities, Cargill is collaborating with **Yayasan CARE Peduli** [↗] and the Musi Banyuasin District Government in South Sumatra to launch a three-year women's empowerment program in 13 villages. The program aims to address challenges faced by women in the palm oil plantation sector, including limited access to financial resources, knowledge, and technology as well as sexual harassment and lower wages compared with male farmers.

Recognition

In 2022, seven of Cargill's palm oil mills were recognized with the highest level of the Indonesian Ministry of Industry's Green Industry Award for sustainable production. This award helps demonstrate the impact of Cargill's **Policy on Sustainable Palm Oil** [↗] and commitment to supporting the UN Sustainable Development Goals.

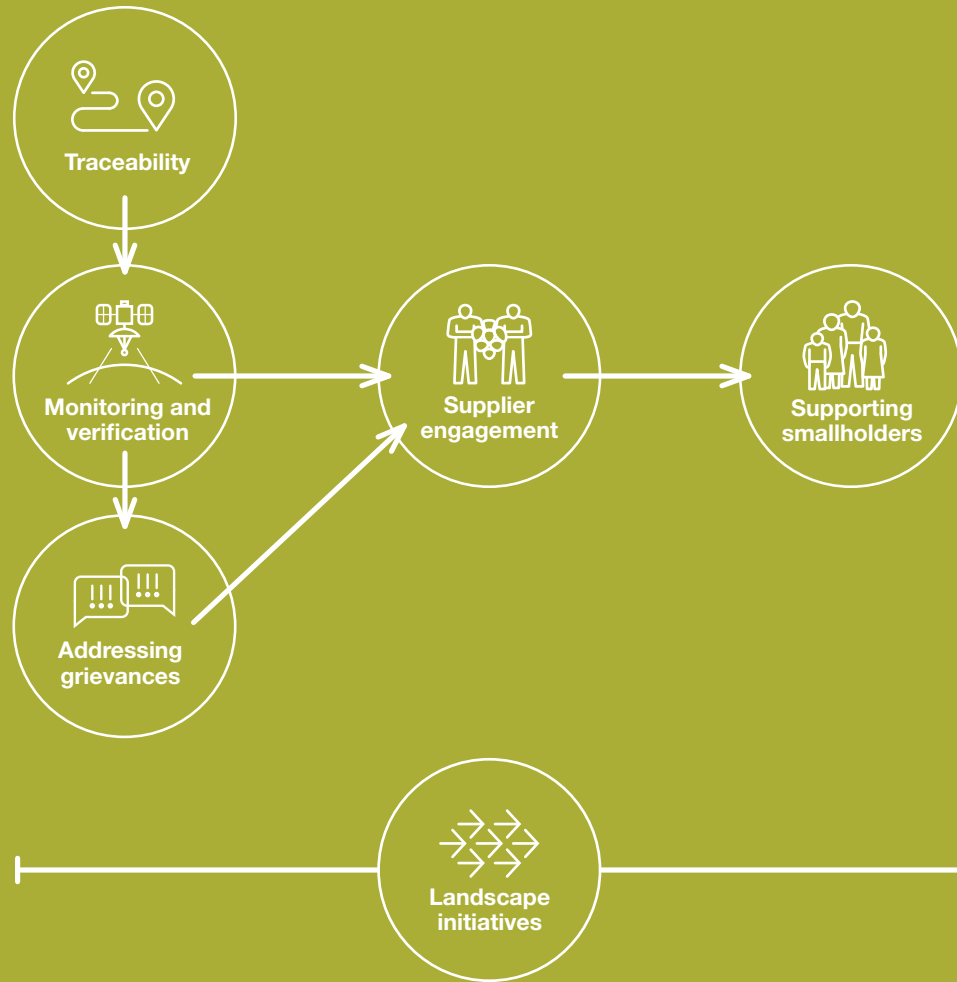
Cargill third-party supply chain

To achieve industry-wide change, we take a two-track approach focused on ensuring compliance with our Policy on Sustainable Palm Oil within our own supply chain, in addition to transforming practices beyond our supply chain.

2022 Progress

We continue advancing our efforts to improve the sustainability of our third-party supply chain, which accounts for more than 95% of Cargill’s palm oil volume. We are committed to protecting forests and human rights across our entire supply chain—both within and outside of commercial palm concessions. We are working to transform our supply chain through traceability, monitoring and verification, addressing grievances, supplier engagement, landscape initiatives, and smallholder programs.

How we are protecting forests and human rights in our third-party supply chain



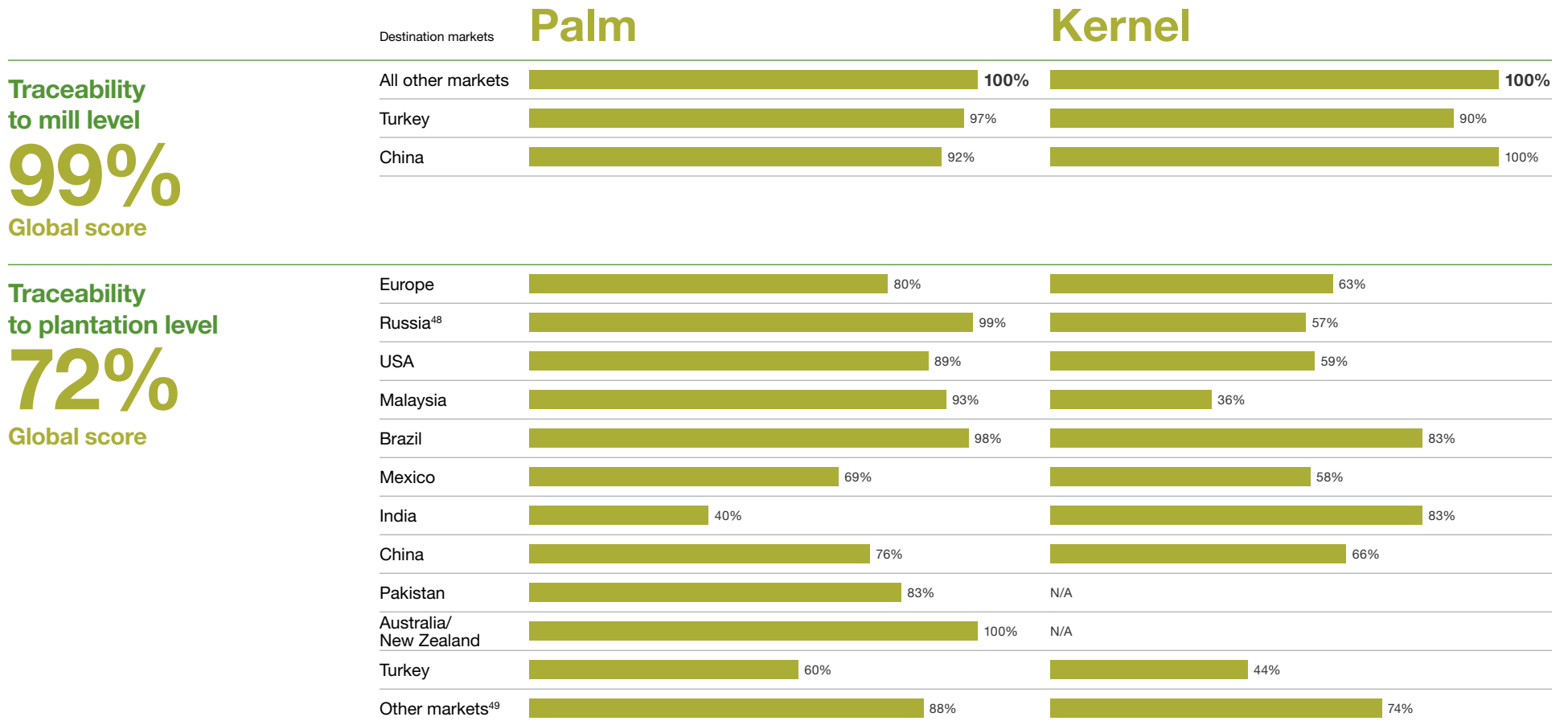
Traceability

Our approach

We have been using a **risk-calibrated approach** since 2019. We map the fresh fruit bunch supply base of palm oil mills and identify areas of higher risk for not meeting NDPE criteria based on the extent of forest, protected areas, and uncultivated peat areas surrounding the mill. We prioritize high-risk mills for engagement.

In 2022, we continued to close the gap toward reaching 100% traceability.

KPI PROGRESS



⁴⁸ Read [Cargill's statement](#) about the situation in Eastern Europe.

⁴⁹ Includes Indonesia and other countries.



Monitoring and verification

Our approach

To ensure suppliers are adhering to our no-deforestation and peat commitments, we use satellite technology to remotely monitor and detect any changes to forested areas. We verify compliance with our Policy on Sustainable Palm Oil using our own guidelines and industry frameworks. (For more information, see the graphic below.) Cargill is now working with Satelligence to enhance our robust monitoring capabilities in support of our commitment to be deforestation-free in the palm oil supply chain by 2025. Due to this transition, we will include supply chain coverage metrics in subsequent ESG reports as Cargill continues to monitor our supply chain using Satelligence’s system.

Verifying compliance with NDPE commitments

Using plantation location data, we conduct remote monitoring of palm plantations and adjacent areas using satellite technology to help ensure there are no signs of deforestation or planting on peat lands, then we verify the results to confirm compliance with our Policy on Sustainable Palm Oil and take action as needed.



