



# Cargill Aqua Nutrition Sustainability Report 2020

Healthy seafood for future  
generations

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Innovative and efficient feed production

**32%**  
reduction in Scope 1&2 GHG emissions per ton feed since 2017 for coldwater feeds, exceeding our goal for this part of our business!



Reducing carbon emissions

Establish 2020 baseline for salmon feeds at **2.67tCO<sub>2</sub>e/t** including land use change (Scope 1, 2 and 3 GHG)



Responsible sourcing

**35%**  
trimmings globally in marine ingredients

**65%**  
ProTerra, RTRS or organic certified soy, globally



Great place to work

**0.28**  
RIFR/200,000hrs safety record (vs target <0.30)



Reducing antibiotics

**80%**  
reduction in active antibiotics sold in medicated salmon feeds since 2015

**100%**  
ProTerra, RTRS or organic certified soy in all salmon feeds

**0.13**  
SIFR/200,000hrs safety record (vs target <0.10)



Feeds for needs

**20%**  
of salmon feeds sold specifically support fish health and welfare



Solutions at scale

**1.9 million**  
tons of feed delivered

# Letter from leadership

**“By taking a collaborative and holistic approach, Cargill will deliver on our purpose to nourish the world in a safe, responsible and sustainable way.”**



Dear Stakeholders – As we publish our Cargill aqua nutrition business 2020 sustainability report, I’ve had the pleasure of being in my role as president of this business for just a few short months, but already it’s clear to me that the biggest opportunity for our business – and for the aquaculture industry – relies on our ability to demonstrate how we can grow sustainably. In the next five years, more than 50 percent of seafood supply and nearly three-quarters of supply growth will come from farmed seafood. In order to contribute to a more sustainable global food system, the aquaculture industry must address impacts from origin to consumer.

Cargill’s aqua nutrition business is one of the largest aqua feed businesses in the world, producing feed for key species like salmon, shrimp, regional fish and other marine species. Throughout this report, you’ll see our progress and focus on sustainable ingredient sourcing, innovations advancing our ability to help our customers do more with less, and our continued focus on animal health and welfare. In addition, you’ll see we continue to build partnerships and collaborations that help fuel a global transformation through ocean stewardship.

For example, we are committed to developing sustainable supplies of marine ingredients. This last year, Cargill joined the North Atlantic Pelagic Advocacy Group (NAPA) and pledged not to buy material from blue whiting caught after the suspension of Marine Stewardship Council (MSC) and MarinTrust certificates until a Fishery Improvement Project (FIP) had been established. We are glad to report that NAPA has launched comprehensive FIPs for herring and mackerel and is in the process of launching a MarinTrust IP for blue whiting. The joint efforts of our suppliers and partners on this industry-wide challenge have been imperative to building our industry’s sustainable future.

I can’t emphasize enough that the only way to address challenges like this and make a true positive impact to the planet is to work together across the value chain towards the same goal. This is the foundation of our new initiative, SeaFurther Sustainability, which we launched in March of 2021. This program will help the salmon farmers to reduce

the environmental footprint of their fish 30% by 2030. And by doing so, we’ll help the industry save 2 billion kilograms of CO<sub>2</sub>, which is the equivalent of removing more than 400,000 cars from the road in one year.

As I write this, the pandemic continues to pose a global threat to our world, emphasizing the importance of secure and sustainable supply chains, and the fundamental link between business, communities and people around the globe. Together, we can work to build a sustainable future for aquaculture that provides the world with healthy seafood.

I look forward to being a part of this exciting future!

Best regards,

**Helene Ziv-Douki**

President and Group Leader  
Cargill Aqua Nutrition

## Key achievements

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- **Cargill invests \$1 million into a new lab dedicated to research on recirculating aquaculture system feeds at the company’s innovation center in Norway. (September 2020).**
  - **Cargill launches the SeaFurther Sustainability initiative, setting the goal of reducing the carbon footprint of farmed salmon 30 percent by 2030. (March 2021)**
  - **Increased production of extruded feeds across our Asian businesses, supporting more efficient farming and sustainable production environments.**
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# Making aquaculture better for all

**Cargill's aqua nutrition business is a world leader in aquaculture feed. We develop and deliver animal health and welfare through high-quality feed and nutrition – with a smaller impact on the planet.**

And now we're stepping up to do more: working with our partners to build a better aqua nutrition business that will help the seafood industry reduce its global footprint and help fish farmers lower their impact too.

## Supporting customers around the globe

Cargill's aqua nutrition business, which is part of Cargill, Incorporated, is one of the largest aqua feed businesses in the world. We operate 19 dedicated aqua nutrition mills in 12 countries, but also have aqua feed production in a further 21 mills across 19 countries in total.

Recognized as a leader in innovative nutrition and technology, we invest in research and development of products and services at our Cargill Innovation Centers in the U.S, Norway, and Chile. Local Technology Application Centers (TACs) run field trials to ensure success and share knowledge with farmers in their markets.



## Local support

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- Our regional businesses in North America, Latin America, Asia and Europe provide on-the-ground support to farmers based on local market insight.

## A leader in innovation

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- More than 100 scientists and specialists are engaged in advancing our nutritional and technical feed solutions.



# Our brands and our feeds

We produce feed tailored for salmon, shrimp, and several regional species. Working directly with aquaculture producers, we help them raise more fish and seafood more sustainably by providing targeted feed solutions, on-farm support, and a growing range of digital tools.



Salmon



Shrimp



Regional species

## Feeding aquaculture around the world

We offer the combined expertise and experience built up over many years across the Cargill, Purina and EWOS brands. As a trusted supplier to the international aquaculture industry, we provide producers with distinctive, proven products and services designed to promote productivity, manage risks and support their brands, all with the goal of enhancing their business growth.



EWOS® is a long-time leader in the aquaculture industry, with a well-earned reputation as a trusted feed supplier in all major salmon farming regions as well as in Vietnam offering feed for tropical fish species.



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



AQUAXCEL® feeds combine superior nutrition and modern extrusion technology to match the needs of individual species like shrimp, giving the young animals a great start to life and supporting farmer success.

## Setting a higher bar

We support certification schemes to promote best practices in aquaculture and to help educate consumers about the efficiency and favorable ecological footprint of farmed fish. ASC, BAP and GLOBALG.A.P are the three most important certification schemes for our customers globally, and we support feed towards all three in accordance with local market needs.



### GLOBALG.A.P (Good Agricultural Practice)

We apply the GLOBALG.A.P. Compound Feed Manufacturing Standard (CFM) to meet needs of GLOBALG.A.P.-certified producers.



### Best Aquaculture Practices (BAP)

We supply BAP-certified feed and participate in the feed standard development process.



### Aquaculture Stewardship Council (ASC)

We supply compliant feed to ASC-certified producers on request and participated in the development of the ASC Feed Standard launched in June 2021.

# Charting a bold new course



[www.cargill.com/seafurther](http://www.cargill.com/seafurther)

The aquaculture industry is part of the solution to feed the world safely, responsibly and sustainably. Our sustainable aquaculture program, SeaFurther™ Sustainability, charters a bold new course to make aquaculture better for our planet – and helps ensure sustainable seafood can be available to all.

Done well, aquaculture is an efficient way to produce nutritious food with a small environmental footprint while creating jobs and developing skills in rural communities. Yet, aquaculture is complex and achieving sustainability requires collaboration throughout the value chain.

Everyone in the chain, from suppliers of raw materials through feed producers to the farmers and perhaps most importantly retailers, have a role to play in producing sustainable seafood that meets customer expectations. Our decisions determine the footprint and performance of the seafood ending up on dinner plates around the world, and making good decisions requires a holistic approach and full appreciation of how individual choices will affect the overall performance of the value chain.

We developed our SeaFurther program in 2020 with the goal of helping salmon farmers to set and achieve ambitious climate goals. This requires a concerted effort – from origin to consumer – and we are committed to working with our partners to build a better seafood industry and reduce its footprint.

Together, we can reinvent what responsible aquaculture looks like.

## The scale of the challenge

Fish farming creates\*

**250 million tons**  
of CO<sub>2</sub> equivalents a year globally

\* MacLeod et al (2020)

Salmon farming creates

**10 million tons**  
of CO<sub>2</sub> equivalents per year

Fish farming is predicted to grow by\*

**32% by 2030**

\* FAO (2020) State of World Fisheries and Aquaculture

# Ambitious climate goal

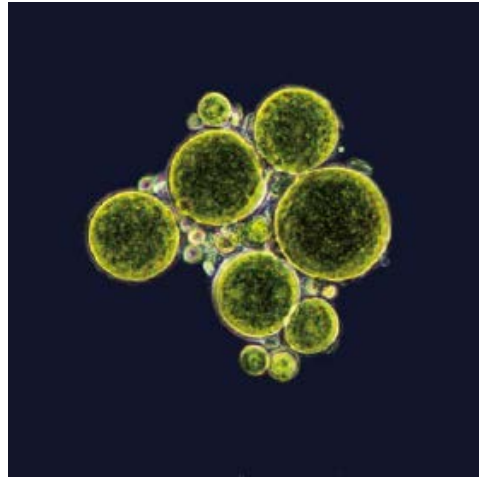
**A 30 percent reduction in the carbon footprint of fish farming by 2030. That's our goal with SeaFurther initiative and achieving it will help the industry save two million tons of CO<sub>2</sub> per year. We are targeting a 15 percent reduction by 2026 to ensure we are on track.**

Feed contributes significantly to the carbon footprint of seafood farming, and feed producers hold the key to achieving large emissions reductions throughout the value chain. Using that key to its full effect depends on seafood farmers and retailers sharing the same drive for sustainability.

That's exactly what we see happening in the market. Farmers are increasingly committed to reducing their emissions, and so are retailers, driven by raised sustainability awareness among consumers. While we pay significant attention to minimizing the impacts of our own operations, we depend on close collaboration with farmers, retailers and our suppliers to deliver on our climate goal. Innovation will be key, and traceability and transparency throughout the seafood value chain remain essential. We are linking these to our life cycle assessment tools to bring reductions at scale through our every day nutritional work.

## Three levers of change

We're focusing our efforts on these three strategic areas where we can drive real change through the seafood value chain.



### Source

Transforming supply chains.



### Optimize

Innovating and enhancing feed performance.



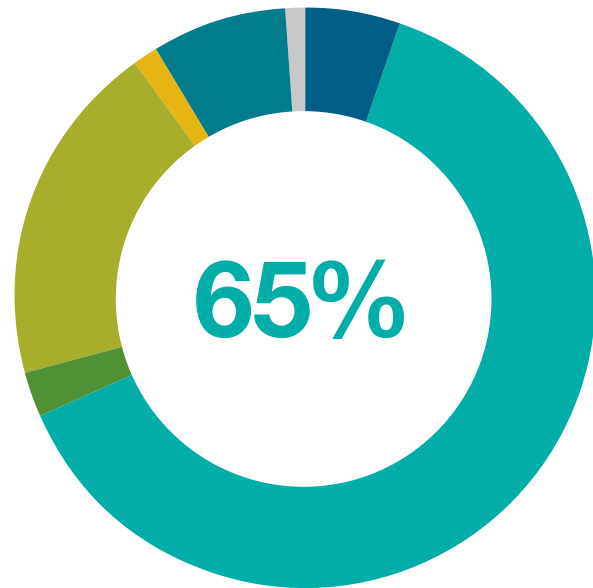
### Care

Safeguarding farmed fish.

# Targeting improvements in every step of the value chain

Collaboration is at the heart of SeaFurther initiative, and the carbon footprint of farmed salmon explains why. Optimizing each link in the value chain will only take us so far. Exploring greenhouse gas (GHG) emissions reduction initiatives – together – will enable us to meet the rising demand for seafood sustainably.

- Marine Proteins
- Vegetable Proteins
- Marine Oils
- Vegetable Oils
- Carbohydrates & Binders
- Micro Ingredients
- Feed Production



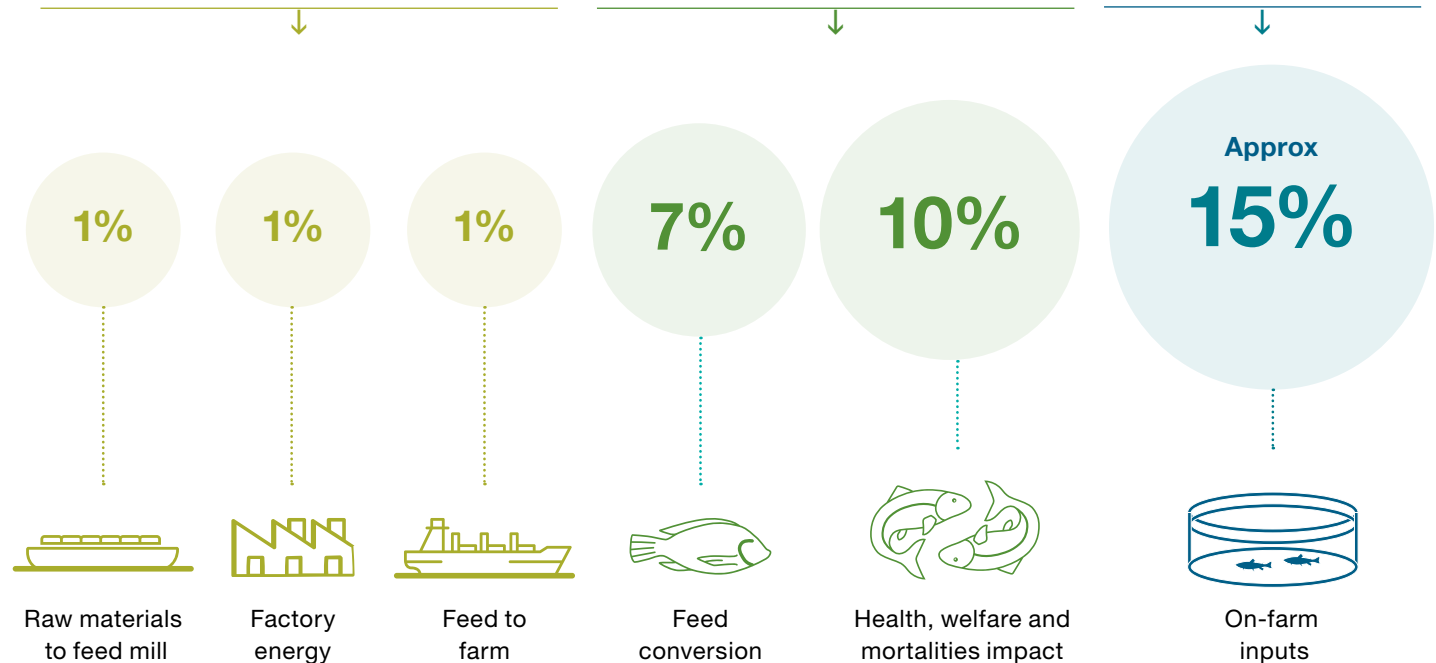
Raw material mix

Looking at the overall GHG emissions of a salmon at harvest, the raw material mix has a large footprint, but choice of nutrient source is also decisive for the footprint of other processes. The overall feed efficiency on farm magnifies the feed footprint further.

Raw material properties and distance to feed mill affect energy use for logistics and feed production.

Optimizing feeds for best conversion and safeguarding fish health and welfare through nutrition.

Reducing the need for farm inputs, such as treatments and on-farm energy.







# SOURCE

## Transforming supply chains

Our feed is designed to reduce the environmental footprint of aquaculture. That's why we work closely with our suppliers to grow planet-friendly ingredients and find ways to reuse by-products like fish trimmings that would normally be discarded, whenever we can. Together, we strive to identify and source novel ingredients that create even more sustainable feed, helping our customers and partners achieve our shared sustainability goals.

Years of dialogue and pressure from aquaculture companies and retailers resulted in a breakthrough commitment in 2020: The three largest soy suppliers to the Norwegian salmon industry will ensure that all their international deliveries come from deforestation-free supply chains. Learn more on page 12.

# Growing planet-friendly ingredients

**Each ingredient in our feed has a job to do – whether that’s providing a source of protein and vital nutrients or supporting fish health. We apply the full extent of our market insights and nutritional knowledge to balance all ingredients expertly and offer maximum efficiency. Then we work to reduce the environmental footprint of those ingredients individually or in the whole feed.**

We want a broad raw material basket, to ensure we are not reliant on any one source – particularly relevant in 2020 with the pandemic. Looking forwards, impacts of climate change on supply chains in particular mean we have to be resilient. So, we work with our suppliers to develop more sustainable products.

As well as working closely with partners and start-ups to grow planet-friendly ingredients, we find ways to reuse by-products whenever we can. One example is fish trimmings that would normally be discarded but provide an excellent source of protein and Omega-3. In 2020, 35 percent of marine ingredients in our salmon feeds came from fish trimmings. Using carefully chosen by-product streams can recapture important nutrients with a much lower footprint, supporting a circular economy approach.

We are always looking to identify, develop and source novel ingredients, such as insect meal and products from micro-algae. Adding untapped nutrient resources to our raw materials basket enable us to create even more sustainable feed recipes and to help our customers achieve their goals of bringing sustainably produced seafood to consumers worldwide.

Our drive to transform supply chains also includes caring for the communities we source from. Cargill’s [Supplier Code of Conduct](#) reflects the UN Guiding Principles on Business and Human Rights and outlines how we expect our suppliers to

work with us. We share this approach with our suppliers, as we feel it is paramount to building trust and achieving progress.

## Sustainable fisheries

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- **Our 2025 goal is to source only from certified sustainably managed fisheries. In 2020, we sourced 83 percent of our marine ingredients from MarinTrust certified suppliers. 59 percent came from sustainably managed fisheries aligned to Marine Stewardship Council (MSC).**

## Sustainable soy

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- **100% of the soy used in our salmon feed is certified deforestation free or organic – supporting the deforestation-free commitments of our business.**

**Cargill is committed to deforestation- and conversion-free (DCF) sourcing across our agricultural supply chains. Cargill is part of a globally integrated food system that plays an important role in food security across multiple food value chains. This gives us a unique perspective on how to build solutions that last, balancing multiple and varied interests while also protecting the environment. We are already showing it can be done: we are making significant progress toward becoming DCF. Learn more about what Cargill is doing in our [2021 Sustainable Soy Mid-Year Update](#).**

## Complete traceability

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- **We are developing key data elements (KDEs) to communicate information on ingredient origin, sustainability and volume data digitally and to offer complete traceability of our marine ingredients in line with the GDST (Global Dialogue on Seafood Traceability).**



## Novel feeds for the climate

**The collaborative platform “Råvareløftet” seeks to accelerate the development of new raw materials to reduce greenhouse gas emissions.**

In 2020, Cargill joined forces with the Bellona Foundation, the Norwegian Seafood Federation and six other major players in the fish feed industry to improve the carbon footprint of Norwegian salmon. Feed accounts for an average 75 percent of greenhouse gas emissions of salmon produced in Norway. The introduction of novel raw materials from Norwegian resources could contribute major cuts in the salmon's carbon footprint while generating employment and advancing the aquaculture industry sustainably.

**råvare** (subst.) raw material

**løfte** (subst.) promise, pledge; (verb) lift, raise, improve

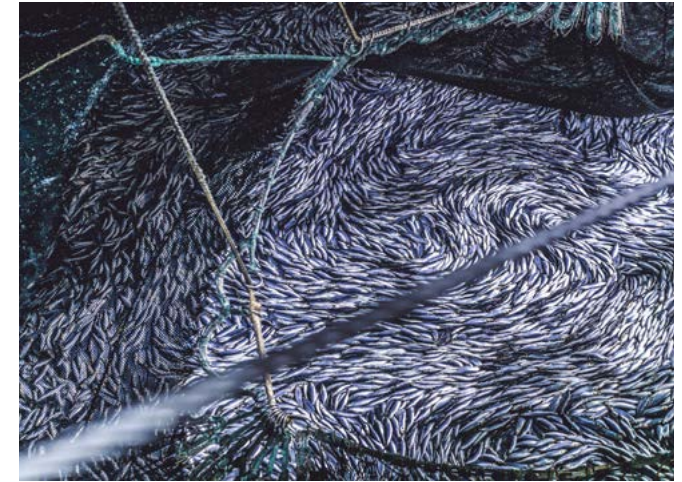
**Råvareløftet** (subst.) a commitment and ambition to reduce the carbon footprint of Norwegian salmon through the development of novel feed raw materials



## Dialogue delivers sustainable soy

**Three major Brazilian producers commit to deliver deforestation-free soy.**

In 2020, the three largest soy suppliers to the Norwegian and Scottish salmon industry, CJ Selecta, Caramuru and Imcopa, committed to ensuring that all their international deliveries come from deforestation-free supply chains. Developed through the “Aquaculture Dialogue for Sustainable Soy Sourcing from Brazil”, the agreement marked a breakthrough after years of dialogue and significant pressure from aquaculture companies and leading international food retailers. The Norwegian aquaculture industry has for several years used only certified soy in its feed, but the new commitment ensures that all soy sourcing by these three suppliers will be deforestation-free, beginning August 2020. Along with other large feed producers, Cargill has engaged in the Dialogue's initiative to bring life to this new global standard for soy sourcing.



## Collaboration is key

**Everyone throughout the supply chain has a role to play in producing sustainable seafood.**

We engage with peers, competitors and in several industry organizations and stakeholder forums to improve ocean stewardship, advance novel ingredients and develop sustainable aqua feed standards.

SeaBOS is one example we have highlighted before. In 2020, Cargill worked with the North Atlantic Pelagic Advocacy Group (NAPA) to create a fishery improvement project (FIP) which works with regulators on a sustainable harvest strategy for blue whiting, herring and mackerel. Management of these fisheries is complicated by disputes over quotas between six states, and through 2019–2020 the Marine Stewardship Council (MSC) suspended certificates for North East Atlantic mackerel, blue whiting and herring, all important stocks for fish feed.



Mr. Pham Van Chu, a shrimp farmer in Vietnam, looks for two factors when choosing feed: physical quality and actual results. He is using our Aquaxcel extruded feed and believes it gives him the best performance on limited farming areas.

# OPTIMIZE Innovating and enhancing

We focus on ways to increase fish efficiency, getting the most out of production while using fewer resources and reducing our impact on the ocean. By seeking to put fish nutrition first, we are harnessing the power of science and nature to do more with less.

# Doing more with less

**Sustainable thinking drives everything we do. That means not only finding ways to work more efficiently within our business but helping increase fish efficiency through our products, so that our customers get the most from production while using fewer resources. Working this way – understanding all links between our actions and their outcomes – is fundamental to us all protecting our seas and tackling climate change.**

Cargill's tools to report and model GHG emissions in feed and fish enable us to identify opportunities for making our carbon footprint, and that of our customers, smaller. Increasing energy efficiency and the share of renewable energy has high priority within our own operations. In Chile, we have collaborated with our supplier to source only renewable energy for our feed mills from the start of 2020, and a project is ongoing to use renewable electricity as the only source for power for one of our factories in Norway.

With feed contributing significantly to seafood farm emissions, we pay significant attention to supporting emissions reductions in other parts of the seafood value chain. Apart from developing and selecting more sustainable raw materials, these efforts extend to improving packaging and logistics and, not least, supporting higher feed efficiencies and better on-farm feed management. Based on our nutrition knowledge, we can formulate feeds that support efficient growth and help farmers to overcome specific challenges. Furthermore, our digital offering enables better on-farm decision-making.

We believe that by making fish farming better and empowering farmers with the best feed, new tools and the latest knowledge, we will help more communities thrive and strengthen the future for all.

## GHG emissions halved

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- **In 2020, our feed mills in Chile reached a milestone when they achieved their goal of a 50 percent reduction in GHG emissions in one year, thanks in large part to their switch to renewable energy.**

## Optimization of logistics

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- **Our “Fjordfrende” logistics collaboration with Skretting continued in Norway throughout 2020, reducing GHG emissions by at least 7,000 tons CO<sub>2</sub> equivalents.**



## Less carbon through nutrition

**Making the best decisions every day enables us to work with our customers to reduce environmental impact.**

A holistic approach on nutrition enables us to develop solutions for customers which reduce the environmental footprint of their farmed stocks. By integrating tools such as life cycle assessment (LCA) and traceability to our precision nutrition approach, we work in our supply chains to develop options for the farmers.

Through our supply chain partnerships, we are broadening our basket of sustainable nutrients, which form the basis of our feeds. We constantly seek a reduction of the eFCR within the context of the industry. By working with our customers, using our approach, we can demonstrably reduce the resources required and the environmental impact in total.

**“By linking our sustainability capabilities to our nutritional core, every day we help to make aquaculture more sustainable.”**

*Delphine Melchior, Quality and Sustainability Director, Cargill Animal Nutrition and Health*



## Fully compostable feedbags

**Our new feedbags are truly compostable and leave no plastic or harmful trace in the environment.**

Cargill’s aqua nutrition business in Scotland is spearheading efforts to reduce the industry’s use of plastics. In 2020, and in collaboration with Gaia BioMaterials UK, it introduced fully compostable feedbags made from food grade materials. Unlike some other options claiming to be compostable, the new bags break down completely, leaving no microplastics or other residues in the environment. Compostable feedbags are available as small 25 kilos packaging and are a great addition to the portfolio which already includes large feed bags made from 100% recyclable material.

**“We want to keep developing this project as our vision is to get rid of plastic altogether.”**

*Rosie Dregghorn, Process implementation lead at EWOS*



## Cargill’s first zero-emission aqua feed mill

**The construction of a new electric feed dryer will complete the electrification of Cargill’s feed facility at Bergneset, Norway.**

In early 2021, Cargill launched a project to construct an energy efficient, electric dryer in our factory at Bergneset. The project will replace fossil fuel with hydroelectric power and increase energy efficiency by more than 20 percent. Construction is on-going and when completed early in 2022, the new dryer will cut 3000 tonnes CO<sub>2</sub> equivalents each year. The project has received funding from Enova, a public enterprise promoting energy efficiency and climate solutions in Norway. The Bergneset factory is also in the process of replacing its traditional truck fleet with all electric models in pursuit of its goal of making the entire truck park electric. This builds on the efforts in Chile using only renewable electricity and Scotland using biomass to run the boiler to reduce Scope 1&2 emissions.

**“The knowledge and experience gained from this project will be put to good use in other Cargill factories.”**

*Jan-Vidar Olsen, Plant Manager, Cargill Bergneset*



Gill health is extremely important for fish survival and welfare, but maintaining healthy gills takes work, not least during lice treatments or algae blooms. EWOS GILL, increases the fish's gill strength and growth, and has shown to reduce mortality.

# CARE

## Safeguarding farmed fish

Healthy farmed fish play a powerful role in the health of communities – and the environment. So we put fish welfare at the top of our agenda. We take time and care to develop fish nutrition that promotes and enhances the health and welfare of farmed fish. We're committed to educating our customers and working with them to make sure the fish in their care are managed to the highest standards.

# Highest standards for fish health and welfare

The health of our planet and future of aquaculture relies on many factors. One of them is the way in which farmed fish is managed. That's why we work alongside farmers, providing core nutrition to enhance health and welfare in their stocks and to help them see thriving growth. We also spearhead digital innovations and engage in the development of new and better farming practices, knowing that what's best for the fish is also best for the farmer and the planet.

The choices we make have far-reaching effects – so we ensure they're made mindfully. For example, stewardship of medication, particularly antibiotics, in farmed seafood is important in order to protect the future health of people and the environment. No medicines are added to our feeds except under veterinary prescription to treat specific diseases.

Our focus is rather on providing solutions to minimize the need for medicines, particularly antibiotics. Animals' welfare impacts greatly on their growth, a connection particularly clear in salmon farming where increased handling of fish in production has impacted negatively on fish growth and health. In response, we have developed a range of feed additions that address specific welfare challenges.

Our knowledge of animals' nutritional requirements across all life stage enables us to deliver growth and safeguard fish health with every batch of feed. With deep insight into the nutrients provided by different raw materials, we can provide targeted nutrition that also reduces waste and effluents and helps to maintain local quality – another pillar of good fish health and an ecosystem in balance.

## Supporting quick recovery

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- EWOS Dermic, which was launched in 2018, has had great impact to help salmon recover from handling and mechanical sea lice treatments. After handling, if the fish are fed EWOS Dermic they return to feed faster, grow faster and are healthier than on a standard feed.