Addressing grievances

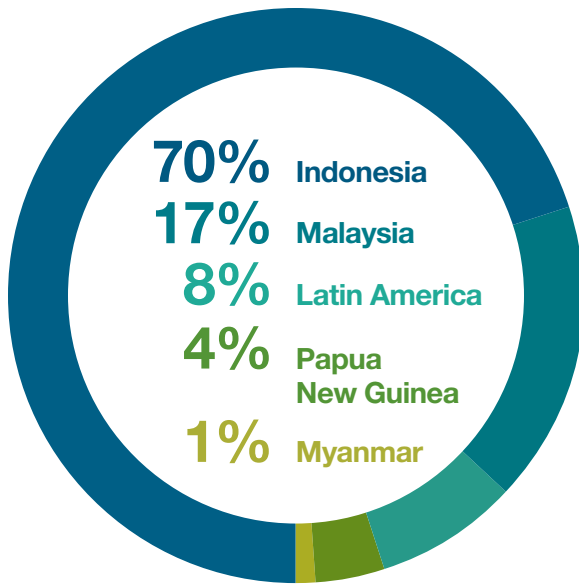
Our approach

When an issue is identified through our monitoring efforts, we immediately take action to address it. For example, when deforestation grievances are identified and validated, we immediately suspend suppliers and work with them to define an action plan with clear timelines and milestones. Our supplier suspension process is outlined in our [Palm Grievance Procedure](#)⁵⁰. To address labor and human rights issues in the palm oil supply chain, we prioritize engagement based on varying levels of severity and impact to drive long-term capability and compliance improvements. When a supplier is unable or unwilling to make progress within the agreed upon timeframe, or has repeated non-compliances, we remove the supplier from our supply chain.

We hold ourselves and our suppliers accountable to respond to grievances, set time-bound action plans to ensure progress, and close the grievance in a timely manner as agreed to by the complainant. We do not tolerate retaliation against anyone who, in good faith, raises a concern or participates in an investigation or whistleblowing.

KPI PROGRESS⁵⁰

Location of grievances



Grievances logged

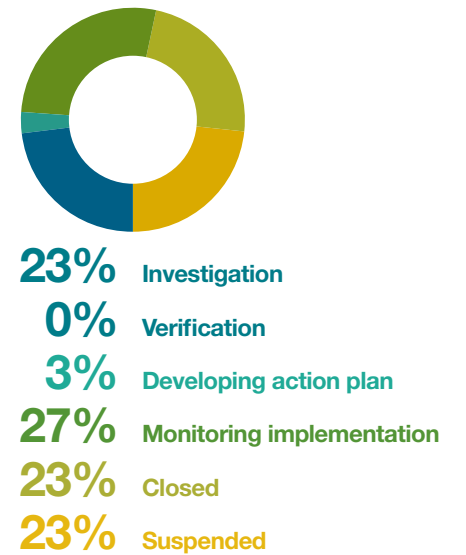


Addressing grievances

Deforestation⁵¹



Labor/human rights⁵¹



⁵⁰ Referring to all grievances registered up to the end of December 2022.

⁵¹ Percentages do not total 100% due to rounding of decimals.



Supplier engagement

KPI PROGRESS

Sustainability program impact

93%

Volumes covered by NDPE policy

90%

Direct suppliers (traders/refiners) with NDPE policy

Direct mills

70%

have completed self-assessments

82%

with NDPE policy

Total number of third-party suppliers

63 Third-party refineries

1,640 Third-party mills

Our approach

To ensure our suppliers are operating in compliance with our [Policy on Sustainable Palm Oil](#)⁵² commitments and our [Supplier Code of Conduct](#)⁵², we engage with them through visits, assessments, and workshops. Our risk-calibrated approach helps us prioritize the most important areas and suppliers for action. Our supplier engagement programs address both environmental and social sustainability challenges as we work to end deforestation and protect human rights in our supply chain. During 2022, working in partnership with the Consortium of Resource Experts, known as CORE (which includes Daemeter and Proforest), we updated our comprehensive due diligence process beginning with a questionnaire that suppliers must complete—followed by verification by our team—prior to our purchase of palm products. We will apply this updated due diligence process for all our suppliers globally.

Supplier engagement components

1. Due-diligence questionnaire and desk-based due diligence
2. Self-assessments
3. Field assessments
4. NDPE policy and implementation plan
5. Continuous improvement plan
6. Training

Latin America: We continued our work with suppliers in Colombia, Honduras, Guatemala, and Mexico to scale implementation of our Continuous Improvement Program focused on NDPE best practices. In 2022, we provided consulting and training to 12 high-risk suppliers to help them close gaps and comply with NDPE expectations in our Policy on Sustainable Palm Oil. Five suppliers from Colombia and Mexico completed action plan implementation during 2022, demonstrating compliance with social and environmental criteria. We also provided training to more than 320 mill assistants in Latin America through three webinars on our Connected4Change platform focused on traceability, geographic information system tools, and European regulations, including EUDR and CS3D.⁵²

Our actions

Brazil: Through our partnership with [Earthworm Foundation](#)⁵², we are supporting palm oil mills in our supply chain to improve environmental, social, and labor practices so they meet the criteria of Cargill's Policy on Sustainable Palm Oil. Earthworm assesses and guides suppliers using the Aggregator Refinery Transformation (ART) action plan to help them increase sustainability, traceability, and accountability. In 2022, suppliers made progress in closing the gaps outlined in their action plans, and more than 100 supplier representatives were trained to address socio-environmental sustainability challenges during a series of sessions focused on human rights, conflict management, and [free, prior and informed consent \(FPIC\)](#)⁵² rights for indigenous peoples.

Malaysia: We engaged with suppliers during 2022 to improve human rights and prevent deforestation. Working with Earthworm Foundation, we conducted an Ethical Recruitment Due Diligence Program with a mill in Masai (Johor) focused on recruitment practices, from pre-arrival of migrant workers at their country of origin to departure after completion of their work with the mill. The program included review of the supplier's standard operating procedure for recruitment, policies, and engagement with recruitment agents. (Updates on the Labor Transformation Program are provided in the human rights content under [Programs and partnerships](#).) To prevent deforestation, we engaged with three mills to review traceability, met with their

⁵² European Union Deforestation-free Regulation (EUDR) and Corporate Sustainability Due Diligence Directive (CS3D)

external suppliers, visited sites with deforestation alerts, and provided training about capacity building on HCV⁵³ areas. Earthworm also conducted focus group engagement with mills on NDPE capacity building, EUDR requirements and guidance on traceability using polygon maps. We partnered with Proforest to conduct a workshop for 12 fresh-fruit bunch dealers about NDPE and EUDR requirements and traceability systems. In addition, we worked with Control Union to conduct traceability audits of seven mills for one of our customers.

Indonesia: We worked with Daemeter to conduct a three-day supplier engagement workshop attended by more than 30 participants focused on sustainability trends and regulations, our **risk-calibrated approach** [☞] for collecting traceability data, FPIC updates, RSPO Principles and Criteria implementation best practices, and management and monitoring of HCV/HCS⁵³ areas.

Cargill continues to increase transparency in traceability through verification. We piloted the Traceability Verification

Guidance for Palm Oil Supply Chains, developed by CORE, with the objective to verify the compliance of traceability systems, processes, and outputs. The pilot, supported by CORE, was conducted at a refinery and a mill owned by one of our suppliers, Permata Group. Outcomes of the verification were shared with the supplier and Cargill will follow up on an action plan accordingly. We will continue to explore the Traceability Verification Guidance for Palm Oil Supply Chains and associated processes.

⁵³ High conservation value (HCV) / high carbon stock (HCS)



Improving labor and human rights

Our approach

Cargill is committed to protecting the human rights of workers, indigenous people, and local communities in our supply chains as detailed in our **Human Rights Policy** [☞] and our **Policy on Sustainable Palm Oil** [☞] and in line with international human rights principles and applicable local laws. We support the work being done to address labor and human rights issues by governments and organizations, including the **International Labour Organization (ILO)** [☞] and the **United Nations Children's Fund (UNICEF)** [☞], RSPO Human Rights Working Group, and Earthworm No Exploitation standard.

Our actions

Our actions to advance human rights are included in the description of our programs and partnerships, along with updates about **landscape initiatives** and **smallholder programs**.

KPI PROGRESS

72%
of direct suppliers with human rights commitments in their NDPE policy



Programs and partnerships

We collaborate with partners to support smallholders and address sustainability challenges across the palm oil supply chain. Many of these challenges, such as deforestation and human rights concerns, are not specific to a single supplier or to the palm sector alone. To tackle issues that are common within a region and across commodities, Cargill collaborates with a variety of stakeholders through interventions at the landscape level. Working together, we can better address persistent, complex social and environmental risks involving multiple mills, growers, buyers, and other stakeholders. The involvement of public institutions in these collaborations is key to achieve systemic change.

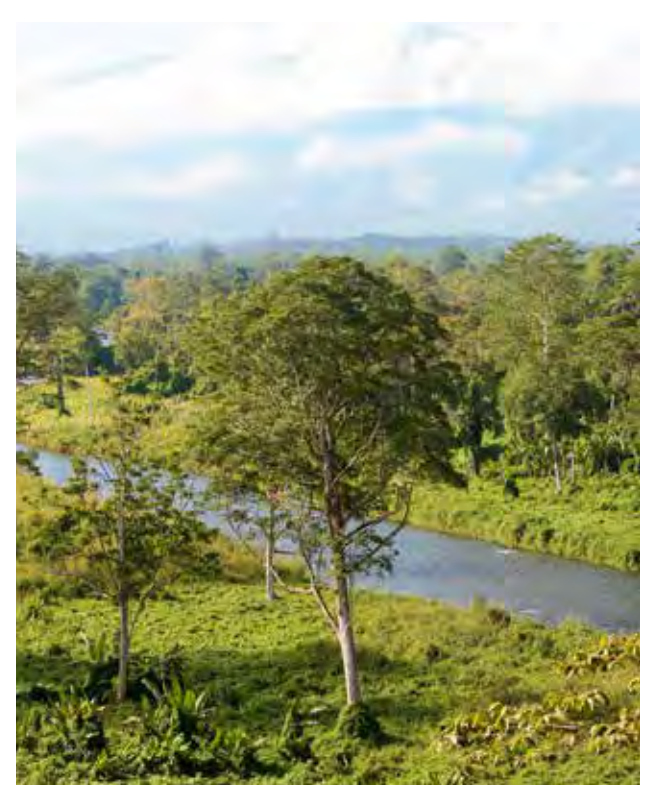
Landscape initiatives

Our approach

We collaborate through landscape-level initiatives and platforms, such as the **Tropical Forest Alliance (TFA)** ², to address challenges that span physical and political boundaries and involve multiple commodities. Cargill is currently participating in nine palm-related landscape programs around the world.