## Promoting good husbandry

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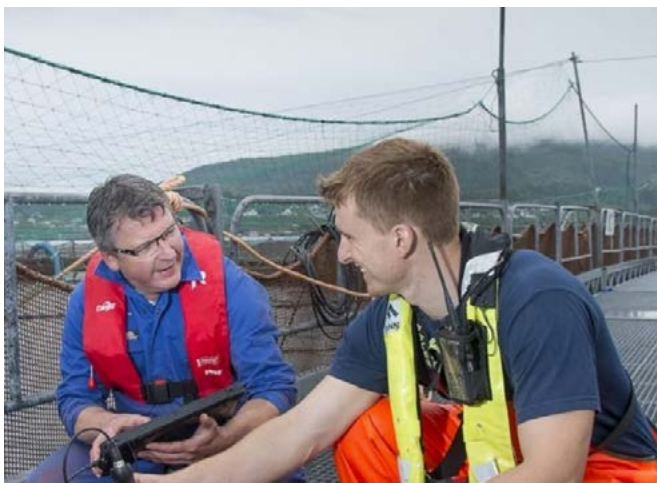
- Cargill is working with the Global Aquaculture Association (GAA) to develop improved farm welfare standards. Having worked in the UK with the RSPCA Farm Assured welfare standard for salmon for many years, Cargill also participated in the GAA's working group on aquaculture welfare, bringing a new dimension to their certification schemes.

## Shrimp

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- **“Shrimp health is a top priority for our customers,” said Zhihua Pei, shrimp marketing lead at Cargill. “We developed our SmartShield integrated solution through Cargill’s research and development ecosystem, including partnership with Cargill’s health technologies business, to deliver innovation that focuses on the top challenges – and opportunities – our customers are facing in shrimp health.”**





## Instant analysis at hand

**Our newly updated SalmoNIR solution saves time-consuming labor and money for salmon farmers.**

Sampling fish for flesh quality has traditionally been time consuming, and costly to the farmer. Fish would be taken from the cage and sacrificed to inspect flesh quality visually and by chemical analysis in a laboratory.

Cargill's new SalmoNIR technology is developed for sampling and the analysis of fat content, EPA, DHA and fillet color – of live salmon – and changes the game of quality monitoring. The device itself is a small, water-proof and robust handheld scanner with an accuracy on par with chemical analysis. Scanning a fish takes only seconds, and the flesh quality data is transferred to a cloud solution and made instantly available to the farmer in the MyEWOS application. Coupled with other key data about fish from the same cage, it supports cost-efficient and prompt monitoring of the fish's health and growth, its environment and quality.



## A better start

**AquaXcel® brings faster fry growth rate and higher survival rates to farmers in Indonesia.**

In 2021, Cargill started to produce AquaXcel® – a multi-species starter feed – in Indonesia. In a region where good starter feed options have been hard to find, the AquaXcel® formulation was most welcome. Many aqua farmers in Indonesia struggle with low survival rate of fingerlings and prolonged days of cultivation, and AquaXcel® addresses these challenges. It provides specialized immune boosting ingredients to support healthier fry growth and increased survival rates. Offered in extruded pellets of uniform size and with high water stability, AquaXcel® represents a technology breakthrough in multi-species starter feed, also supporting reductions in feed waste.

**“Cargill Aqua Nutrition’s expertise allows us to offer distinctive value to our customers through the production of high-quality feeds and efficient distribution.”**

*Sarawoot (Pop) Chittratanawat, Managing Director of Cargill Aqua Nutrition, Malaysia and Indonesia.*



## Supporting global health security

**Shrimp is among the subjects in a new program to combat threat of infectious diseases and antimicrobial resistance to human and animal health.**

In April 2021, the United States Agency for International Development (USAID) launched a consortium led by Cargill that also includes Ausvet, Heifer International, and the International Poultry Council to improve livestock management and combat the threat of zoonotic diseases to both human and animal health in Asia and Africa. USAID administers the U.S. foreign assistance program providing economic and humanitarian assistance in more than 80 countries worldwide. The five-year Transformational Strategies for Farm Output Risk Mitigation (TRANSFORM) consortium will prioritize efforts to decrease the risk of antimicrobial resistance and diseases spread from animals to humans, both pressing global health challenges.

Beginning in 2022, Cargill will run trials on shrimp, among other species, to investigate the role of animal nutrition in reducing zoonotic diseases.

## Partnering with our communities

### Support during the pandemic

**PCR equipment from our aqua nutrition business helped to boost local COVID-19 testing capacity in Ecuador and Chile.**

Shortly after the outbreak of the pandemic, Cargill donated PCR testing kits and equipment to Ecuador's Cancer Hospital of Guayaquil, Chile's University of Concepción, and Chile's Magallanes University. The donation significantly increased the number of tests that could be processed, quadrupling, for instance, the testing capacity at the University of Concepción.

Aquaculture has used diagnostic techniques like PCR to improve the health and welfare of species like salmon for decades. Recognizing how we could aid and accelerate virus testing in our communities, we were therefore happy to partner to share our equipment and expertise to help fight COVID-19.

Since the outbreak of the pandemic, Cargill has been working with nonprofit and NGO partners around the globe to help address food security, health and safety needs and industry challenges due to the spread of COVID-19. We have committed more than USD 35 million in relief and recovery efforts, including from employee personal giving and our support for pandemic relief efforts has extended into 2021.

### 100 new schools in 25 years

**The employee-led Cargill Cares Council has built 100 schools in rural Vietnam, creating a lasting impact through education for more than 15,000 students per year.**

Cargill's Vietnam School Building Project was started in 1996 with an aim to build 100 schools in rural areas by the end of 2020, to increase access to education, improve student enrollment and teacher retention. The project passed that milestone with the inauguration of the Van Thanh primary school in Nghe An province in late 2020. Upon opening the doors to the new school, Cargill Cares Council in Vietnam set a new ambitious goal: building 150 schools for Vietnam by 2030 so as to address the remaining needs for better school facilities across rural communities in Vietnam.



## Empowering women in the shrimp sector

**Training program will help 100 female shrimp producers improve their income potential.**

Leadership, finance, and digital skills. One hundred female shrimp producers from Mexico, Central America, and Ecuador will receive training in this – and more – thanks to a newly formed alliance between Cargill and the Edes Business School of the Universidad Técnica Particular de Loja (UTPL). The program will support the women in the development of their businesses and eliminate obstacles to improve their profitability. Set to enrich the industry as well as local communities, this partnership reflects our commitment to promote gender parity and empower women along our supply chains.

**“We are humbled and excited to partner with UTPL to open doors for women first, in their communities, and then in broader export markets.”**

*Pilar Cruz, Cargill's Chief Sustainability Officer*

# About Cargill

Our purpose is to nourish the world in a safe, responsible and sustainable way.

## Our business

Every day, we connect farmers with markets, customers with ingredients, and people and animals with the food they need to thrive.

### We provide insights to our partners



### We transform raw materials into finished goods



### We move products around the world



#### For farmers

We supply feeds, other inputs and expertise to farmers, and buy crops and livestock from them



#### For customers

We deliver finished goods to customers in the foodservice, retail, consumer packaged goods and industrial sectors



We are  
**155K**  
employees

Working in  
**70**  
countries

With more than  
**155**  
years of experience

Delivering for customers in more than  
**125**  
countries

We aim to be the most trusted partner for food, agriculture, financial and industrial customers.

## How we work

Our integrated operating approach enables our businesses to provide industry-leading products and services in their specific sectors while also drawing on the full world of Cargill's expertise. We deliver this expertise locally, quickly and reliably through world-class capabilities and operations everywhere we do business. Our global functions equip our businesses to do this effectively and efficiently by providing process governance and deep subject matter expertise on issues that affect us, our customers and other partners.

Cargill's Executive Team is responsible for the company's strategic direction, talent development and overall financial performance. Led by Board Chair and CEO Dave MacLennan, members of the Executive Team represent all of Cargill's enterprises, as well as major global functions. They use a diverse set of experiences from both inside and outside of the company to lead and achieve results.

## Our Guiding Principles

Doing business ethically is key to our longterm strategy and relationships. Our seven Guiding Principles make up the core of our Code of Conduct. We require all employees and contractors to follow them, and expect our suppliers to do the same.

1. We obey the law.
2. We conduct our business with integrity.
3. We keep accurate and honest records.
4. We honor our business obligations.
5. We treat people with dignity and respect.
6. We protect Cargill's information, assets and interests.
7. We are committed to being a responsible global citizen.



# Cargill Aqua Nutrition Performance GRI Data Report 2020

Healthy seafood for future  
generations

# Our performance

This report has been prepared in accordance with the GRI Standards: Core option.

The following pages show a summary of the GRI Standards and customized disclosures for topics that we have identified as material to our operations.

## Scope of the report

### Reporting Entities

The Cargill Aqua Nutrition Sustainability Report 2020 covers our dedicated aquaculture feed production units from January to December 2020. This covers 12 countries with 19 feed mills with feed production for salmon, shrimp and a range of other cold and warm water species of animals that are fed. The previous report for this company was for January to December 2019 and was published in June 2020.

Cargill's aqua nutrition operations are carried out across 40 facilities in 19 countries, however, only 19 of these facilities are dedicated to aquafeed production: the remainder are primarily livestock feed or premix production sites, which make some aqua feed to serve local customers. As the resources for the latter sites are mixed, it is not possible to separate out the required reporting for the aquafeed. Therefore, reporting is focused on the dedicated facilities.

In 2020 we were once again able to collect data for all of our dedicated aqua feed operations, as we had done in 2017 and 2019. Therefore, all data is reported in 2020, but trends are not always shown due to lack of complete data for all aqua feeds in 2018.

This is the twelfth annual report for the salmon feed operations (previously as Cermaq and EWOS). As such, historical trends are shown and discussed in more detail for the salmon feed operations. For some indicators, we have chosen to focus on 2017 as the baseline year from which to demonstrate change. This aligns with the Cargill baseline year for our corporate goals to reduce Scope 1, 2 and 3 emissions.

## Reporting facilities in each country after their classifications

Classification	Country	Facility
Coldwater 	Canada	Surrey
	Chile	Coronel
	Norway	Bergneset Florø Halsa
	Scotland	Westfield
Warmwater   	China	Yangjiang Zhenjiang
	Indonesia	Serang
	India	Rajahmundry Vijayawada
	Thailand	Petchaburi
	Vietnam	Dong Thap Long An Tien Giang
	Ecuador	Guayaquil
	Mexico	Guadalajara Obregon
	United States of America	Franklinton

# How we manage sustainability

**Sustainability is deeply embedded in our vision and the way we manage our operations.**

**[Learn more about Cargill's sustainability goals and priorities at Sustainability and Corporate Responsibility at Cargill.](#)**

To deliver, we've identified the most material issues to our business. This prioritization was completed in partnership with external stakeholders and takes into account the significance of the environmental, social and economic impacts of our diverse business and supply chains. Within each of these strategic priorities, we have set goals and objectives.

Our purpose is to be the leader in nourishing the world in a safe, responsible and sustainable way. It's who we are. It's why we exist. As the world faces extraordinary challenges – from climate change to food insecurity – delivering on our purpose is more critical than ever before.

## **Sustainability Management**

Cargill's corporate management of sustainability is led by the Chief Sustainability Officer, focusing on policies and programs to deliver progress against our global commitments. The Cargill Executive Team reviews the company's progress on a quarterly basis at an enterprise and business level. We report progress externally through our company's annual report in addition to annual and biannual supply chain reports. All of our reports, supply chain grievance dashboards and other public information can be found on our Reporting Hub.

In Cargill's aqua nutrition business, responsibility for driving sustainability practices throughout the group ultimately lies with the group President, who is supported by the Group Leadership Team (GLT). This team comprises Regional Managing Directors; Finance Director; Risk Management and Sourcing Director; Strategic Marketing Director; Operations Director; IT and HR Directors for global Cargill aqua nutrition. This approach ensures sustainability management from top to bottom and across our functions. A dedicated group Sustainability Director brings leadership on sustainability issues and goals, oversees the monitoring of sustainability performance, informs the Strategic

Marketing Director of Cargill aqua nutrition, collaborates with the Sustainability and Quality Director of the Strategic Marketing team, and reports to the Sustainability Lead for Cargill's animal nutrition and protein businesses. The Director also works with key stakeholder engagement centrally, while local issues are covered by the local businesses with central co-ordination. Local businesses may also have their own designated sustainability lead or manager, who addresses local market issues and co-ordinates with the Sustainability Director.

Cargill's aqua nutrition business is part of Cargill's animal nutrition and health enterprise, which focusses on delivering animal nutrition globally. Our sustainability approach is aligned with that of animal nutrition and health enterprise and ultimately with the corporate Cargill approach ([www.cargill.com/sustainability](http://www.cargill.com/sustainability)). However, the materiality and the details of the aqua nutrition industry require greater focus, hence the management of sustainability is lead at business group level.

We believe strongly in engaging employees and promoting responsible behavior from each and every person. Cargill's Guiding Principles bring sustainability into everyday business. In 2020 sustainability leads in some individual businesses were increasingly active, promoting sustainability in their facilities and with their customers and suppliers. This will build a network which will coordinate with the central Sustainability Manager to develop approaches to sustainability that are sensitive to local market needs as well as global policy.

The structure of Cargill's aqua nutrition business enables local and global management of topics and impacts. Local management drives the individual businesses, while cross-functional teams provide coordination and knowledge sharing across the group. These teams operate in areas such as raw material sourcing; factory operations; formulation; human resources; sales and marketing; and technology

implementation. This structure allows global and local goals to be set where appropriate, as well as monitoring performance for the broader set of topics. More details on how individual topics are managed and where topic boundaries are set are provided in the report.

Regular reporting procedures are being set up to enable tracking of performance against our material topics. This enables the leadership to ensure the direction and progress. Deviations from the plan are highlighted in these reports, so corrective actions can be taken.

The performance of Cargill's aqua nutrition business on sustainability issues is reported through its leadership team to Cargill's animal nutrition leadership, and from there to the leadership team for Cargill. The corporate leadership team created Corporate Sustainability in 2018, into which the Sustainability Manager of Cargill's aqua nutrition business reports. Corporate Sustainability reports to the Chief Sustainability Officer, who sits in the corporate leadership team. This creates the lines of reporting to corporate leadership – through Corporate Sustainability and through businesses themselves.

## Management Approach

We apply a precautionary approach to managing sustainability, seeking scientific basis for decisions and more data when there is insufficient to make a decision. In 2020, we have added more data for consideration, starting to work with Life Cycle Assessment (LCA) approach for our raw materials and feeds. This enables us to take a more holistic and science based approach to optimizing our decisions on raw materials and feed formulations. As sustainability grows ever more complex, it is essential to try to build as much data as can be reasonably expected behind our decisions.

## Cargill's approach to sustainability and corporate responsibility

Our purpose is to nourish the world in a safe, responsible and sustainable way. It's who we are. It's why we exist. As the world faces extraordinary challenges – from climate change to food insecurity – delivering on our purpose is more critical than ever before.

Our global Sustainability strategy sets clear priorities based on the most material issues to our business. We identified Climate, Land & Water and People by evaluating the environmental, social and economic impacts of our diverse business and supply chains. As we drive progress against these areas, we'll do so by engaging, empowering and advancing sustainable practices across farm and field, because we believe agriculture is how we'll deliver.

**Agriculture is how we help people and the planet thrive.**

As the world joins in advancing the UN Sustainable Development Goals, we believe that many of the solutions to the challenges we're facing can be found in the very place our food system begins: Agriculture. Agriculture can be a force for good. We aim to empower farmers and workers, support local communities, promote safe and fair working conditions and ensure food is nutritious and plentiful for all. We're also driving progress on priorities that safeguard our planet and ensure we're operating our business in a sustainable way. Through our work with key partners, collaborative initiatives with our customers and through constantly innovating the products and services that we offer, we are committed to creating impactful change that leverages our scale of operations and reach.

By empowering farming communities, protecting land and regenerating our soils, we'll nourish this growing population – safely, responsibly and sustainably.

Find out more on Cargill's approach [here](#).

## Material Topics

Cargill corporately increased its open engagement in sustainability through Corporate Sustainability, which drives key themes and enable information sharing across the corporation. Five key corporate themes are now highlighted: climate change, water, land used, farmer livelihoods, and human rights. Corporate Sustainability also engages with other topics and is supported by teams in the businesses working on topics most relevant to their sector and markets.

Cargill corporately supports the ten principles of the UN Global Compact, and formally joined as a participant in August 2017. The UN Global Compact provides a universal management framework for sustainable development that will help Cargill's long term strategy deliver global objectives. They set out broad guidelines on human rights, labor, environment and anti-corruption practices. But in Cargill's aqua nutrition business, we look in more detail in our sector to identify the highest priority material topics.

The UN Global Compact’s Sustainable Ocean Business Action Platform and the United Nations High Level Panel for a Sustainable Ocean Economy provide more ocean and aquaculture focused discussion of the material topics. We also relate our business operations to the UN Sustainable Development Goals, to ensure that we can work to support the relevant goals and targets in our operations.

Our interactions with stakeholders help us to gauge the importance of the material topics from an external perspective. They also raise awareness of emerging and developing topics, as scrutiny of the seafood sector increases.

The Cargill aqua nutrition business materiality matrix is a representation of the most important sustainability topics that require our attention. An annual exercise to create the exercise provides us with deeper insights into the various impacts and opportunities present across our value chain. We review our material sustainability topics based on input from stakeholders, scientific information, management considerations and our sustainability performance. Our leadership team is involved in determining the matrix, which guides our focus and sets our priorities from year to year. The topics are quite varied and we have to apply a precautionary approach to management, while more information is being gathered by interested stakeholders.

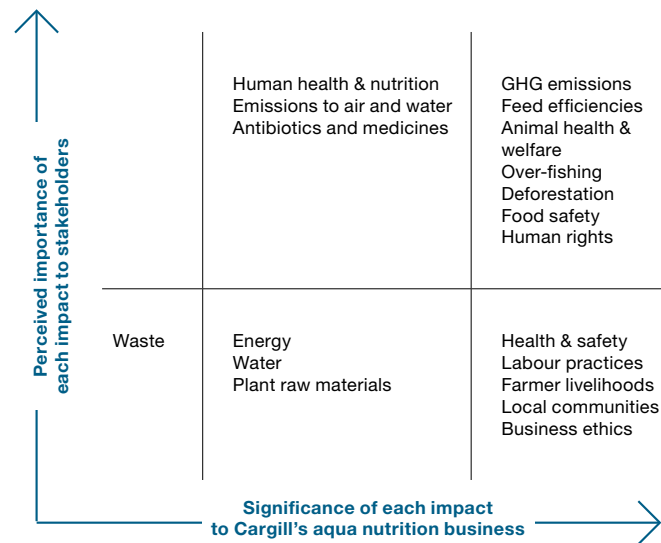
### Monitoring and Reporting

Sustainability reporting against our material topics is currently carried out internally on a monthly, quarterly or annual basis, depending on the topic and data types, across all our operational facilities. External reporting is annual, through our Sustainability Report, based on these data.

Our Sustainability Director and Sustainability Analyst oversee and interpret the data and communicate developments to the GLT through the Strategic Marketing Director. They also communicate regularly with appropriate business leads and functional team leaders to align progress.

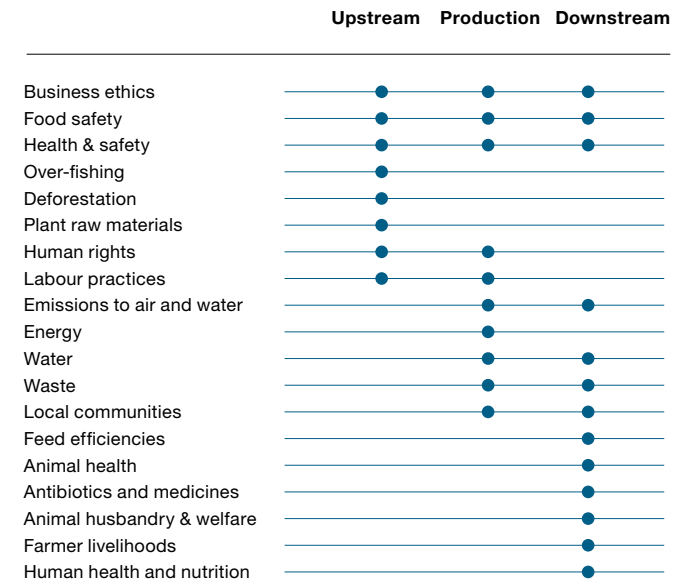
## Cargill Aqua Nutrition Materiality Matrix 2020

We use our materiality matrix to prioritize topics we must be managing or measuring. Currently, we direct our attention to the topics with the highest potential sustainability impacts, but our ultimate goal is to directly manage all the impacts shown across our operations. The topics arise at various points in our value chain, which can make them challenging to manage directly.



## Where our main impacts occur

The matrix below indicates where the main impacts 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).







**Stakeholder  
engagement**

# How we work with our stakeholders

**As a global supplier of feed for aquaculture and a critical part of the seafood supply chain, we interact with a highly diverse range of stakeholders.**

This situation highlights both the complexity and the importance of connectivity in our business.

Our approach to stakeholder engagement is to concentrate on entities or individuals that can reasonably be expected to significantly affect or be affected by the organization's activities, products, or services; and whose actions can reasonably be expected to affect the ability of the organization to successfully implement its strategies and achieve its objectives.

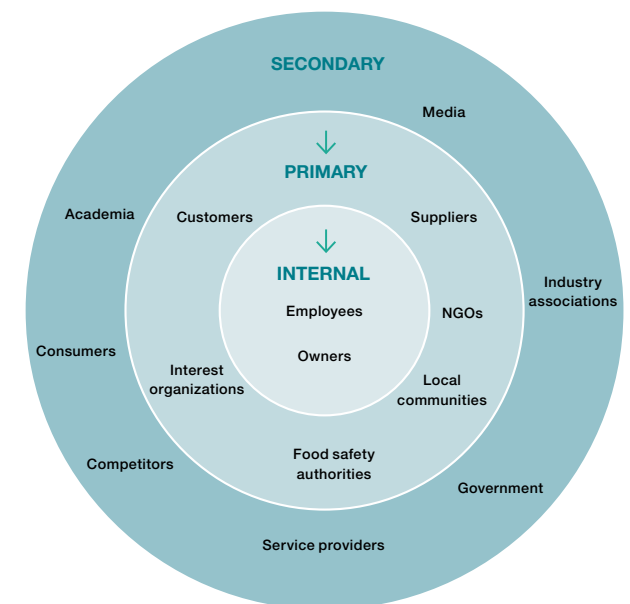
## Engaging with Stakeholders

Our key stakeholders are suppliers and customers, and these are clearly identified on a global and local level. We meet and communicate with stakeholders every day, and information from this is fed back into the organization at different levels as required. This enables us to proactively work to meet stakeholder expectations and also to engage in advocacy work to develop policies for sustainable aquaculture and guide legislation which can also support this.

More information on how we work with our stakeholders is given on our [website](#).

Some examples of the range of key stakeholder engagements carried out in 2020 follow.

ASC and BAP are important farm level certification standards for many of our customers globally. Cargill's aqua nutrition business is involved in developing and reviewing their standards for feed respectively. This involves work with a broad range of stakeholders, including social and environmental NGOs, industry, trade associations and of course the



standards bodies themselves. During 2020, the ASC Feed Standard drafts were finalized and were ultimately publicly launched in June 2021.

This work with the standards supports our interactions with the Global Salmon Initiative (GSI), which some of our customers are members of. With a goal of improving the image of farmed salmon globally, through being more sustainable, this is an important forum for us to hear of the industry's challenges and opportunities in this space, bringing in views from many other stakeholders so we can collaborate pre-competitively to drive salmon aquaculture forwards.

Our work with the European feed millers' trade association FEFAC continues, especially through their Sustainability Committee, on which we have representation. This has kept us aligned of the developments towards the European Green Deal and the constituent Farm to Fork and Biodiversity strategies that were launched in 2020. FEFAC revised its Soy Sourcing Guidelines in 2020, to bring them up to date with current interests particularly around deforestation. Being involved in these discussions enables us to bring that knowledge to our business, as well as working with our Cargill colleagues who work with soy production and trade directly.

In Norway, we have continued the pre-competitive collaboration with other salmon feed producers, the ProTerra Foundation and the soy protein concentrate suppliers, Caramuru, CJ Selecta and Imcopa. Under the name the Aquaculture Dialogue for Sustainable Soy in Brazil, this group has developed and implemented greater transparency and traceability of the soy supplies.

Over 2020, we have also worked with colleagues in Cargill to learn more about soy production in Brazil and some of the environmental and social challenges experienced there. During 2020, Cargill worked to set up the [Land Innovation Fund](#) for Sustainable Livelihoods, which was launched in 2021. Managed by Chemonics, with a pledge of \$30 million

from Cargill, the aim of this fund is to accelerate the development and implementation of innovative and economically viable options for farmers in South America as alternatives to converting biologically significant forests and other native vegetation in the Amazon, Cerrado and Gran Chaco biomes.

Working with regulators to enable sustainable development of aquaculture is critical. In the United States, Cargill joined with seafood industry leaders to form Stronger America Through Seafood, which advocates for federal policies that support U.S. seafood production and aquaculture – including legislation like the AQUAA Act. The AQUAA ACT provides much-needed regulatory certainty for U.S. marine farmers while also preserving the environment, local economies and public health. Learn more at [strongerthroughseafood.org](#).

Our engagement in SeaBOS (Seafood Business for Ocean Stewardship) continues to be extremely fruitful. By bringing together the CEOs of the ten keystone actors in the seafood business, the Stockholm Resilience Centre and their scientific partners have created a hub for business and academic interaction on common sustainability themes. Despite the pandemic interrupting all of the planned physical meetings, the group continued its development on: critical issues of IUU fishing and labor abuses in seafood; traceability; working with governments (with a focus on antibiotics and anti-microbial resistance); governance and transparency; plastics; and climate resilience. Members and scientists share information and contacts with other organizations, such as the Global Dialogue on Seafood Traceability (GDST) and the Global Ghost Gear Initiative (GGGI) which enables members to broaden their awareness and work together faster. In 2020 the members' agreed to common goals across the companies on each of the areas of work. This builds the approach from 2021 onwards for the companies.

Developing sustainable raw materials has been a theme for

many years and we continue to do this in a variety of ways. In fisheries, we are involved in a fishery improvement project in Peru, working with the fishing industry and its trade association, the Peruvian government and its fishery management advisors, consultants and our competitor in feed production, Skretting, to raise the management of the Peruvian anchovy in the North-Central sector of Peru. The goal is that the management will be good enough for the fishery to be certifiable to MSC standards. The project started in 2017 and worked to a conclusion in 2020, with the fishery ready for assessment against the MSC standards, hopefully in 2021. In 2018, we also started a global review of our marine ingredients purchasing, working with WWF to assess the current sustainability of the fisheries which we source from and determining methods for improvements. This work led to the development of Key Data Elements (KDEs) required for traceability of our marine ingredients, aligned with the Global Dialogue for Seafood Traceability (GDST). During 2019 we piloted these KDEs with some of our suppliers and continued that work in 2020. In order to fully capture and utilize this information and effectively communicate the traceability information to our customers, we are developing an internal database which will link to our broader digital platform. This will migrate from the system we have today which relies on manually transcribing data from paper and PDF documents. Outside our salmon operations, we have continued our participation in the Seafood Task Force, which focusses on Thailand. But we are able to apply learnings from this multi-stakeholder group to other parts of our operations, helping to assess potential labor risks.

The MarinTrust standard has been a mainstay of our marine ingredients certifications since it was launched in 2011 (then as IFFO RS). In 2019 we were asked to join their Social and Ethical Committee as well as being invited as observers to their Governing Body Committee. Participation here, with representatives from environmental and social NGOs, retailers, feed companies and the fishmeal and oil producers, enables us to understand better the critical issues in

this space and provide inputs on our customers' expectations. Through this, we have brought the work on KDEs to MarinTrust who are now considering how to implement these with their members, to help improve verifiable traceability in their industry. Coupled with more information on identifying areas of risk or good performance (as we have seen from SeaBOS), this traceability will help us focus on mitigation where needed. It will also help us to provide defense against broad based criticism, which is not based on the actual supply chains we use.