Our actions

Brazil: We continue to support the **Tomé Açu landscape program**, in partnership with Earthworm Foundation, using an integrated approach involving brands, commodity producers, smallholders, authorities, and local communities in the northeast of the state of Pará. The program includes helping to develop small palm producers while achieving positive and regenerative impacts on the landscape. In 2022, the program strengthened farmer associations and cooperatives and supported the formalization of 10 businesses—initiatives that are expected to produce a 30% increase in revenue for rural entrepreneurs. Ongoing women's empowerment efforts included interviews with 400 women and training for 120 female leaders. More than 400 families have participated in the program, six municipalities have benefited from food security initiatives, and land rights have been reinforced through property registration and access to new credit.





Colombia: We participate in three landscape programs in Colombia. Now in phase three, the Lebrija River Basin landscape program is implementing action plans focused on deforestation prevention, conservation, and farm and water management. In 2022, Cargill and Proforest conducted workshops and capacity building sessions to

build partnerships and develop the collaboration agreement with the palm oil core entities that support the project. The implementation phase commenced in 2023. So far, the program has reached:

- **67%** high-risk and **33%** low-risk mills in the Lebrija River Basin landscape
- **6 mills** in Cargill's supply chain engaged in the program

We continue to participate with Solidaridad in the **Intel4Value landscape program** to address employment and labor gaps among palm producers and workers in the Catatumbo region of Colombia. Now in its second year of implementation, the program is working to build an efficient, scalable, and sustainable palm oil value chain. The program is creating a positive social impact for nearly 3,000 workers—including nearly 1,000 women, providing environmental protection for more than 20,000 hectares of farmland, and improving livelihoods for 1,200 smallholder farmers, including more than 400 women. During 2022, more than 380 smallholders received training on sustainability issues and completed the Sustainability Index baseline to identify gaps in sustainable agriculture best practices. Furthermore, more than 100 producers completed the RSPO recertification process.

Cargill also remains a member of the **Colombia Land Initiative (CLI)**, which aims to support collaborative efforts to address land rights and tenure in two palm oil producing areas.

Malaysia: Our support for the **Southern Central Forest Spine (SCFS) landscape program** continues as the program enters its second year focused on supply chain transformation, forest protection and restoration, farmer resiliency, and workers and families. The program balances sustainable production, forest conservation,

resilient livelihoods, and good labor practices in the SCFS region—a group of forested areas and critical wildlife corridors that have experienced significant land conversion to palm plantations. The program's impact in 2022 includes:

- **42%** reduction in deforestation in the landscape's key sensitive area
- **26%** of palm mills are traceable to plantations
- **39%** of mills have action plans to address NDPE commitments
- **206** farmers engaged in livelihood improvement programs
- **274** (direct) and **1,934** (indirect) workers engaged to improve welfare and working conditions

To improve traceability, we participated in joint workshops with fresh-fruit bunch (FFB) dealers—a strategy that is expanding to include more mills across the landscape in collaboration with the Malaysia Palm Oil Board, Malaysian Palm Oil Certification Council, and other participants. Cargill also is a key partner in the development of effective grievance programs to safeguard workers' rights. We facilitated engagement with two mills to pilot the rollout of an operational grievance mechanism with management and workers at small and medium-sized palm oil companies. The need for a safe, effective, trusted grievance mechanism aligned with the United Nations Guiding Principles (UNGPs) was identified in 2021 and the collaborative response is led by Earthworm Foundation.

Indonesia: We participate in four landscape programs in Indonesia. We continue to support implementation of the **Siak and Pelalawan Landscape Program**¹³, which is focused on protecting and enhancing forest, peatland, and natural ecosystems; improving the livelihoods of smallholders; respect for labor and community rights; and sustainable oil palm production.

Through multistakeholder partnerships and consensus, the program achieved progress in several key areas during 2022, its third year of implementation. An additional 140 oil palm smallholders were mapped and identified using smallholder business registration guidelines, bringing the total to more than 1,300, and nearly 80 smallholders received plantation registry letters—a prerequisite for meeting the ISPO standard required by 2025. Training on conservation and good agricultural practices was provided to more than 2,000 people, and 18 households participated in a pilot project focused on income diversification. Farmers from more than 28 villages participate in the program, representing more than 150,000 hectares of land. Both the Siak and Pelalawan district governments have committed to natural ecosystem management and no-deforestation plans, and are moving forward with conservation regulations in eight villages and district action plans for sustainable palm oil. KPIs for this landscape program include:

- **79%** of high-risk, **15%** of medium-risk, and **6%** of low-risk mills in the landscape participating
- **47 mills** in Cargill's supply chain engaged in the program

The **Sungai Linau landscape program** in Sumatra, now in its second year of implementation, focuses on community-based land use development, long-term protection of the **Giam Siak Kecil-Bukit Batu Bioreserve**⁵⁴, GHG emissions reduction through forest and peat protection, and supporting village members' livelihoods. Progress highlights in 2022 included the completion of land tenure

assessment for Sei Linau village and an agroforestry group formed by community members to implement activity within the village forest perimeter, including the planting of crops such as rubber, coffee, and taro. Assessment of a deforestation monitoring protocol in Sungai Linau village also was conducted. The process involved engagement with various stakeholders, including the local community, government, and forest management agencies.⁵⁴ As of March 2023, smallholders from four villages had received training from program implementation partner Musim Mas about good agricultural practices, financial literacy, group dynamics, NDPE policy, and introduction to ISPO and RSPO requirements.⁵⁵

To increase use of sustainable practices by smallholders around our operations, we are implementing programs near our **Ketapang and Hindoli plantations**. In Ketapang, West Kalimantan, Cargill, IDH—The Sustainable Trade Initiative, JDE Peet's, and FORTASBI (the Indonesian Sustainable Oil Palm Smallholders Forum) are supporting independent smallholders to achieve ISPO and RSPO certification. To date, more than 5,000 independent smallholders from Ketapang are taking part in the landscape program covering nearly 12,000 hectares of palm plantations.

In the Musi Banyuasin region near our Hindoli plantation in South Sumatra, more than 2,500 independent smallholders covering nearly 7,000 hectares of plantations supplying to Cargill's Tanjung Dalam mill participated in the **Hindoli Landscape Program**. They received support for preparing to attain RSPO and ISPO certification as well as training and building their capacity to organize into cooperatives.



⁵⁴ Local community (Lembaga Pengelola Hutan Desa), Planning and Development Agency of Riau Province (BAPPEDA), Forestry Agency of Riau Province (Dinas Kehutanan Riau), Forestry Law Enforcement of Riau Province (GAKKUM Riau), and Forest Management Unit (Kesatuan Pengelola Hutan/KPH) of Bengkalis District

⁵⁵ Smallholders in Sungai Linau Landscape Villages: Tanjung Damai, Sungai Linau, Bandar Jaya, and Sumber Jaya



Smallholder programs

Our approach

We work strategically with select mills in our supply chain to help smallholders deliver on their transformation plans and participate in programs focused on building smallholder capacity and promoting responsible farm development.

Our actions

Guatemala: We continued working with our supplier, Palmas del Ixcán, to help smallholders in the company's supply base, many of whom are women, to adopt sustainable agricultural practices and build their capacity to achieve RSPO certification. During 2022, Cargill supported several key environmental and social studies, including land use analysis for nearly 30 smallholders who are in the process of becoming RSPO certified and pre-certification audits for more than 20 smallholders to identify gaps in their compliance with the RSPO standard. These producers

have received a complete action plan for moving toward certification as well as technical support from Proforest to develop key studies necessary for RSPO compliance, including Environmental and Social Impact Assessment (ESIA), FPIC, HCV evaluations, and previous Land Use Change Assessment (LUCA).

Colombia: Cargill supports smallholder implementation of the Sustainability Index in Colombia as part of the **Lebrija River Basin landscape program**.

Mexico: We participate in the **Holistic Program** [↗] for sustainable palm in Mexico—together with the RSPO, Proforest, the Mexican Federation of Palm Oil (FEMEXPAL-MA), Cargill customers, and suppliers—to help support the transformation of the Mexican palm oil supply chain. The program provides smallholders with technical support and capacity building on various sustainability issues, including human rights, land use changes, HCV land, and HCS carbon mapping. In 2022, the program helped to certify nearly 120 independent smallholders from Oleopalma, a member of the initiative, with more than 2,500 hectares of palm plantation land. The program trained nearly 20 group managers and nearly 530 professionals to build capacity around sustainability.

Malaysia: We continue to support independent smallholders under the **Wild Asia Group Scheme (WAGS) program** to attain RSPO certification. To date, 574 smallholders have been RSPO certified under the WAGS program.

“The partnership with Cargill since 2015 is very important to us as they were the first one in Malaysia to support a certification program with an independent mill. The partnership enabled us to develop the first dealer model, and since then we were able to replicate and expand to other parts of Malaysia and beyond. It is very crucial for companies wanting to support independent smallholders towards sustainable production and smallholder inclusivity to realize the complexity of the palm oil supply chain, then making the commitment and investment to make it happen. Cargill has set a precedent that others should emulate.”

Dr. Reza Azmi
Executive Director and Founder of Wild Asia



Human rights programs

Our approach

We participate in programs that address labor and human rights issues across our supply chain. In 2022, we took a series of actions to help our suppliers improve their processes.