Building on our work with the Peruvian anchovy FIP, we have been investigating future FIP opportunities. The work we did with the WWF Seafood team in 2018 reviewed our marine ingredients use and from this we identified opportunities to work with specific fisheries to help them develop more sustainable management practices. Working with FIPs to lift up the fishery to a more sustainable position will help us to have access to more fisheries meeting our goal. It will also help us with broader compliance with the future ASC feed certification. Through 2020 we have developed a proposal with the WWF Seafood team to work to establish a large scale fisheries assessment and look forward to launching this in 2021.

We believe that collaboration throughout the value chain is necessary to continue to improve our company's – and industry's – sustainability. At the North Atlantic Seafood Forum in Bergen, for many people in the sector the last physical forum of the year due to the pandemic, Cargill hosted a session dedicated to the quota allocation of blue whiting, Atlanto-Scandinavian herring and Atlantic mackerel. It was clear that these species were going to lose their MSC certifications as regulators had repeatedly failed to agree quotas between the coastal nations which were within scientific recommendations. By the end of 2020, MSC had suspended all the certifications, but this meeting and a focus from retailers led to the formation of the North Atlantic Pelagic Advocacy Group (NAPA), which Cargill is a member of. In 2021, this group will work to set up policy fishery improvement projects

for the three species, with the aim of working with regulators and fishers to heed market expectations and to set quotas between the nations which are within the scientific recommendations. Cargill has pledged our support and has not bought any blue whiting material caught after 30th Dec 2020, when the MSC certification was suspended. We have been public in our commitments and are working with our suppliers to find a successful resolution through credible fishery improvement projects to be established in 2021.

In Chile, the Cargill aqua nutrition team have worked to engage more with local communities from the Biobío to Austral regions, with focus areas on education, environment and the community and economic development. Last year we reported on the work with the Mapuche Community to grow lupins as a raw material for our feeds. We are pleased to say that we extended this project to April 2020 thanks to Cargill corporate funds and support from Technoserve, the Centro de Genómica Nutricional Agroacuicola (CGNA), NgSeed and of course the Mapuche communities. Better field management systems with the farmers were developed during the project and are now available at the farm level.

A variety of other projects were carried out in partnership with local NGOs and other aquaculture businesses. In Coronel and Calbuco, together with Fundación Trascender we funded 16 projects to improve community spaces, raise quality of life for our neighbors and to support education, culture and sport. Together with other aquaculture businesses, local authorities and anyone who wanted to join from the local communities, we supported Limpiezas de Mar y Playas (LMP), Sea and Beach Cleanups, with a focus on the Choncoihue sector. This resulted in about 2 tons of plastic waste being removed, of which 80% went to recycling. Meanwhile, in Coronel, where our factory is based, we have worked with the Programa para la Recuperación Ambiental y Social de Coronel (PRAS – program for the environmental and social recovery of Coronel). These are just some of the examples of the work in Chile, which is explained in more

detail in the Community Enrichment Report for Cargill's aqua nutrition business Chile.

We also encourage development of new raw materials for feed ingredients, working with various organizations, from start-ups and businesses to research groups to develop sustainable sources of nutrients from novel origins. Since 2018 Cargill has supported HATCH, the world's first accelerator program for aquaculture start up's. The aim is to bridge the gap between breakthrough, innovative ideas and their commercialization. The program has selected the leading companies for the incubator phase, to provide further resources, tools, coaching and access to commercial opportunities in the field of sustainable aquaculture. Attending various forums over the year to talk about our requirements for novel ingredients, has allowed us to ensure our needs are transparent for developers and investors.

Scaling up use of novel ingredients requires commitment throughout the value chain. Our relationship with InnovaFeed to produce insect meal for salmon feeds continues and through it we have been able to add more of this product to specific feeds. Our long term commitment to this has enabled InnovaFeed to invest to scale up their production, which will enable us to open up use further. For algal oils, we work with the major suppliers to the aquaculture sector and our customers to find ways to include these suppliers of long chain omega-3 fatty acids in the diets, which can help to reduce the use of fish oil and help increase omega-3 content in salmon. To encourage an increased production and use of such nutrients in our feeds, we are working with our customers and their customers to build the market commitments to use increasingly more novel ingredients over the next few years.

# Our goals

In our annual Sustainability Report for 2017, we laid out our core goals for Cargill's aqua nutrition business.

## Our business goals

This report will show how we are moving towards those goals. However, since that time Cargill has also corporately made a commitment to reduce absolute GHG emissions in our operations by a minimum of 10 percent by 2025 against a 2017 baseline. This will be done using GHG factors based on the residual mix for electricity consumption, since our electricity consumption is not supported by a Guarantee of Origin from our suppliers. The residual mix takes into account where electricity is produced and how, reflecting the international trade in power. We therefore aligned our emissions goals with the Cargill corporate approach, while also demonstrating our overall energy use reduction.

Goal 2020	Progress			Group	Comment
	Coldwater	Warmwater			
By 2020 reduce relative GHG Scope 1 and 2 emissions by 20% against a 2017 baseline	-32.2% ↓ ●	52.0% ↑ ●	6.9% ↑ ●		Use of lower emission fuels and renewable electricity drove coldwater down. Warmwater energy use increase and production increase over time has not yet been matched by lower emissions.
By 2020 source all soy products from supply chains meeting FEFAC benchmarked certifications	100% ●	0% ●	65.3% ↑ ●		While the coldwater team have met the goal, the market in warmwater does not accept the extra cost of certification and availability can be challenging
By 2020 source palm oil products only from suppliers certified to RSPO or equivalent	100% ●	0% ●	28.1% ●		Palm oil is used only in small amounts, but we need to have progress in warmwater feeds
By 2020 source all marine ingredients from IFFO RS certified factories	89.7% ●	52.0% ●	84.0% ●		Great progression towards goal, but challenging to close the gap in Asia. Does not include MarinTrust IP supplies which takes the total to 90.5%.
By 2025 only source marine ingredients from MSC certified fisheries	67.8% ●	12.8% ●	59.5% ●		Reporting fisheries aligned to MSC standards.

- Red circles highlight where progress is poor.
- Yellow shows some progress, but more work is required.
- Green indicates good progress towards the goal.
- Blue shows that the goal has been achieved.

## Engagement with SeaBOS

Further to our own business goals, in October 2020, Cargill's aqua nutrition business signed an agreement with the SeaBOS members on the following commitments:

The task forces of SeaBOS	Our commitments
<i>Task Force I</i> <b>Addressing IUU and forced labor</b>	<ul style="list-style-type: none"> <li>Engage in concerted efforts to help reduce IUU (Illegal, Unregulated and Unreported) fishing and seek to ensure that IUU products and endangered species are not present in our supply chains.</li> <li>Engage in concerted efforts to eliminate any form of modern slavery including forced, bonded and child labor in our supply chains.</li> </ul>
<i>Task Force II</i> <b>Improving traceability in global seafood</b>	<ul style="list-style-type: none"> <li>Improve transparency and traceability in our own operations, and work together to share information and best practice, building on existing industry partnerships and collaborations.</li> <li>Work towards reducing the use of antibiotics in aquaculture.</li> </ul>
<i>Task Force III</i> <b>Working with governments to improve regulations</b>	<ul style="list-style-type: none"> <li>Engage in science-based efforts to improve fisheries and aquaculture management and productivity, through collaboration with industry, regulators and civil society.</li> <li>Secure new growth in aquaculture, by deploying best practices in preventive health management, including improved regulatory regimes.</li> </ul>
<i>Task Force IV</i> <b>Transparency and Governance of SeaBOS</b>	<ul style="list-style-type: none"> <li>Collaborate and invest in the development and deployment of emerging approaches and technologies for sustainable fisheries and aquaculture.</li> <li>Support novel initiatives and innovations for ocean stewardship.</li> </ul>
<i>Task Force V</i> <b>Reducing ocean plastics</b>	<ul style="list-style-type: none"> <li>Reduce the use of plastics in seafood operations, and encourage global efforts to reduce plastic pollution.</li> </ul>
<i>Task Force VI</i> <b>Climate resilience</b>	<ul style="list-style-type: none"> <li>Reduce our own greenhouse gas emissions.</li> </ul>

During 2021 and beyond, we will work with SeaBOS members and science team to deliver on these commitments individually and in collaboration.

### External Assurance

Cargill's aqua nutrition business has chosen not to seek external assurance for the Sustainability Report 2020, but has internally audited the majority of the data presented.

## Progressing together – some of the associations we partner with



### Feed trade associations

By working with associations, such as FEFAC and IFIF, we are able to hear about concerns and potential solutions sooner, so we can apply that knowledge internally. [fefac.eu](http://fefac.eu)  
[iff.org](http://iff.org)



### MarinTrust

MarinTrust (previously IFFO RS) provides assessment and certification of marine ingredient factories, ensuring traceability back to fishery. Environmental and social topics are addressed. [marin-trust.com](http://marin-trust.com)



### Sustainable Fisheries Partnership (SFP)

We continue our collaboration with SFP to monitor the overall progress of fisheries for fishmeal and oil. Our participation in their Ocean Disclosure Program provides further transparency of our performance. [sustainablefish.org](http://sustainablefish.org)  
[oceandisclosureproject.org](http://oceandisclosureproject.org)



### Global Salmon Initiative (GSI)

As an associate member of the GSI we work to support sustainable development of salmon aquaculture through the feed and biosecurity taskforces and communicating on progress. [globalsalmoninitiative.org/en/](http://globalsalmoninitiative.org/en/)



### North Atlantic Pelagic Advocacy Group (NAPA)

NAPA formed in 2020 to work with stakeholders to the mackerel, herring and blue whiting fisheries in the North Atlantic. As a member of NAPA, we encourage our suppliers and customers to join us, to help ensure these fisheries are managed sustainably. <https://buff.ly/2Rk3QbU>



### High Level Panel for a Sustainable Ocean Economy

Having been a member of the Ocean Panel's Advisory Network, we support the Ocean Panel's outcome statement on sustainable ocean production. We are following the development of the Blue Food Partnership, as we believe we can make a major contribution. [www.oceanpanel.org/](http://www.oceanpanel.org/)



### HATCH

Cargill and HATCH have a common interest in supporting early-stage aquaculture nutrition start-ups that focus on innovative, scalable and sustainable products. [hatch.blue](http://hatch.blue)



### Seafood Business for Ocean Stewardship (SeaBOS)

We engage in the SeaBOS initiative, which connects science to business, in a collaborative and CEO-led effort to enable a transition towards improved management of marine living resources and ecosystems. [keystonedialogues.earth](http://keystonedialogues.earth)



**Our  
performance  
on material  
topics**



## Key to topic flags:

General disclosures

Environmental disclosures

Codes relate to GRI Standard numbers and our customized indicators.

Economic disclosures

Social disclosures

**GENERAL DISCLOSURES****Size of the Operation**

Cargill's aqua nutrition operations are carried out across 40 facilities in 20 countries. However, only 19 of these facilities in 12 countries were dedicated to aquafeed production and functional in 2020 as explained in Reporting Entities (page 21).

This report covers our salmon feed (Coldwater) and Warmwater feed operations for all disclosures, except a small number which are clearly highlighted.

**GRI 102-7****Size of the Operation**

The total aquafeed produced by Cargill's Animal Nutrition and Health Enterprise was 2.04 million tons, but from the dedicated aqua feed mills the amount was 1,927,830 tons. This was split between the salmon feed (Coldwater Feed) producing mills and feed for other species (prioritizing shrimp, freshwater fish and other marine fish and shown as Warmwater Feed) as shown in the table below.

	Year	Coldwater Total (t)	Warmwater Total (t)	Grand Total (t)
Feed produced	2016	930,774	532,496	1,520,347
	2017	984,638	661,802	1,605,978
	2018	1,030,842	560,729	1,603,156
	2019	1,236,491	643,097	1,879,588
	2020	1,152,637	667,831	1,820,468
Feed sold	2020	1,108,752	819,079	1,927,830

**GRI 102-8****Workforce**

The workforce data for our feed facilities is complete. Compared to 2017, we have seen a large increase in the number of employees for cold and warmwater feed groups, particularly in the warmwater group where two new factories are now fully operational. The total of coldwater group employees has dropped since a peak in 2017. The proportion of females in that group continues has dropped from the peak of 20.5% in 2017, but has increased in both coldwater and warmwater groups since 2019.

	Coldwater Total	Warmwater Total	Group Total*
Total workforce	946	977	1,955
Total employees	821	967	1,849
Female employees	129	167	321
Male employees	692	800	1,528
Employees – female proportion (%)	15.7%	17.3%	17.4%
Total contractors	125	10	146
Female contractors	17	2	26
Male contractors	108	8	120
Contractors – female proportion (%)	13.6%	20.0%	17.8%

\* Group total is larger than the sum of coldwater and warmwater due to some personnel covering both groups.

Cargill's aqua nutrition business uses contractors for various routine operations in our facilities. Many of these contracts relate to manual work and hence the ratio of males to females is also very high.

	Coldwater Total	Warmwater Total	Group Total
<b>Employee Category:</b>			
Total number of management and administration female employees	99	131	249
Total number of management and administration male employees	200	379	611
– Management and admin employees proportion female (%)	33.1%	25.7%	29.0%

	Coldwater Total	Warmwater Total	Group Total
<b>Senior Management Teams*:</b>			
Senior management	23	13	42
Number of female senior management	8	2	12
Senior managers – proportion of females (%)	34.8%	15.4%	28.6%
Senior managers – proportion of males (%)	65.2%	84.6%	71.4%
<b>Global Leadership Team**:</b>			
Membership			8
Number of females			2
Proportion of females			25%

\* Senior management teams are the teams directly responsible for each country.

\*\* Global leadership team is the central team responsible for the management of Cargill Aqua Nutrition as a group.

The proportion of male to female employees and contractors is heavily weighted in favor of males across the whole company. This reflects the predominance of factory-based work. However, moving into the management and administration sector, 29% of employees were female in 2020 – improving year on year towards a greater gender balance. The number has been relatively stable for the coldwater facilities at just over 30% and Cargill's aqua nutrition business is working to encourage greater diversity across all employment sectors and especially in senior management.

## CQN 1-80

### Management Standards

Management standards have been applied to some of our operations to support customer requirements to have certified supply chains to control quality and food safety as well as social and environmental impacts.

All factories using the EWOS brand adhere to Cargill's aqua nutrition business integrated management system (IMS), which covers ISO 9001, 14001, 22000 and OHSAS 18001. In addition, our facilities in Canada, Chile and Scotland are BAP certified, while Canada, Norway and Chile Global GAP certified and Scotland has Global GAP equivalence through UFAS.

We are still waiting for the ASC to launch its feed standards for aquaculture and aim to be amongst the first to be certified in some of our operations, supporting our customers' needs in those regions. In the meantime Cargill's aqua nutrition facilities make feed to order for our customers that is compliant to ASC farm standards' requirements.

### Factory level certifications currently held (at end 2020)

Region	Country	ISO 9001	ISO 14001	ISO 22000	OHSAS 18001	Global GAP	BAP	Organic
Salmon	Canada	✓		✓	✓	✓	✓	✓
	Chile	✓	✓	✓	✓	✓	✓	
	Norway	✓	✓	✓	✓	✓		✓
	Scotland	✓	✓	✓	✓	✓**	✓	✓
Americas	Ecuador					✓***	✓	
	Mexico							
	USA					✓	✓	
Asia	China			✓			✓	
	India			✓			✓	
	Indonesia			✓			✓	
	Thailand			✓			✓	
	Vietnam	✓	✓	✓	✓	✓	✓	✓
<b>Total plants certified*</b>		<b>9</b>	<b>7</b>	<b>10</b>	<b>7</b>	<b>9</b>	<b>12</b>	<b>4</b>

\* Some countries have more than one mill and not all mills are certified to the same level within a country

\*\* Scotland is certified by UFAS, which is recognised as equivalent to Global GAP

\*\*\* Issued in 2021

## CQN 1-81

### Supply Chain Auditing

Our control of our supply chain relies on our Responsible Raw Material Sourcing Policy, cascading through our Supplier Code of Conduct and verified by supplier audits. All supplier audits were interrupted in 2020 due to COVID restrictions. Very few physical audits were carried out in 2020 and we had to rely on 3rd party audits which were in some cases able to continue with virtual audits.

	Coldwater Total	Warmwater Total	Group Total
Planned	0	13	13
Performed	0	5	5
Performance (% of planned)	n/a	38%	38%

**ECONOMIC DISCLOSURES****Production and Sales Data**

As a part of a private company, Cargill's aqua nutrition business is not expected to disclose financial details on production and sales beyond Cargill's annual report which is available through our website at [www.cargill.com](http://www.cargill.com). Tonnages of feed produced and sold are disclosed in GRI 102-7.

**GRI 202-2****Proportion of local hires**

This report focusses on the senior management teams directly responsible for operations in each country (or in some cases across several countries). Cargill's aqua nutrition business aims to use local management expertise where possible, but also encourages the movement of employees within the group to build experience and exchange knowledge. The majority of managers come from the country where the factories are located.

	Coldwater Total	Warmwater Total	Group Total
Total size of senior management group	23	13	42
Number of local hires for the senior management group	23	9	38
Percent of senior management hired from local community	100%	69.2%	90.5%

**GRI 205-2****Anti-corruption training**

Centralized training on anti-corruption and other issues was carried out across Cargill's aqua nutrition businesses using our web-based training platform. This revolved around Cargill's Guiding Principles document for employees, which has specific information around the issues of anti-corruption. Specific anti-bribery training was focused on employees most exposed to this, such as management and administration teams, especially purchasing and commercial. More work is needed to ensure that all appropriate employees are kept updated with the training. Training for individuals has been carried out bi-annually on a rotational basis, but from 2021 it will be carried out annually for all employees in managerial job bands.

Anti-bribery Training Policy	2019	2020
Global Leadership Team Trained (number)	3	3
Global Leadership Team Trained (per cent)	37.5%	37.5%
Employees Trained (number)	328	385
Employees Trained (per cent of total)	18.2%	25.2%

**ENVIRONMENTAL DISCLOSURES****GRI 301-1****Materials Used**

The source and quantity of marine ingredients used in our feeds is of great interest to stakeholders, so some extra information is given below. The relative split of ingredients varies greatly between salmon and other species, so they are reported separately as has been done previously. Countries supplying less than 2% of the total were not included in the list, except for soy and palm producers which are listed in parentheses if they were less than 2% of the total. The data for this indicator are managed between the purchasing and formulation teams.

**General Ingredients – Salmonids**

The data shown is based on purchases as percent of feed made in the year and data on vitamins, minerals and additives are not shown, so the total does not add up to 100%. Where contributions are less than 2% of the total, countries are listed as "other".

Ingredient Category*	Salmonid Feeds		Warmwater Feeds	
	Average	Countries of Origin	Average	Countries of Origin
Fishmeal	15.2%	See below	10.6%	See below
of which Trimmings Meals	5.3%	See below	5.6%	See below
Fish oil	10.9%	See below	1.2%	See below
of which Trimmings Oils	2.9%	See below	0.7%	See below
Vegetable Proteins	35.4%	Argentina, Brazil, China, Europe, France, India, Paraguay, Russia, USA, others	49.6%	Argentina, Bolivia, Brazil, Canada, Ecuador, India, USA, others
of which Soy Proteins**	18.6%	Brazil, Paraguay (Argentina, Europe, India)	30.6%	Argentina, Bolivia, Brazil, Ecuador, India, USA
Vegetable Oils	17.7%	Belarus, Canada, Netherlands, Russia, others	3.7%	Bolivia, Brazil, China, Ecuador, Indonesia, others
of which Soy Oil**	1.1%	(Argentina, Togo, USA, West Africa)	3.4%	Bolivia, Brazil, China, Ecuador
of which Palm Oil**	0.0%	(Colombia, Costa Rica, Guatemala, Honduras, Indonesia, Malaysia, Papua New Guinea)	0.3%	Indonesia
of which Algal Oil	0.2%	Others	0.04%	China
Animal by-Products	6.9%	Brazil, Canada, Chile, UK, USA, others	7.0%	USA, others
Carbohydrates and Binders	13.9%	Chile, Germany, Poland, UK	27.9%	Argentina, Brazil, India, Indonesia, USA, others
Total co-products***	30.2%		26.0%	
Total co-products including soybean meals***	48.8%		56.6%	
Total novel ingredients****	4.1%		0.04%	

\* Ingredient category gives a broad coverage of a multitude of individual raw materials

\*\* Soy proteins, soy oil and palm oil origins are reported fully with sources providing less than the 2% cut-off shown in parentheses

\*\*\* Co-product definitions taken from <https://www.fefac.eu/files/88068.pdf>

\*\*\*\* Novel ingredients are defined as ingredients introduced to the formulation from 2015 onwards

## Marine ingredients

Ingredient	Source	Coldwater	Warmwater	Group
Fishmeal*	Total	159,206	43,768	202,974
	Forage fish	65.4%	46.8%	61.4%
	Trimmings	34.6%	53.2%	38.6%
Fish oil	Total	113,827	4,875	118,702
	Forage fish	73.1%	41.5%	71.8%
	Trimmings	26.9%	58.5%	28.2%
Marine Ingredients Total	Trimmings	31.4%	53.8%	34.8%

\* Includes hydrolysates and presscakes

## Forage fish meals and oils

Whole fish caught for the purpose of making fishmeal and oil, forage fisheries were the main source of marine ingredients. These tables show the main species in order of contribution, with the countries of landing and the percent composition of the total provided by each species. Species providing less than 2% of the total were compiled together in the Miscellaneous Species category, together with mixed catches where the percent of species was not known. This data for coldwater feeds has been reported to the Ocean Disclosure Project since 2017 (<https://www.oceandisclosureproject.org/>).

## Coldwater feeds

Species	Country of Origin	% of Forage Fish Total
Blue whiting – <i>Micromesistius poutassou</i>	Denmark, Faroe Islands, Iceland, Ireland, Norway	30.0%
Peruvian anchovy – <i>Engraulis ringens</i>	Chile, Peru	11.2%
Sandeel – <i>Ammodytes spp.</i>	Denmark, Norway, UK	10.9%
Gulf menhaden – <i>Brevoortia patronus</i>	USA	9.3%
European pilchard – <i>Sardina pilchardus</i>	Mauritania, Morocco	7.5%
Atlantic herring – <i>Clupea harengus</i>	Denmark, Iceland, Norway	5.7%
European sprat – <i>Sprattus sprattus</i>	Denmark, Norway	5.4%
Norway pout – <i>Trisopterus esmarkii</i>	Denmark, Norway	3.4%
Araucanian herring – <i>Stranomera bentincki</i>	Chile	3.0%
Indian oil sardine – <i>Sardinella longiceps</i>	Oman	2.3%
South American Pilchard – <i>Sardinops sagax</i>	Mexico, Panama	2.1%
Miscellaneous Species		9.2%

## Warmwater Feeds

Species	Country of Origin	% of Forage Fish Total
Gulf menhaden – <i>Brevoortia patronus</i>	USA	30.9%
Peruvian anchovy – <i>Engraulis ringens</i>	Chile, Peru	10.3%
Chub mackerel – <i>Scomber japonicus</i>	Chile, Ecuador	7.5%
Indian oil sardine – <i>Sardinella longiceps</i>	India	7.0%
Pacific anchoveta – <i>Cetengraulis mysticetus</i>	Ecuador	4.9%
Frigate tuna – <i>Auxis thazard</i>	Ecuador	4.2%
Bullet tuna – <i>Auxis sp.</i>	Ecuador	2.8%
Whitesnout searobin – <i>Prionotus albirostris</i>	Ecuador	3.3%
South American pilchard – <i>Sardinops sagax</i>	Mexico	8.2%
Miscellaneous species		20.9%

\* Mixed species is reported where multiple, unidentified species were documented.

## Trimming meals and oils

Waste material from wild and farmed fish caught for direct human consumption is an excellent use of natural resources and has comprised an increasing percent inclusion in salmon diets. However, there are limitations on how much can be included. As with forage fish, the table below shows the countries of landing the fish and species representing less than 2% of the total are combined into the Miscellaneous Species category.

## Coldwater Feeds

Species	Country of Origin	% of Trimmings Total
Atlantic herring – <i>Clupea harengus</i>	Denmark, Iceland, Ireland, Norway, UK	50.3%
Atlantic mackerel – <i>Scomber scombrus</i>	Denmark, Iceland, Ireland, Norway, UK	12.2%
Alaska pollock – <i>Theragra chalcogramma</i>	USA	6.3%
Chilean jack mackerel – <i>Trachurus murphyi</i>	Chile	2.1%
Mixed whitefish*	Denmark, Ireland, Norway, UK	24.2%
Miscellaneous species		4.9%

\* Trimmings from facilities processing a variety of white fish, typically a selection from cod, haddock, plaice, etc., but the breakdown of the inputs is not known. Other countries have inputs of less than 150t.

## Warmwater Feeds

Species	Country of Origin	% of Trimmings Total
Yellowfin tuna – <i>Thunnus albacares</i>	Ecuador, Mexico, Peru	29.6%
Skipjack tuna – <i>Katsuwonus pelamis</i>	Ecuador, Peru, Thailand	23.1%
Japanese anchovy – <i>Engraulis japonicus</i>	India	7.8%
Squid species	Chile, Peru, South Korea	6.8%
Atlantic salmon – <i>Salmo salar</i>	Chile	6.4%
Peruvian anchovy – <i>Engraulis ringens</i>	Peru	6.2%
Sardines – <i>Sardinella spp.</i>	India	3.6%
Chub mackerel – <i>Scomber japonicus</i>	Ecuador, Peru	3.2%
Jack mackerel	Chile	2.9%
Pangasius – <i>Hypothalamus sp.</i>	Vietnam	2.2%
Thread herring – <i>Oisthonema sp.</i>	Ecuador	2.0%
Miscellaneous species		6.3%

\* Fish derived solely from aquaculture

\*\* Includes fish from aquaculture and wild

## Certification of Marine Ingredients

Cargill's aqua nutrition business has a focus on purchasing certified fishmeal and oil, specifying MarinTrust and MSC certifications as the two of interest. These certifications help us to reduce the risk of IUU fish caught and endangered or critically endangered species being impacted, which are part of our [Responsible Sourcing Policy](#)\*

\* <https://www.cargill.com/sustainability/aquaculture/aquaculture-sourcing-standards>

We also support fisheries in the improvers' program or transitioning to these certifications. This disclosure shows the quantity of marine ingredients for feed that were purchased from MarinTrust certified factories. The results are similar to 2019 (MarinTrust was then known as IFFO RS).