Our actions

Labor Transformation Program: In 2022, the third year of implementing this program with Earthworm in Malaysia, we engaged with three high-volume mills on key topics, including ethical recruitment, retention of travel documents, accommodation, employment contracts, working hours, and grievance mechanisms. A positive impact from these mill engagements has been the return of workers' travel documents. Observations and findings from the engagements were used to create continuous improvement plans to guide suppliers in addressing key areas within their operations.

Labor Formalization Project: Cargill signed an agreement with the International Labor Organization (ILO) to support the promotion and enforcement of labor rights in Colombia. The project includes conducting gap assessments and implementing action plans to help suppliers uphold the rights of palm oil workers. The project is providing labor formalization support through technical assistance and capacity building for small, medium, and large suppliers across four regions in Colombia.

We continue to move forward on our sustainable palm oil supply journey. This includes providing transparency around actions to remove forest loss and conversion from our supply chain, outlining how we will measure and disclose emissions from land use change, and reporting progress toward these commitments.





Soy

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About this chapter

This chapter covers calendar year 2022. Information in this chapter is for that time period, unless otherwise noted. All data is for soy purchased and handled by our local sourcing businesses in South America, unless otherwise noted. For our previous soy progress reports, visit our [website](#).

It is a dynamic time in the global soy supply chain, with significant developments emerging on a continuous basis to spur us toward long-lasting, sectorwide transformation.

On the one hand, key destination markets like the European Union are enacting new regulations aimed at protecting forests and ensuring due diligence in countries of origin. These are helping to reshape the demand side of the market. Meanwhile with regard to supply, new solutions and partnerships in South America are giving farmers more options than ever to use sustainable practices and build more resilient food systems.

As Cargill, we are proud to connect these two sides of the market and build supply chain solutions that work for everyone. Over the past year, we have made strong progress in mapping our direct supply chain using farm-level polygons, completing this work for all the countries in South America where we source soy ([see p. 145](#)). We have also engaged with indirect suppliers to advance due diligence. And we have co-developed numerous projects and solutions with a wide range of partners on restoring forests, certifying sustainable production and increasing supply chain traceability. Meanwhile, our system of controls to understand and mitigate risks in our supply chain has never been stronger ([see p. 146](#)).

Alongside our maturing programs for land use and climate, we are expanding efforts into interconnected areas like water and human rights in the soy supply chain that also tie back to Cargill's corporate sustainability commitments ([see p. 150](#)). This is enabling us to have a more comprehensive positive impact on the communities that grow soy in South America, so we can ensure a sustainable supply and a bright future for farming in the region.

We have achieved much over the past few years, and yet we know there is much more to do. With the support of our customers, farmers and other partners, we will continue to build the solutions the world urgently needs.



Robert Horster

*Cargill Environmental Markets Lead
and Cargill Agricultural Supply Chain
Enterprise Sustainability Lead*

Supply chain overview

Our South American business sources soy in Brazil, Argentina, Paraguay, Bolivia and Uruguay. The business stores, processes and ships soybeans and other soy products to customers in the region and around the world.

Assets in Cargill's operations

135
country elevators

9
processing plants

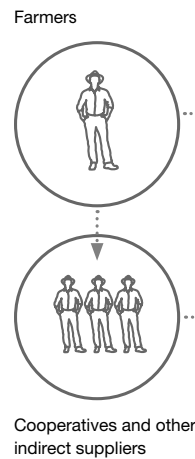
14
ports

26
offices

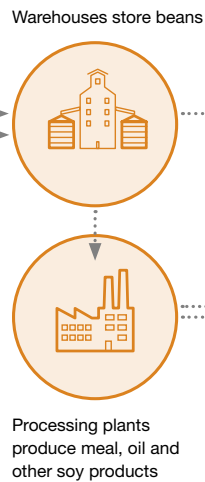
How our soy supply chain operates

○ = Cargill operations

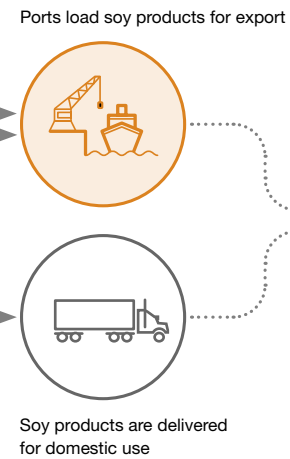
Suppliers



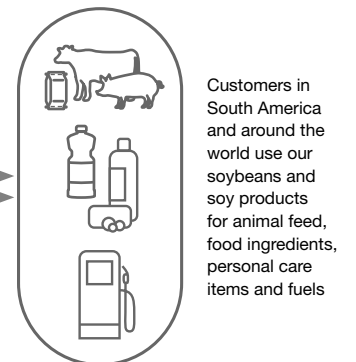
Storage and processing



Ports and transport



Customers



Dashboard

Our business in South America buys soy both directly from farmers and indirectly from cooperatives, processors and traders. We are mapping the farms of our entire network of direct suppliers using polygon boundaries, while also engaging with indirect suppliers to drive change toward sustainable practices and end deforestation ([see p. 145](#)).

The figures below are for calendar year 2022 and are for soy purchased and handled by our local sourcing businesses in each country. Over a year ago, we completed polygon mapping of our direct suppliers in Brazil, meaning that all our directly sourced soy in that country comes from farms that have been mapped. We also recently achieved the same in Argentina, Bolivia, Paraguay and Uruguay. This data will be included in our next report, when we have been able to fully audit the mapping information for these countries.

Going forward, we need to continually update our database of polygon maps because our supplier base shifts somewhat each crop season. Still, building this database has been a significant milestone in our journey to be able to monitor, report and take action within our supply chain. It was made possible by the perseverance of our teams across the region to map and validate the operations of many thousands of suppliers.

Key performance indicators

Focus area	Metric	Progress					
		Argentina	Bolivia	Brazil	Paraguay	Uruguay	
Transparency	Industrywide soy production (million tons)	43.9 ⁱ	3.0 ⁱⁱ	125.6 ⁱⁱⁱ	3.4 ^{iv}	2.8 ^v	
	Approximate number of suppliers selling soy to Cargill	4,800	300	14,900	1,600	700	
	Percentage of volume by type of supplier	Direct	66	74	64	45	86
		Indirect	34	26	36	55	14
Traceability	Percentage of directly sourced volumes coming from suppliers whose farms have been polygon mapped	99	75	100	95	94	
DCF	Percentage of volumes estimated to be DCF since 2008 (see p. 151 for our methodology)	98	73	94	96	100	

Focus areas

Sustainable soy from South America

Our timebound targets

By 2025,
we will eliminate deforestation from our soy supply chain in the Amazon, Cerrado and Chaco biomes, in line with our commitment under [the Agriculture Sector Roadmap to 1.5°C](#) [☑]

By 2030,
we will ensure all the soy we source in South America is DCF and all soy globally is deforestation-free, in line with our corporate commitment for all commodities

Our approach

Our businesses source soy from all the major growing regions in the world. We are focused on South America as the highest-priority region for soy sustainability because it is home to vital landscapes such as the Amazon, Cerrado and Chaco biomes that must be protected. Meanwhile, the region has grown rapidly in the last few decades to become a major source of the world's soy,

and this growth has underpinned many rural economies and communities.

Our strategic approach to soy sustainability in South America rests on three core concepts:

- Supply chain traceability and mapping efforts should be risk-calibrated
- Prioritization should direct

resources toward the highest-risk supplies from the highest-risk areas

- Inclusive sectorwide transformation – centered on farmer engagement – is necessary to truly protect vital ecosystems

Read more in our [Policy on Sustainable Soy - South American Origins](#) [☑].

Our commitments



Transforming our soy supply chain to be **deforestation-free** while protecting native vegetation beyond forests



Promoting **responsible production**, which benefits farmers and surrounding communities



Respecting and upholding the **rights of workers, indigenous peoples and communities**



Upholding **high standards of transparency** through reporting of key metrics, progress and grievances

Our action plan

Since launching our first action plan in 2019, we are proud of the progress we have made to map our supply chain and build broad-reaching programs to help drive sectorwide transformation. Now that our approach has matured, we worked this year with external experts to redefine our action

plan so we can continue making progress toward our goals. This process included conducting extensive industry benchmarking and interviews with some of our stakeholders.

Our refreshed action plan is closely aligned with our commitments for sustainable soy, with activities that drive

progress on those commitments as well as our overarching target of having a DCF soy supply chain by 2030. Activities in support of these objectives in our action plan are found throughout this report.



Transforming our soy supply chain to be **deforestation-free** while protecting native vegetation beyond forests

- Progress on engagement with indirect suppliers
- Advance deliverables for the Agriculture Sector Roadmap to 1.5°C
- Foster mechanisms to incentivize forest conservation



Promoting **responsible production**, which benefits farmers and surrounding communities

- Support farmers with the implementation of low-carbon practices
- Incentivize projects for recovering degraded land through restoration and through expansion over degraded pastureland
- Ensure compliance with legislation in our supply chain



Respecting and upholding the **rights of workers, indigenous peoples and communities**

- Continuously strengthen our due diligence procedures
- Train our employees and partners about our policies and tools to report concerns



Upholding **high standards of transparency** through reporting of key metrics, progress and grievances

- Publish regular reports about our progress
- Continuously reassess the KPIs we report based on stakeholder expectations and best practices in the sector



Promoting **communication**

- Promote knowledge exchange based on experience of different commodities
- Increase internal engagement

Programs and partnerships

There is no single solution to achieve sectorwide transformation for soy in South America. That's why we have taken a portfolio approach, working with a wide range of partners on dozens of projects to incubate solutions that are effective in different local contexts. Whether we are leading the work ourselves, leaning on our technical partners for implementation, or working in broad coalitions, the goal is to give farmers the knowledge, tools and incentives they need to move to sustainable production.