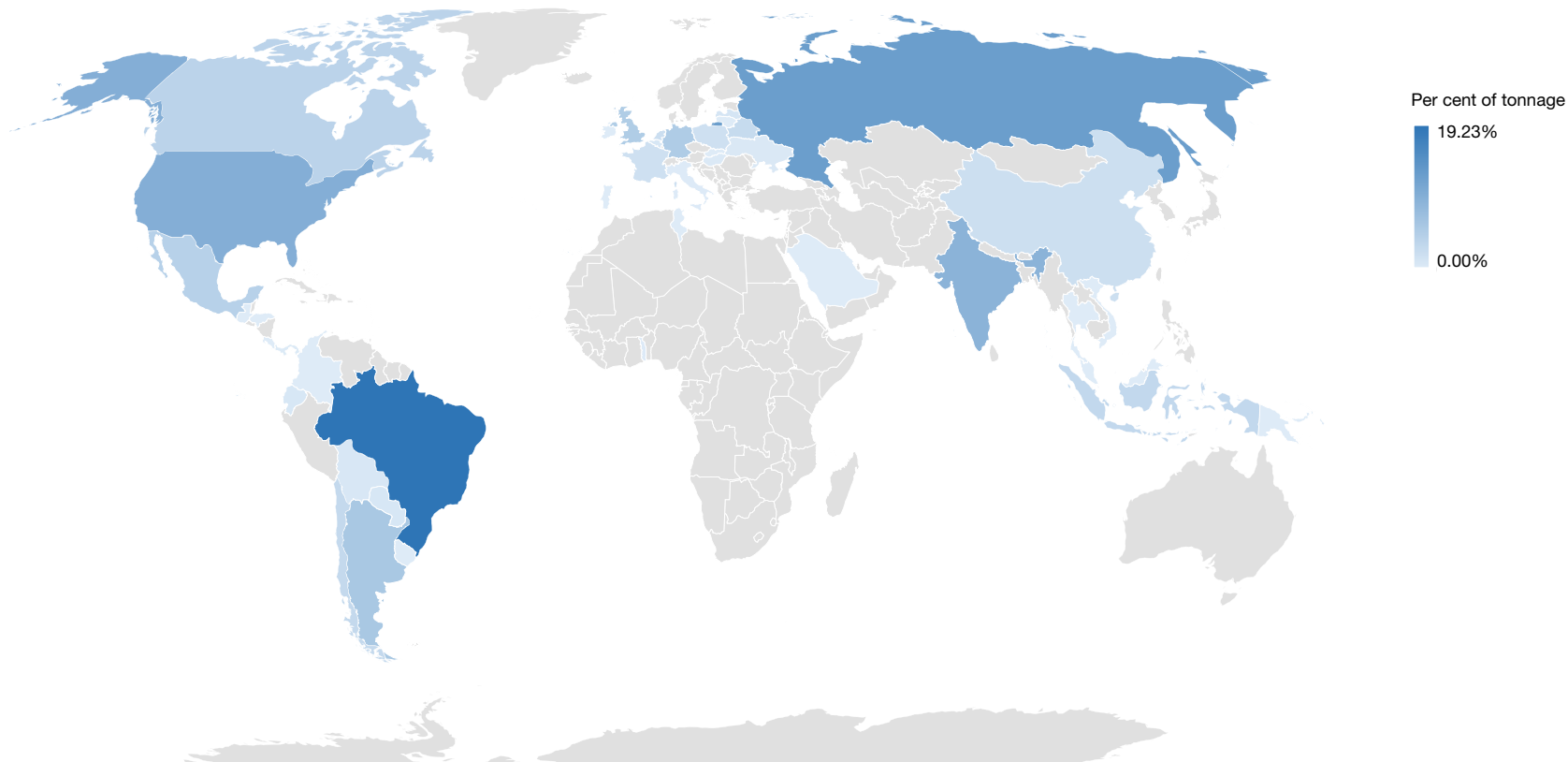
Our goal for our salmon feeds was to have all of our marine ingredient coming from factories certified to MarinTrust standards by 2020. We are close to this, but still 5% were uncertified. In May 2020 IFFO RS rebranded to MarinTrust and Cargill's aqua nutrition business commitment to these standards remains the same.

## Sourcing of terrestrial ingredients

To support our feed production, we source our raw materials locally and globally. Where possible, local sources of protein and energy are used, but we also work with globally traded commodities. This map shows the contribution to the total raw material basket made by each country by tonnage in 2019. The broad sourcing reflects our spreading of risk of environmental and social issues, with no reliance on any one supplier where possible.

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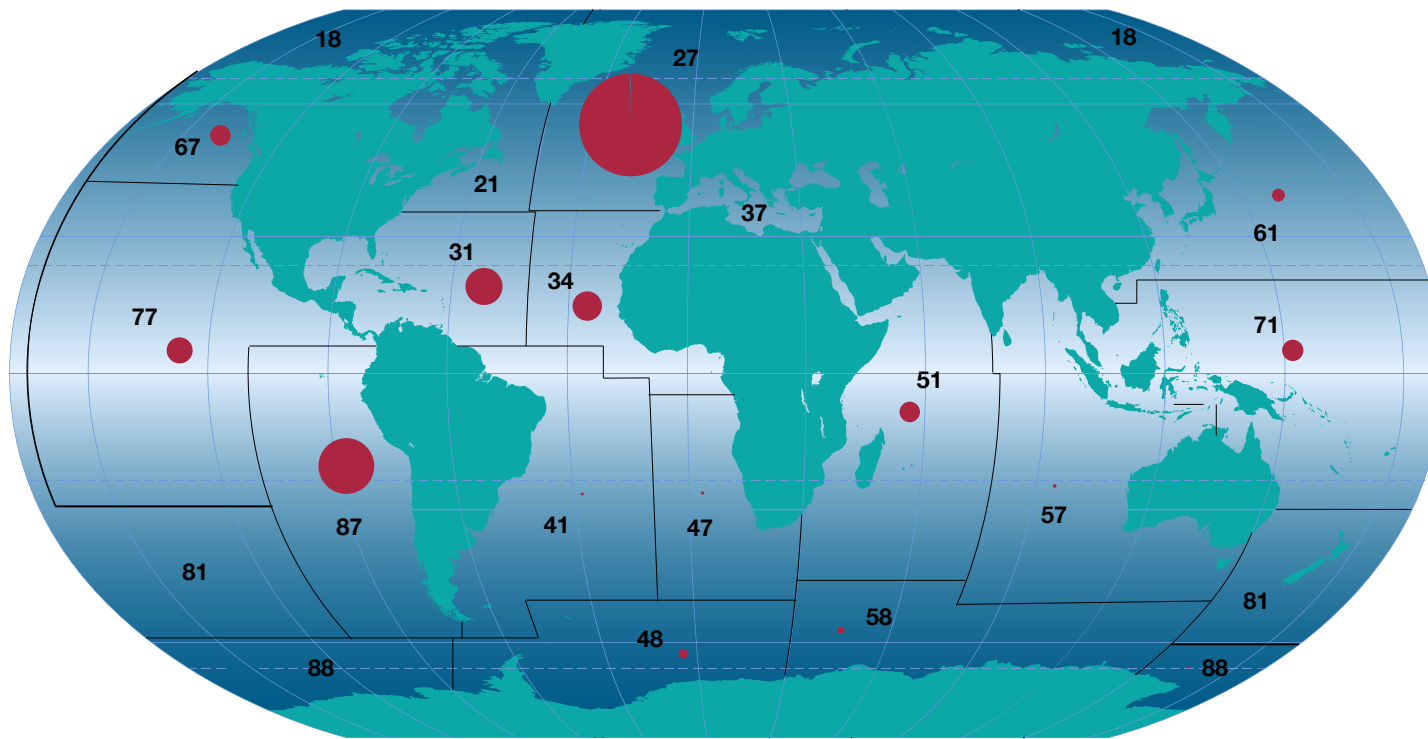
### CQN Group, share of tons received



## Sourcing of marine ingredients

This map shows the major fishing areas as defined by FAO where we sourced whole fish and trimmings for our marine ingredients. The main reliance on fisheries was in NE Atlantic and SE Pacific, close to our coldwater feed operations and where some of the main forage fisheries are. These are also regions with generally well managed fisheries, as is the west central Atlantic. The eastern central Pacific fisheries were used for our local feed production. By spreading our sourcing, focusing on certified sustainable management, we reduce our impact on any one fishery and spread our risk of local changes in stock abundance.

**Cargill Aqua Nutrition Group, share of tons of marine ingredients purchased**



Major Fishing Areas	Percent
27 – Atlantic, Northeast	58%
31 – Atlantic, Western Central	8%
34 – Atlantic, Eastern Central	5%
41 – Atlantic, Southwest	<1%
47 – Atlantic, Southeast	<1%
48 – Atlantic, Antarctic	<1%
51 – Indian Ocean, Western	2%
57 – Indian Ocean, Eastern	<1%
58 – Indian Ocean, Antarctic and Southern	<1%
61 – Pacific, Northwest	<1%
67 – Pacific, Northeast	2%
71 – Pacific, Western Central	2%
77 – Pacific, Eastern Central	4%
87 – Pacific, Southeast	17%
88 – Pacific, Antarctic	<1%

## The proportion of marine ingredients sourced from certified supply chains and fisheries, or from credible improvement projects in 2020

	None	MarinTrust IP	MarinTrust	Comprehensive FIP	MSC *
<b>Coldwater Feeds</b>					
Forage fish	5.3%	8.7%	86.0%	5.3%	65.3%
Trimming	2.3%	0.0%	97.7%	0.0%	73.3%
<b>Total</b>	<b>4.3%</b>	<b>6.0%</b>	<b>89.7%</b>	<b>3.6%</b>	<b>67.8%</b>
<b>Warmwater Feeds</b>					
Forage fish	31.2%	10.9%	58.0%	0.9%	8.4%
Trimming	45.0%	8.1%	46.9%	5.5%	16.4%
<b>Total</b>	<b>38.7%</b>	<b>9.4%</b>	<b>52.0%</b>	<b>3.4%</b>	<b>12.8%</b>
<b>Group Totals</b>					
Forage fish	8.0%	8.9%	83.1%	4.8%	59.3%
Trimming	12.4%	1.9%	85.7%	1.3%	59.9%
<b>Total</b>	<b>9.5%</b>	<b>6.5%</b>	<b>84.0%</b>	<b>3.6%</b>	<b>59.5%</b>

\* MSC certified fishery shows that the fish were caught from a fishery that has been certified by MSC, but not necessarily by certified boats.

### CQN 3-80

## Marine Index

The marine index, or the proportion of the diet sourced from marine ingredients, has been a key point of interest for stakeholders in salmon aquaculture. The data for this indicator are managed between the purchasing and formulation teams.

In 2020, the global use of marine ingredients in coldwater feeds by Cargill's aqua nutrition business, which are predominantly for salmon, was 26.1% as a percentage of feed sold (up slightly from 2019, but down from 30.7% in 2017 and 27.6% in 2018). The inclusion of marine ingredients from forage fish has fallen from almost 24% to 17.9% of the feed sold – up slightly from 2019. Trimmings meals and oils now represent 31.4% of the marine ingredients used globally in our salmon feeds – slightly down from 2019.

By contrast our warmwater feeds, which are for a mix of species of fish and shrimp, contained only 11.8% marine ingredients. Our sourcing policy has a preference for trimmings for these feeds, reflected in the 53.8% of marine ingredients which came from trimmings.

## Marine Nutrient Ratios – Coldwater

This calculation focused solely on salmon feeds, which are regularly reviewed by stakeholders. Marine protein and oil dependency ratios were developed by Crampton et al (2010) and demonstrate how much of the nutrient value from marine ingredients is transformed into farmed salmon. The slight

increase in 2020 for MPDR and MODR was driven by the increase in forage fishmeal and oil content and the increased eFCR compared to 2019, but still down on previous years.

MPDR = fishmeal% \* 68% \* average eFCR / 17.5%

MODR = (fishoil% + (fishmeal% \* 8%)) \* average eFCR / 17.5%

	2015	2016	2017	2018	2019	2020
Marine Protein Dependency Ratio (MPDR) feed	0.45	0.51	0.52	0.42	0.33	0.38
Marine Oil Dependency Ratio (MODR) feed	0.48	0.47	0.48	0.45	0.47	0.50
Global eFCR*	1.24	1.27	1.23	1.36	1.25	1.31
MPDR fish	0.56	0.64	0.64	0.58	0.42	0.50
MODR fish	0.59	0.60	0.59	0.61	0.58	0.65

\* Estimated annual average eFCR for salmon

The ASC calculates the marine nutrient ratios according to only the forage fish sourced meal and oil in the feeds, providing a different calculation, which also takes into account the source of the oil. The current demands of the ASC are for FFDRm < 1.2 and FFDRo < 2.52 (ASC Salmon Standards v1.3 2019). This is similar to the BAP fish in fish out (FIFO) calculations, but giving another set of values. BAP also use the forage fish derived meal and oil only, but sum them together, rather than considering them separately to generate their Feed Fish Inclusion Factor (FFIF), which can be used to calculate the Fish In Fish Out (FIFO) ratio by using the eFCR on farm.

FFDRm = (forage fishmeal in feed % \* eFCR) / 24%

FFDRo = (forage fish oil in feed % \* eFCR) / 5%\*

FFIF = (forage fishmeal% + forage fish oil%) / (yield of fishmeal + yield of fish oil)

FIFO = (forage fishmeal% + forage fish oil%) \* eFCR / (yield of fishmeal + yield of fish oil)

\* ASC allows for 5% or 7% oil yields depending on the source of the oil, but to be conservative in this report, the lower yield has been used in this calculation. Actual FFDRo is considerably lower if actual oil yields are applied for each species used.

	2015	2016	2017	2018	2019	2020
Forage Fish Dependency Ratio protein (FFDRm) feed	0.48	0.54	0.55	0.45	0.36	0.41
Forage Fish Dependency Ratio oil (FFDRo) feed	1.48	1.44	1.46	1.40	1.50	1.58
Feed Fish Inclusion Factor (FFIF)	0.66	0.70	0.71	0.62	0.56	0.61
Global eFCR *	1.24	1.27	1.23	1.36	1.25	1.31
FFDRm fish	0.60	0.69	0.68	0.62	0.45	0.54
FFDRo fish	1.84	1.83	1.80	1.90	1.88	2.08
Fish In Fish Out ratio (FIFO)	0.66	0.70	0.71	0.62	0.56	0.81

\* Estimated annual average eFCR for salmon



As with the MPDR and MODR, a slight increase was seen in 2020 compared to 2019 due to slightly greater use of forage fish and a slightly higher eFCR.

### Marine Nutrient Ratios – Warmwater

Similar calculations to those for coldwater feeds are shown here for warmwater feeds. ASC declares a Forage Fish Efficiency Ratio (FFER) which is calculated similarly to that for salmon, but only on meal.

$$FFER_m = (FM\% * eFCR) / 22.2\%$$

	FFER <sub>m</sub> feed	FFDR <sub>o</sub> feed	FFIF	eFCR*	FFER <sub>m</sub>	FFER <sub>o</sub>	FIFO
2019	0.15	0.10	0.13	1.5	0.22	0.15	0.20
2020	0.23	0.10	0.19	1.5	0.34	0.16	0.29

\* Based on an average number for *P. vannamei* in the ASC Shrimp Standard v1.1 (2019).

As with the MPDR and MODR, a slight increase was seen in 2020 compared to 2019 due to slightly greater use of forage fish and a slightly higher eFCR.