Helping farmers comply with the Forest Code

Brazil's Forest Code is among the world's most rigorous legal protections. It requires that farmers conserve a certain amount of native vegetation within the property they own, with the percentage varying by region. Working with farmers to verify they are complying with the Forest Code and regularizing their overall operations within the regulatory framework will help ensure large amounts of forests and other native vegetation are protected. It also assists farmers

in maintaining their license to operate and access to financing, while providing added benefits for biodiversity, water resources and more.

To date, we have helped more than 160 farmers in the states of Maranhão and Bahia with this regularization work and our assistance has been well-received.

Defining a protocol for low-carbon soy



Alongside other companies in the soy sector, we are partnering with Embrapa, Brazil's government agency for agricultural research, to create **a new protocol for low-carbon soybeans**. Cargill is committing \$420,000 to sponsor this three-year project, which will establish a certification protocol with science-based, verifiable and internationally accepted indicators.

The protocol will identify what attributes of soy production will account for lower carbon compared to conventional practices used in the neighboring region. The goal will be to establish a label to go with the certification system, to differentiate low-carbon soy in the marketplace. Ultimately, the protocol will help drive an overall reduction in carbon emissions per ton of soy produced, as growers and users of soybeans adopt it as a verified system.

Recovering degraded lands across Brazil

Restoration is a key area of our work. In June 2022, we launched an initiative in Brazil with a commitment to have 100,000 hectares under restoration over five years. Thirty projects are already underway focusing on sequestering carbon, conserving biodiversity, and improving soil and water quality.

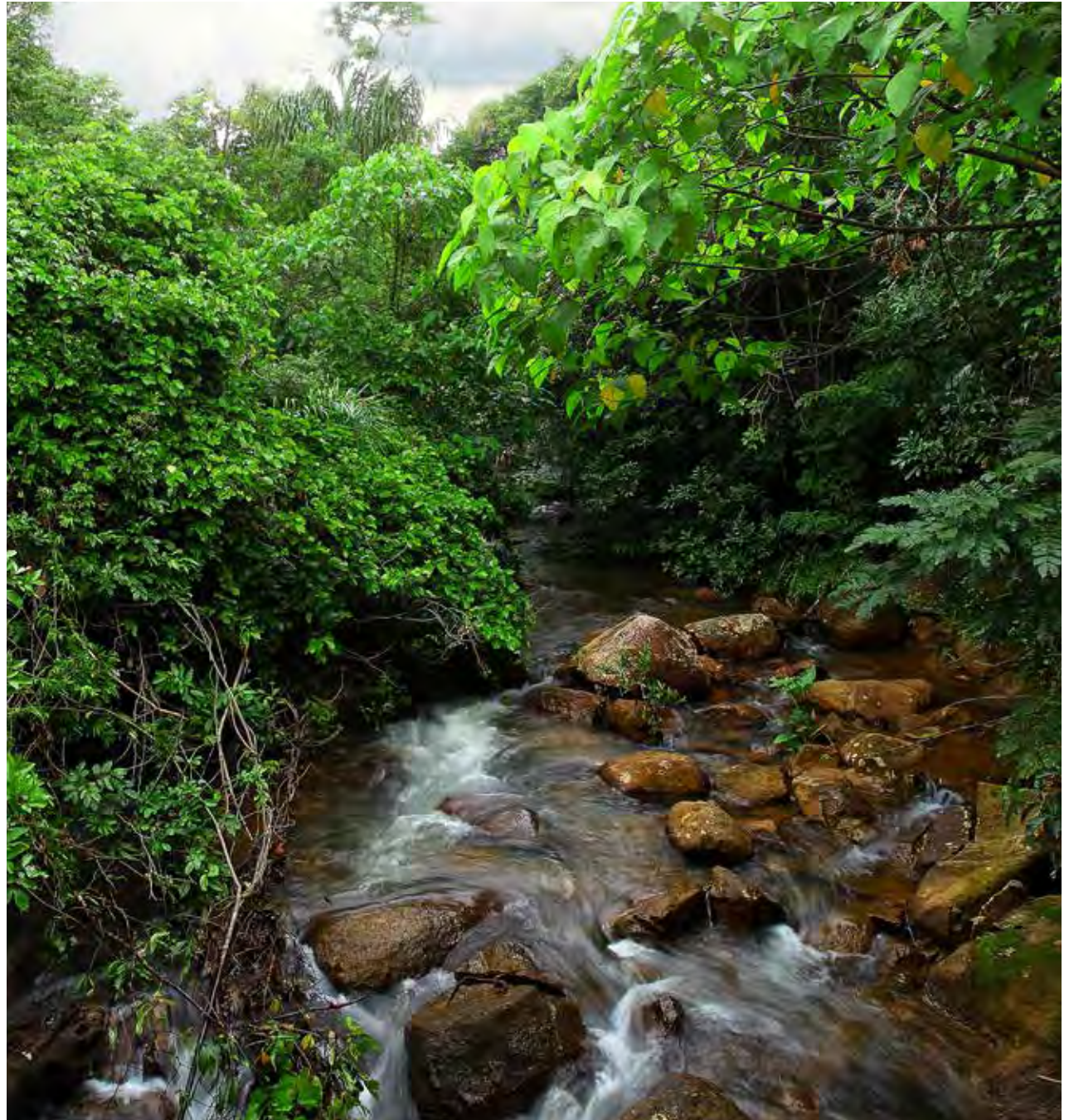
For example, in Uberlândia we are working with several partners to recover 3,000 hectares of degraded pastures and 1,500 hectares of permanent preservation areas in the Tijuco River basin. About \$4 million in funding from Cargill will help restore rangelands, conserve remaining native vegetation, protect water quality and help farmers in the area adopt low-carbon technologies.

30 projects already underway have the potential to restore

14,000 hectares

Toward a total target of

100,000 hectares





2.69 million hectares

Amount of land we are monitoring across South America as part of various certification programs

Studying regenerative agriculture in the Cerrado

Building viable economic models for sustainability and conservation will require understanding of how these models can work effectively. With this goal in mind, Cargill is investing approximately \$1 million to sponsor Regenera Cerrado, a broad environmental study that includes more than 30 scientists in various trials and research. Partners include Embrapa, Brazil's government agency for agricultural research; leading think tank Instituto Forum do Futuro; operational execution by Institute BioSistêmico (IBS); and various universities.

Regenera Cerrado [↗] is investigating the benefits of adopting regenerative agricultural practices in the Cerrado biome, examining 12 farms with various histories of using

these practices across 11 technical objectives. They include impacts to biodiversity, soil systems and water resources, as well as financial outcomes for farmers.

The three-year study launched in October 2022 and will generate scientific data around regenerative agriculture so farmers, companies and civil society institutions can make science-based decisions. This will help ensure that our programs have tangible, verifiable impact and that farmers have good options to make commercial decisions that benefit both them and the planet.

Giving farmers and customers strong options

For years, our proprietary soy certification program known as Triple S has served as a strong model for continuous improvement in sustainable production. Farmers enrolled in Triple S earn a premium for using verified criteria, while customers receive soy produced with sustainable methods, including being DCF.

Now, we are continuing to expand and deepen the program as a trusted offering. First, we expanded Triple S beyond soy to corn, canola and cotton, as well. Second, we went through a rigorous validation process to benchmark Triple S at **the Silver Level for SAI Platform's Farm Sustainability Assessment (FSA) 3.0** [↗]. We are the first in South America's soy sector to achieve this milestone. It builds confidence in Triple S and makes it an even more attractive program for farmers and customers alike.

“The partnership with Cargill is very much in line with what Algar Farming seeks in the market: promoting sustainable agriculture through good practices, encouraging the regeneration of areas, and, consequently, the appreciation in the final price of commodities that these actions provide. It is a company that is in synergy with our purposes, both environmental and economic. We appreciate the possibility of activating so many projects together and we hope that we can always go further, in all our production units.”

Marlos Alves

President of Algar Farming and Triple S participant

Land Innovation Fund

Opening economic pathways to conservation

The **Land Innovation Fund for Sustainable Livelihoods** was launched with a \$30 million commitment from Cargill and is managed by Chemonics International. Now in its third year of activity, the fund has enabled three rounds of projects aimed at developing innovative solutions, models and tools for supporting a

DCF soy supply chain in South America.

The fund is a demonstration of our commitment to transform the soy sector alongside our partners. With many projects now far into implementation and some already concluded, a clearer picture than ever is emerging regarding what will

be needed to help farming and forests coexist. Farmers need clear incentives and strong markets for the environmental services they can produce. Thanks to the fund, its partners, and many other organizations across the soy sector, pathways toward those economic models are appearing on the horizon.

Of the 37 projects funded to date, the following three case studies offer a good cross-section of learnings for the way forward. Meanwhile, the fund will continue to pursue its goal of sustainable agriculture that supports farmer livelihoods and a transformed landscape across the region.

The fund's engagement to date

\$13
million
in funding
awarded by
the fund

\$5.3
million
in additional
funding from
third parties

1.9
million
hectares

37
projects

45
innovations

47
partners

1,400
farms



Land Innovation Fund

A sustainable tool to ensure market access

The Visión Sectorial del Gran Chaco Argentino (ViSeC) is a multistakeholder effort to protect native vegetation in the Chaco biome. To help Argentine farmers demonstrate that their

soy does not come from recently deforested areas, the Land Innovation Fund (LIF) provided support and helped convene ViSeC; CIARA, Argentina's industry association for edible oils;

the Peterson Control Union; and the Rosario Stock Exchange to design a new digital traceability platform, with contributions from multiple other organizations.

This georeferencing platform is currently entering a proof-of-concept phase, with plans to scale it for broad adoption

by 2024. Once it is widely available, all producers in Argentina will be able to use it to show that their soy was grown on areas that were not deforested after December 31, 2020, which is especially important for the Chaco. The platform will be tailored to enable simple integration with private information

systems, making it easy for farmers and companies to use.

Crucially, this platform will provide traceability so that Argentine farmers can ensure their soy is compliant with both national legislation and new deforestation regulations in the European

Union. It will keep their soy eligible for export to this key market and help strengthen the linkage between sustainable practices and economic incentives.

A unified commercial solution

Building scalable solutions for farmers is key to achieving sector-wide transformation. Four different startups were developing digital platforms for farmers to measure various environmental services. They were able to combine into a single platform named HyperT – short for “HyperTransparency.” This was due to support from the Sustainable Soy in the Cerrado Program, a partnership between the fund and AgTech Garage, part of the PwC network. Additional support came from Cargill, CPQD,

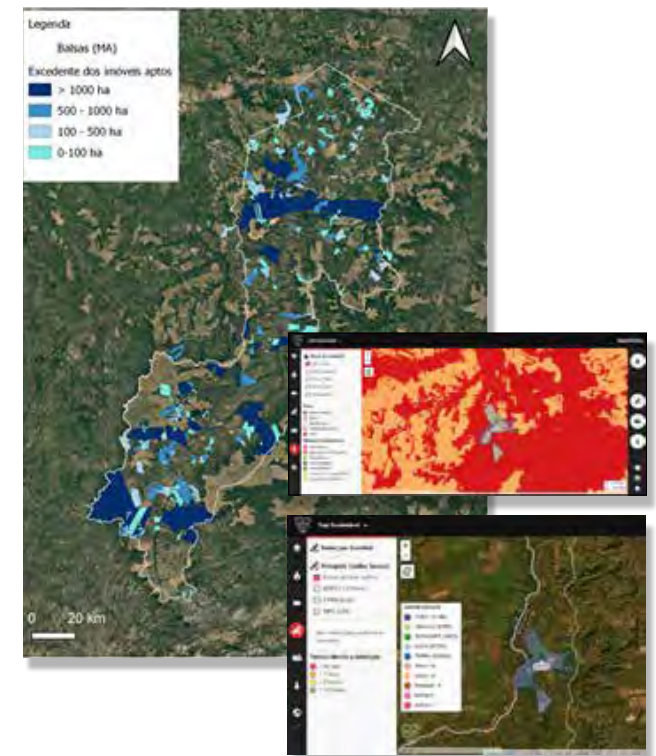
Embrapa and Embrapii. In April 2023, AgTrace, BrainAg, brCarbon and umgrauemeio used their respective areas of expertise and launched this unified platform, which can produce a complete analysis of each farm. This includes any documentation that may be missing for the farm's socio-environmental compliance, guidance on how to prevent fires and other environmental damage, and the potential for financial returns from carbon credits earned through conservation of native vegetation – all in one platform.

HyperT is now available for commercial use. The goal is to scale it to farmers across the Cerrado biome in the coming growing seasons. Companies in the soy sector will also be able to use it to build incentive programs for farmers based on the environmental outcomes they generate.

Structured in modules, HyperT will be able to add other services in the future, making it an easy single solution for many farmers and companies.

“There is a growing global demand for farmer- and community-focused sustainable production that maintains productivity and good agricultural practices. Accordingly, we have opened our farms to prototype traceability solutions being developed by startups such as HyperT, so we can understand how startups and traders pursue solutions to add value to commodities like soy.”

Lucas Goulart
Farmer in Maranhão state



Land Innovation Fund

Understanding what drives farmers' decision-making

Recently, the fund sponsored a behavioral science field study applied to sustainability in the soy supply chain by researcher Fernanda Gomes from the International Institute for Sustainability (IIS), carried out in partnership with the Center for Conservation Sciences and Sustainability (CSRio) at the Pontifical Catholic University of Rio de Janeiro (PUC-Rio).

The goal was to speak directly with farmers and learn more about the factors that shape their decisions for land use. From September to December 2022, Gomes spoke to 69 farmers across the Matopiba region. Here are some of her reflections from this experience.

Q: You traveled in remote areas for months to meet farmers. What was your biggest takeaway from that experience?

Gomes: Undoubtedly my biggest takeaway from this experience was to dive deeply into the farmer's reality: to learn about their past stories and the challenges they had to overcome as pioneers planting soy in new lands; their current reality dealing

with risks related to climate change, instability in the commodities market and the political arena; and their plans and expectations about the future. Each interview had a life lesson.

Q: What do you think are the biggest hurdles to farmers adopting more sustainable practices and conserving or restoring native vegetation? How can we overcome those hurdles?



15,000+ km
Distance Fernanda Gomes traveled through some of Brazil's most rural areas to speak to dozens of farmers for her study

Gomes: Agriculture in Brazil is an activity that demands high investment. Each year the producer goes into debt to buy seeds, fertilizer, new machinery and more to finance the crop, assuming all the risk with losses in the field. Every time they have to make a decision about the farm, they counterbalance

the benefits and the costs of it. Minimizing the risks assumed by the farmers, offsetting costs or compensating them for eventual losses will definitely incentivize them to adopt more sustainable practices and set aside areas for restoration or conservation.

Q: What do you think the public most frequently misunderstands about how farmers make decisions about their production methods?

Gomes: Most farmers are environmentally conscious and aware of the impacts of agricultural activities on nature and vice versa. They have a good understanding

about ecosystem services and the contributions of nature to people. Sometimes, not adopting sustainable practices is only due to financial restrictions and not because they lack concern for the environment.

Read more reflections from Gomes [on the fund's website](#).

Land Innovation Fund

The next round of projects

The Land Innovation Fund will continue to work in broad coalition with many different types of partners to achieve soy sector transformation across South America. In May 2023, Chemonics announced the proposals that will receive support as part of the fund's third round of projects. They include:

Regenerative practices in Bolivia

1 The lowlands of eastern Bolivia are home to an ecosystem known as the Chiquitano Dry Forest that is under great pressure from deforestation. This project will pilot regenerative agricultural practices in different soil conditions across 53,000 hectares – aiming to influence 1 million hectares of soy and cattle farms in the region.

Implementing partners:

The Foundation for the Conservation of the Chiquitano Forest (FCBC), in partnership with the Regional Consortium for Experimental Agriculture (CREA) in Bolivia and the Conservation Strategy Fund (CSF)

Climate-smart and sustainable landscapes in western Mato Grosso

2 The aim of this project is to enable sustainable solutions that integrate easily into the current jurisdictional approach for the REDD+ system. In an area that includes some of the highest soy-producing municipalities in Brazil – and some of the highest rates of land conversion – the project will seek to drive conservation and restoration through economic incentives.

Implementing partners:

The Amazon Environmental Research Institute (IPAM), in partnership with Produzindo Certo and ProForest

SustentAgro: Crop-livestock-forest in sustainable soy chains

3 Continuing to connect farmers to viable economic models for sustainable services, this project will examine how 30 farms across 60,000 hectares can validate their environmental compliance and sustainability criteria. Uniquely, it will look at the integrated crop-livestock-forest system with the goal of connecting producers to carbon markets and other sources of revenue for environmental services.

Implementing partner:

The ILPF Network Association

Forest Carbon Incentives

4 This project will address the major gap of agricultural sector engagement in the state of Tocantins' REDD+ program, which will soon sell verified carbon credits. The project aims to develop a multi-stakeholder initiative to engage farmers in REDD+, especially soy and beef producers who wish to maintain access to international markets requiring zero land conversion or low-carbon agricultural commodities.

Implementing partners:

Earth Innovation Institute (EII), in partnership with Produzindo Certo and Taxo Agroambiental



Putting farmers at the center

We continue to support the collective action of the Soft Commodities Forum (SCF) to drive sector transformation – including putting the farmer at the center of this effort through the Farmer First Clusters initiative.

Launched in late 2022, the Farmer First Clusters focuses on the four states of Brazil's Matopiba region, employing a tailored, smart mix of solutions in different landscapes to address deforestation and conversion and encourage alternative mechanisms for conservation. This includes clusters related to restoring native vegetation; compensation for surplus legal reserve; integrated farming of livestock, crops and forests; incentives for expanding soy in existing pastureland; and technical assistance and extension services for sustainable production and compliance with the Forest Code.

The Farmer First Clusters has defined key progress indicators and is signing up implementation partners. Cargill has committed \$1.35 million over three years to the initiative, as part of our far-reaching efforts to ensure that farmers have viable economic alternatives to land conversion.



Helping farmers meet new requirements

In Paraguay, regulation of farming operations is moving the sector down a sustainable path. To help farmers comply with the country's social and environmental regulations, we worked with an industry group on a common set of recommendations.

Paraguay requires farmers to have a risk analysis done for social and environmental indicators to receive a formal license to operate. This includes ensuring farms conserve 25% of forested areas and protect waterways. It also covers proper treatment of workers and fair wages, as well as protections for indigenous lands.

We are working with our suppliers to help them understand how to comply with the requirements from the licensing process, as well as ways that they can restore forested areas if they do not meet the 25% conservation minimum. In this way, we are also helping them preserve access to key exporting markets like the European Union.

Gathering around the table to find solutions

Multi-stakeholder roundtables are an important way to drive sectorwide progress and are a good complement to the initiatives we lead individually. In addition to work with ViSeC in Argentina to advance supply chain traceability ([see page 141](#)), we participate in ongoing roundtables in Paraguay to help drive farmer regularization with regards to government licenses and social and environmental protocols. Discussions in Paraguay have also focused on common maps for polygons and other approaches that help standardize sustainable practices.

We also are working toward a soy roundtable in Bolivia. In December 2022 and again in May 2023, our team met with numerous stakeholders such as farmers and traders, financial institutions and NGOs. We discussed minimum criteria to move towards more sustainable production, measuring carbon sequestration, cutoff dates for deforestation and more. This will help move the country's soy sector toward a more sustainable future.

\$1.35 million

Amount Cargill is committing to the Farmer First Clusters initiative over three years

Building traceability across South America

We are proud to share that we have now completed mapping of polygons from all farm boundaries for all our direct suppliers in Argentina, Bolivia, Paraguay and Uruguay who delivered soy to us in our fiscal year 2022 (between June 1, 2021 and May 31, 2022). This mapping was not completed in time to use in our internal audit and DCF calculations for 2022, which is why our reported numbers on [page 134](#) are less than 100%. However, in the future, we will be able to continually update our database to account for new suppliers and stay as close to 100% mapped as possible.

This complex and rigorous achievement involved extensive work by our sustainability and commercial teams to gather information about thousands of suppliers across large areas within these four countries. To do it, commercial teams used a tool called Survey123 from ArcGIS to catalog information about each supplier and link them to polygons from public databases. Across the four countries, we identified more than 20,000 polygons connected to our thousands of suppliers, and commercial teams engaged with suppliers directly when needed to get information. We are now verifying the amount of volume produced in each farm to guarantee that we mapped all volumes received in each country (see more about this process on [p. 147](#)).

In this effort, our extensive commercial knowledge and relationships were key. It demonstrates how our broad reach and industry-leading capabilities can make crucial

connections to enable sustainable agricultural production. Going forward, not only can we monitor soy entering our direct supply chain across South America, we can also engage with farmers if we see an environmental risk and make them aware of sustainable solutions that may be available for conserving native vegetation, sequestering carbon, and other environmental outcomes.

Engaging with indirect suppliers

In Brazil, we continue to work with indirect suppliers, like farmer cooperatives, to promote sustainable practices and due diligence across the soy sector. In 2023, we worked with other peer companies to take a sectoral approach to this engagement, so that all cooperatives and intermediary suppliers have a single set of common expectations no matter who they sell to.

In June of this year, we began defining protocols for traceability and compliance that these suppliers will use. The sector worked with leading technical expert Instituto BioSistêmico (IBS) on these protocols, and indirect suppliers will have until the 2024 crop year to implement them.

In Bolivia, we began an individual engagement with all indirect suppliers to clearly define our expected protocols that align with our soy policy and our Supplier Code of Conduct. Ultimately, this work will be another form of due diligence to increase traceability in our indirectly sourced soy, protect against non-compliant soy leaking into our supply chain, and promote responsible production across the entire sector.



Ensuring due diligence

We rely on public data to connect farm polygons to the entities selling soy to us. But that public data only tells part of the story. In reality, a farmer may have many commercial relationships with family members and affiliated business entities that can make it hard to determine who exactly is selling soy to us – or reselling it from their business partners. Additionally, while land is registered to the owner, someone

else may be leasing it from that owner to grow crops, meaning that the producer’s name does not appear in public databases.

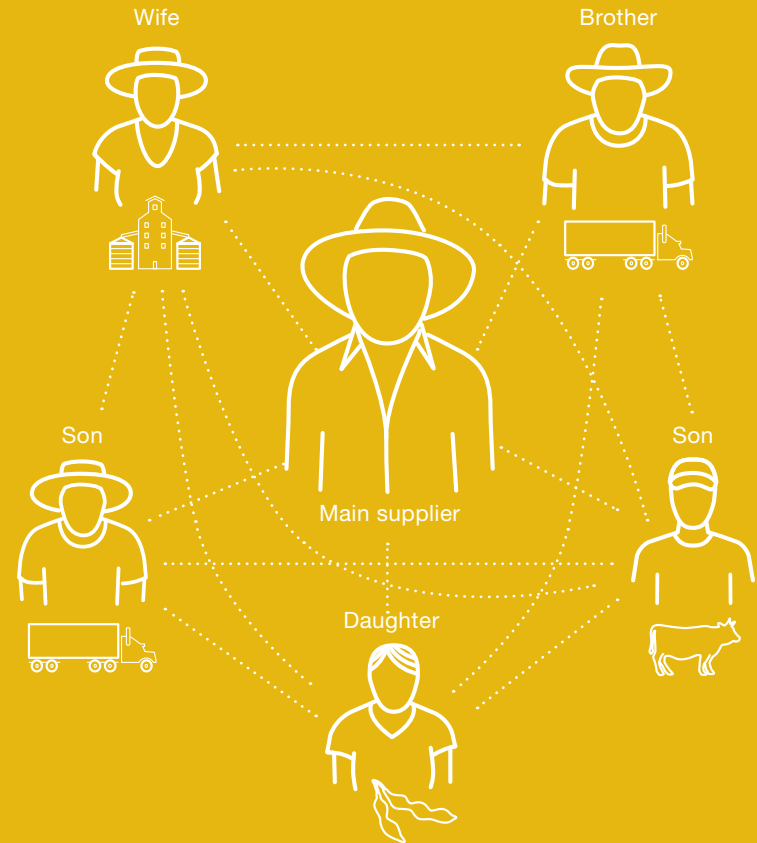
But we are not letting this complexity deter us. We have developed a robust approach to solving this puzzle, creating transparency in our supply chain while also enabling

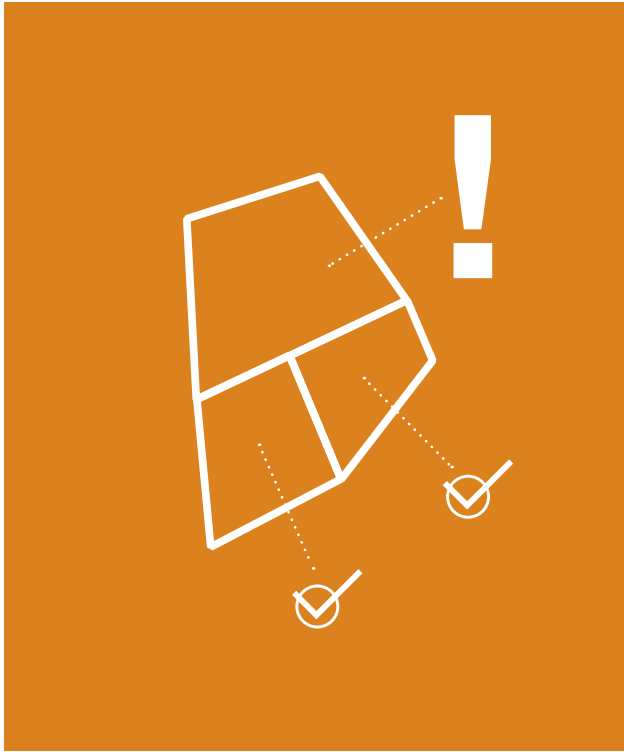
our farmer partners to show that they are doing the right thing. Our system is one of continuous improvement, and commercial relationships evolve and change continuously as well. But we are relentless in our work to keep refining it and proud of our industry-leading data and controls. It gives us good visibility to investigate and act, especially when a supplier is accused of violating our soy policy.

1 Mapping

To ensure that we are accurately mapping the polygons producing the soy we buy – and that soy grown by entities blocked in our commercial system is not being rerouted through business partners – our commercial teams outline aedge in our databases to supplement public data, while being sure to adhere to applicable privacy laws.

An example of how one Cargill supplier may have many family members with their own farming operations and affiliated businesses that can produce or sell soy





2

Validating

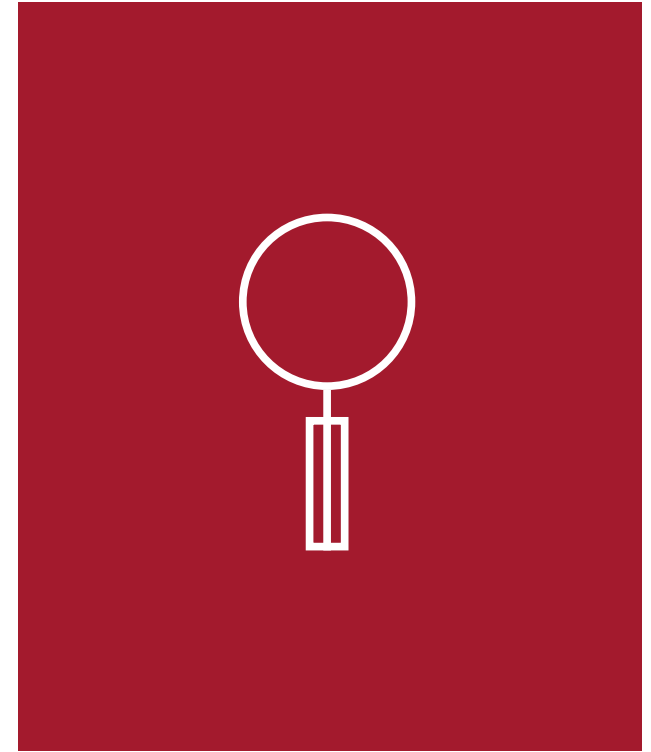
When direct suppliers deliver soy to us, they indicate the farm polygons where they grew that soy. As due diligence to ensure that these deliveries are accurately linked to the right polygons, we cross-reference the delivered volumes with average soy yields in the area. This allows us to make sure that a supplier isn't attributing more volumes to a polygon than is reasonable or likely based on the region's typical production.



3

Blocking

Our commercial systems automatically block any farm in Brazil that appears on various government lists for violations of the law or sectoral lists for failure to adhere to agreed environmental commitments. Thanks to our deep understanding of the commercial relationships in the supply chain, we can also block affiliated farms until we can confirm that non-compliant soy is not being re-routed to us through these alternative channels ([see p. 148](#)).



4

Responding

When third parties feel we may have missed non-compliant soy being re-routed through business partners – or want to address some other issue they feel is not in compliance with our policies – they raise a grievance. We take these grievances seriously and investigate immediately ([see p. 148](#)).

How and why we block farms

Thanks to our detailed mapping of commercial relationships in our supply chain, we have a strong system of controls to help ensure the integrity of our direct soy supply chain in Brazil.

Every day, our automated system consults lists managed by various government agencies and sectoral organizations. When a farming operation appears on one of these lists [for a violation or noncompliance], it is immediately blocked so it is not eligible to sell soy to us.

We also block other farms registered to the same person or entity in the state, as well as those with whom they have a close commercial relationship. These affiliated farms cannot be unblocked until we conduct a thorough analysis to help ensure that soy from the violating farm is not being rerouted and sold to us through the affiliated operation.

Each new crop season, we re-evaluate these commercial relationships and check to ensure that affiliated farms still are not re-routing soy from blocked commercial partners.

Our supply chain was audited this year for compliance with the Soy Moratorium and Green Grain Protocol, and no non-compliant soy was found.

Blocked farms by list in calendar year 2022

		Number of farms we blocked	Additional operations we analyzed to avoid rerouting of soy from restricted areas
Federal lists	IBAMA Covering all of Brazil, this list by the country's environmental agency includes embargoes for all types of illegal environmental activity such as illegal deforestation, improper licenses and farm management issues	909	702
	ICMBIO Covering all protected conservation areas within Brazil, this list includes embargoes for deforestation violations inside those areas	3	3
	Slave Labor List Including all of Brazil, this list marks suppliers accused of making use of workers under conditions analogous to slavery according to Brazilian laws	31	9
State lists	Embargoes Mato Grosso A list managed by the state's environmental agency recording all environmental violations	291	172
	List of Illegal Deforestation (LDI) from Pará A list run by the state's environmental agency covering illegal deforestation	58	0
Sectoral lists	Green Grain Protocol This is part of a commitment signed in 2014 that establishes criteria for responsibly purchasing grain from farms operating in Pará	48	5
	Amazon Soy Moratorium Managed by the Soy Working Group, this list monitors all types of conversion of native vegetation to soy production in Brazil's Amazon biome	125	56
Total		1,465	947

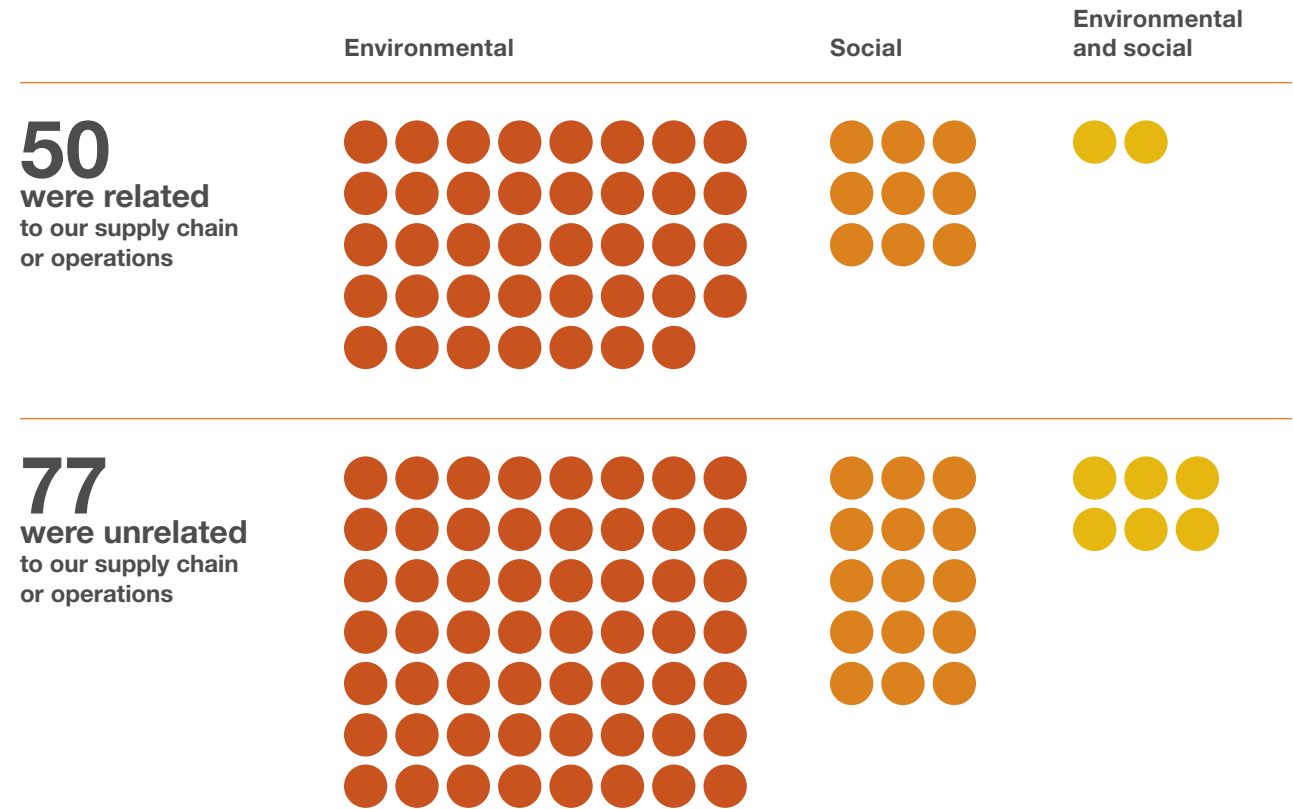
Addressing grievances

Our system of controls to block farms is thorough, but we also welcome concerns from third parties when they feel something is not right. We take immediate action to investigate when we receive reports of a problem related to our supply chain. Our [grievance process](#) lays out a transparent mechanism for us to review, address and monitor any concerns as they are raised to us in relation to compliance with our soy policy. This includes documenting who raised the grievance, the farms or organizations being investigated, the status of our investigation, and our findings.

We take grievances seriously. We do not tolerate retaliation against anyone who, in good faith, raises a concern or participates in an investigation or whistleblowing. We prohibit harassment, intimidation and the use of violence by any employee, supplier or third-party contractor throughout engagement in our grievance process. Additionally, all suppliers are subject to Cargill's [Supplier Code of Conduct](#) and our [Policy on Forests](#).

127

soy-related grievances were reported in our system during calendar year 2022



Strengthening communities where we operate

Investing in WASH resources

Cargill has a global commitment to enable a water positive impact in our operations, supply chains and communities. That includes helping communities secure access to the clean water, sanitation and hygiene (WASH) resources they need for healthy living.

Brazil is a priority region within our global water commitment. This year, we launched a WASH initiative with Global Water Challenge to positively impact 20,000 people in communities closely tied to our operations and supply chains across five states.

Beyond helping communities improve access to drinkable water, these projects have an additional focus of empowering women in the communities with training and leadership resources. They also will benefit farmer livelihoods, as well as community health and resilience to climate change.

Protecting children from exploitation

Everywhere we do business, our commitment to protecting children is unwavering. We seek to prevent child labor, expand access to education and mitigate risk of other forms of exploitation. Starting 16 years ago, we were the first agribusiness in Brazil to work with leading non-profit partner World Childhood Brazil Institute to help protect children who may be vulnerable to sexual exploitation on Brazilian roadways through the On The Right Track program.

In addition, we are working with this organization to help local officials and community leaders get access to knowledge and resources so they can mitigate such issues in port towns. This year, we signed a public-private partnership with the local government in Pará state to help them expand their programming and promote greater awareness in protecting the rights of children and adolescents.

Protecting children in this way is an important human rights priority and one we are proud to help lead.

Making a positive impact

Our teams know that communities need resilience. Through the Cargill Foundation in Brazil, about 100 Cargill Cares Councils tied to our agricultural supply chain business regularly volunteer in the communities where we operate. They connect with community leaders to understand the most pressing needs where they can make a difference, and then they take action.

Activities frequently include supporting food banks, enabling female entrepreneurship and empowerment, helping smallholder farmers raise their productivity and livelihoods, and other efforts linked to improving food security.

1,400+ employee volunteers

help improve the communities
where they live and work



References

How we calculated our DCF figures

Brazil

For our directly sourced supplies, we used polygon farm boundaries to calculate our DCF percentage. For direct suppliers who own the land, we used automated consultation of the [INCRA-SIGEF website](#) (subscription required). For direct suppliers who rent land to grow their soy, our commercial team identified them and collected data.

Once these farm boundaries were identified, we analyzed historical satellite images from the U.S. Geological Survey and data from the University of Maryland to determine the percentage of soy volumes that came from farms where land had not been converted from native vegetation since 2008 – a date that aligns with Brazil's Forest Code.

For our indirect supplies, we used the historical data above to calculate the DCF percentage for the full soy sector in every municipality in Brazil. We then cross-referenced this sectoral average with our market share in the local area to arrive at a DCF percentage for our indirect supply in each municipality.

To arrive at a total DCF percentage of 94% for all of Brazil, we calculated a weighted average for each municipality based on our local proportion of direct and indirect supplies using the two methodologies above and then tallied a weighted average for the entire country.

Argentina, Bolivia, Paraguay and Uruguay

Although we completed polygon mapping for direct suppliers in these countries in recent months, it was too late to use these polygons in calculating our DCF percentage for 2022 during our internal audit. Therefore, in all four countries we used the sectoral average methodology based on our market share in each local producing region. For future reporting, we will use farm polygons to calculate DCF rates for direct supplies and sectoral averages to calculate DCF rates for indirect supplies, similar to what we did in Brazil for this report.

Footnotes

- i Source: [Ministerio de Agricultura, Ganadería y Pesca de Argentina \(MAGYP\)](#)
- ii Source: [Asociación de Productores de Oleaginosas y Trigo \(ANAPO\)](#)
- iii Source: [Companhia Nacional de Abastecimento \(CONAB\)](#)
- iv Source: [Instituto de Biotecnología Agrícola y Unión de Gremios de la Producción \(INBIO-UGP\)](#)
- v Source: [Ministerio de Ganadería, Agricultura y Pesca \(MGAP\)](#)