### CQN 3-90

### Plant Index – Coldwater

Continuing from 2016, the salmon feed facilities report on use, origin and certification of soy and oil palm products. Total use of soy products in salmon feed was up from 2017 and 2018 reflecting the decrease in marine ingredients. Cargill's aqua nutrition business in Chile maintained its 100% coverage of soy with certifications or credits. As Cargill's aqua nutrition operations in Canada does not use soy products, in 2020 100% of the soy used in Cargill's salmon feeds was ProTerra, RTRS or organic certified, providing great security against deforestation. Palm oil was only used in Scotland and all of the palm oil used was RSPO certified.

The data for this indicator are managed between the RMS and formulation teams.

		Canada	Chile	Norway	Scotland	Salmon total
Soy Products	Certifications	n/a	ProTerra, RTRS	ProTerra	ProTerra, Organic	
	% certified	n/a	100%	100%	100%	100%
	Origins	n/a	Argentina, Brazil, Paraguay	Brazil, Europe	Brazil (conventional); India, Togo and West Africa (organic)	
Palm oil	Certifications	n/a	n/a	n/a	RSPO	
	% certified	n/a	n/a	n/a	100%	100%
	Origins	n/a	n/a	n/a	Colombia, Costa Rica, Guatemala, Honduras, Indonesia, Malaysia, Papua New Guinea	

### Packaging for Finished Goods

Packaging for finished goods represents the main use of plastic for Cargill's aqua nutrition business, aside from packaging on goods received. In this new report, we declare our relative use of packaging materials for our outbound goods. We have low control over the fate of this material: some we arrange to collect from our customers and recycle, but it is not good practice to reuse this material ourselves once it has been dispatched as it could have become contaminated.

The table focusses on plastic as the most material topic for us to report on. The Miscellaneous section covers all other items such as glue, labels and pallets which are also single use for us – pallets can be reused by our customers.

More details are required to be added to this reporting to get more detail on the types of plastics used.

### Total packaging materials (tons) for goods sold in 2020

	Coldwater	Warmwater*	Group
Bulk bags	1,296	9	1,305
Polyethylene bags	1,272	387	1,659
Polypropylene bags	1,432	21,670	23,102
<b>Total bags</b>	<b>4,001</b>	<b>22,065</b>	<b>26,066</b>
Miscellaneous Items	3,846	10,545	14,391
<b>Total Packaging</b>	<b>7,847</b>	<b>32,610</b>	<b>40,457</b>

\* No data from Thailand

## GRI 302-1/302-3

## Energy Use

Energy is used to drive the factories making the feed. Direct energy sources used on site include renewables and non-renewables. Electricity and steam are indirect energy sources that can be used. Cargill has set corporate targets for reduction of Scope 1 and 2 GHG emissions relative to a 2017 baseline, so this report focusses on energy use relative to that year.

Energy use is higher in factories running extruders than in those using pellet mills. Therefore, the mills producing mainly salmon feed (which is all extruded) are reported separately from the rest, with a group wide summary provided as well.

The total amount of energy used to produce salmon feeds has slowly reduced over time since 2013, with some fluctuations, as shown in 2018 when overall energy use was the same as 2013 again. Only Scotland is using renewable direct energy (which is derived from wood chips), the consumption of which is also being reduced through factory efficiencies. Direct energy use in the factory is being supplemented by increased use of electricity, which has had a positive impact on the reduction of emissions of greenhouse gases (see GRI 305 below). Chile switched the majority direct energy source from fuel oil in 2018 to LPG in 2019 and purchased renewable electricity throughout 2020. Coupled with energy saving initiatives in the factory, this resulted in a reduction of total energy used as well as a significant reduction in GHG emissions as reported below.

## Energy Use 2020 – coldwater feeds

Energy Type	Energy Source	2017*	2018	2019	2020
Direct Energy (GJ)	Non-renewable	611,277	607,450	639,819	628,669
Direct Energy (GJ)	Renewable	47,470	55,047	71,207	64,179
Indirect Energy (GJ)	Non-renewable Electricity	436,810	453,949	521,485	402,945
Indirect Energy (GJ)	Renewable Electricity	-	-	-	88,308
Indirect Energy (GJ)	Purchased Steam from Renewable Production	-	-	-	0
Total Energy Use (GJ)		1,095,557	1,116,446	1,232,511	1,184,101
Change relative to 2017 (%)		0.0%	1.9%	12.5%	8.1%
Energy per ton feed made (GJ/t)		1.113	1.083	0.997	1.027
Change relative to 2017 (%)		0.0%	-2.7%	-10.4%	-7.7%

\* 2017 is the reference year for Cargill's Scope 1 and 2 GHG emissions commitments and is referred to in GRI 305-1, -2 and -4 below.

In warmwater feed production, Vietnam and India use renewable fuels to provide some of the direct energy, but much of the rest comes from fuel oils, LPG or natural gas for the remainder. Electricity provides almost half of the total energy use in the mills. There has been a rapid increase in the use of energy in the warmwater feed production, much greater than the growth in feed production. This needs to be addressed, to understand the cause and to try to find solutions for reduction and low emission energy sources.

## Energy use 2019 – Warmwater Feeds

Energy Type	Energy Source	2017*	2018	2019	2020
Direct Energy (GJ)	Non-renewable	272,840	279,149	363,119	399,411
Direct Energy (GJ)	Renewable	75,397	41,163	66,601	141,715
Indirect Energy (GJ)	Non-renewable Electricity	209,504	341,355	371,802	296,644
Indirect Energy (GJ)	Renewable Electricity	-	-	-	1,175
Total Energy Use (GJ)		557,741	661,667	801,522	838,945
Change relative to 2017 (%)		0.0%	18.6%	43.7%	50.4%
Energy per ton feed made (GJ/t)		0.843	1.180	1.246	1.256
Change relative to 2017 (%)		0.0%	40.0%	47.9%	49.1%

\* 2017 is the reference year for Cargill's Scope 1 and 2 GHG emissions commitments and is referred to in GRI 305-1, -2 and -4 below.

Overall energy use in the group has gone up, but this was driven by increased feed production across the group and the relative energy use per ton feed made is almost stable since 2017.

## Energy Use 2020 – Group

Energy Type	Energy Source	2017*	2018	2019	2020
Direct Energy (GJ)	Non-renewable	884,117	886,599	1,002,938	1,028,080
Direct Energy (GJ)	Renewable	122,867	96,210	137,808	206,738
Indirect Energy (GJ)	Non-renewable Electricity	646,313	795,304	893,287	699,589
Indirect Energy (GJ)	Renewable Electricity	-	-	-	89,483
Total Energy Use (GJ)		1,653,297	1,778,113	2,034,033	2,023,046
Change relative to 2017 (%)		0.0%	7.5%	23.0%	22.4%
Energy per ton feed made (GJ/t)		1.029	1.109	1.082	1.111
Change relative to 2017 (%)		0.0%	7.7%	5.1%	7.9%

\* 2017 is the reference year for Cargill's Scope 1 and 2 GHG emissions commitments and is referred to in GRI 305-1, -2 and -4 below. GRI 302-4

## GRI 302-4

## Reduction of energy consumption

Last year, we reported on the work of the energy efficiencies team, which was focusing on reducing energy waste, through initiatives such as plugging leaks and improving insulation. While still ensuring these areas, in 2020 the team has continued to review equipment in the factories, looking for strategic investments which could deliver significant reductions in energy consumption. This has ranged from assessing quality of air compressors, to looking at more efficient feed dryers. We are also

continuing to share knowledge across our facilities, so that the rate of learning is increased across the group.

In our Chilean operation, from the start of 2020 a contract for renewable electricity was established. Building on the change from using fuel oil for the boiler to LPG, this further decreased the plant's Scope 1 and 2 GHG emissions.

Overall the continuing work to reduce energy consumption there will also further reduce the Scope 1 and 2 emissions reported in GRI 305-1 and 2.

**GRI 303-1**

**Water usage**

Water is used in the production of feed as part of the cooking process in extrusion and steam pellet-ing. It is also used in the production of steam, for cooling and for treating some emissions. Moni-toring of water use has been recorded in coldwater feeds since 2015 and it is possible to see good reductions in total consumption, despite growing feed production. Data is only available for 2019 for warmwater feeds.

The water used in the facilities can come from mains supplies, by tanker or from abstraction from wells or rivers. One facility also uses wastewater from another organisation, but this amounts to less than 1% of the group total. The sources used depend on the resources available at the facility. The source and the use is controlled by the Operations team at each facility. Across the whole group in 2020, groundwater provided 10% of total water use and the remainder came from municipal supplies.

**Water use in feed production**

	Year	Total Water Use (litres)	Water Use (litres per tonne feed made)
Water use in coldwater feed production	2017	493,850,277	503
	2018	444,549,848	431
	2019	500,100,950	404
	2020	538,697,864	467
Water use in warm-water feed production	2019	275,803,182	448
	2020	290,610,104	435
Water use in total feed production	2019	775,904,132	419
	2020	829,307,968	456

**GRI 304-2**

**Impact on Biodiversity at the Facility**

None of the facilities are sited within sites of particular biodiversity importance and there are relatively few changes to the environment around the sites due to the activities of Cargill's aqua nutrition business. The impact of raw materials on biodiversity remains material to our activities and is reported within GRI 301-01.

**GRI 305-1/305-2/305-4**

**GHG Emissions (Scope 1 and 2)**

The GHG emissions from the facilities were calculated from the energy data (GRI 302-01) using the relevant conversion factors from the IEA. These take into account annual changes in fuel use for electricity generating in each country, together with the global conversion factors for each direct fuel. Cargill continues reporting Scope 1 and 2 emissions based on market-based account factors, particularly taking into account the European residual mix. This takes import and export of electricity by countries into account, which has had a large impact on the GHG emissions associated with our Norwegian operations in particular, where the national production mix is 11gCO<sub>2</sub>/kWh but the residual mix is 499gCO<sub>2</sub>/kWh in 2018 (<https://www.aib-net.org/facts/european-residual-mix>).

Cargill corporately has set a goal of reducing absolute Scope 1&2 emissions by 10% against a 2017 baseline by 2025. This will be calculated using GHG factors based on the residual mix for electricity consumption, since our electricity consumption is not supported by a Guarantee of Origin from our suppliers. The residual mix takes into account where electricity is produced and how, reflecting the international trade in power as was reported last year. A correction to the residual mix for Norway was applied this year, now using 280gCO<sub>2</sub>/kWh in 2018 (<https://www.aib-net.org/facts/european-residual-mix>).

**Absolute and relative per tonne of feed produced Scope 1&2 GHG emissions for salmon feeds**

	2017*	2018	2019	2020
Absolute Scope 1&2 GHG emissions (tCO <sub>2</sub> e)	79,849	73,210	77,397	63,418
Absolute scope 1&2 GHG change relative to 2017 (%)	0.0%	-8.3%	-3.1%	-20.6%
Average Scope 1&2 GHG intensity (tCO <sub>2</sub> e/t feed produced)	0.081	0.071	0.063	0.055
Average Scope 1&2 GHG change relative to 2017 (%)	0.0%	-12.4%	-22.8%	-32.2%

\* Indicates baseline year defined by Cargill

**Absolute and relative per ton of feed produced scope 1&2 GHG emissions for feeds made by warmwater feed mills**

	2017*	2018	2019	2020
Absolute Scope 1&2 GHG emissions (tCO <sub>2</sub> e)	43,426	69,348	76,340	66,627
Absolute scope 1&2 GHG change relative to 2017 (%)	0.0%	59.7%	75.8%	53.4%
Average Scope 1&2 GHG intensity (tCO <sub>2</sub> e/t feed produced)	0.066	0.124	0.119	0.100
Average Scope 1&2 GHG change relative to 2017 (%)	0.0%	88.5%	80.9%	52.0%

\* indicates baseline year defined by Cargill

**Absolute and relative per tonne of feed produced scope 1&2 GHG emissions for all feeds made by the Group**

	2017*	2018	2019	2020
Absolute Scope 1&2 GHG emissions (tCO <sub>2</sub> e)	123,274	142,558	153,737	130,045
Absolute scope 1&2 GHG change relative to 2017 (%)	0.0%	15.6%	24.7%	5.5%
Average Scope 1&2 GHG intensity (tCO <sub>2</sub> e/t feed produced)	0.077	0.089	0.082	0.071
Average Scope 1&2 GHG change relative to 2017 (%)	0.0%	15.8%	6.6%	-6.9%

\* indicates baseline year defined by Cargill

Overall, while delivering a 13.4% increase in feed production, the group managed to keep absolute Scope 1&2 GHG emissions to 5.5% increase from 2017 to 2020. This was achieved through an average reduction of 6.9% of GHG emissions per ton feed made since 2017.

**CQN 3-83****Global Warming Potential of Raw Materials and Feed – Coldwater Feeds**

Greenhouse gas (GHG) emissions related to the production of raw materials, their logistics to the factories and ultimate processing into feed are modelled through life cycle assessment (LCA) data. This approach is handled following the PAS 2050-2:2012 and ISO 14040 and 140044 recommendations, using economic allocation, and using the IPCC 2013 GWP 100a guidelines to calculate carbon emissions in Simapro software.

Feed raw material values are calculated using the EUPEF for Feed for Food Producing Animals as guidance. Where more appropriate data for the raw materials used in salmon feed is available in other databases than Simapro, those raw material GWP (Global Warming Potential) values are used. The impact of land use change (LUC) at the origin of the raw materials is taken into account when determining the GWP data. Most notably, feed supplied in 2017 and 2020 has been calculated with soy protein concentrate (SPC) using the national Brazilian SPC reference data.

The GWP CO<sub>2</sub>e is calculated based on the sum of the raw materials used in products in the period indicated. This includes emissions from raw material production, inbound transportation and manufacturing emissions.

**Global warming potential of feed raw materials delivered to the factories producing salmon feeds**

	GWP E_LUC*		GWP I_LUC**	
	Raw Materials (tCO <sub>2</sub> e)	Raw Materials (tCO <sub>2</sub> e/t)	Raw Materials (tCO <sub>2</sub> e)	Raw Materials (tCO <sub>2</sub> e/t)
2017	1,380,306	1.40	2,497,984	2.54
2020	1,575,112	1.37	3,001,619	2.60
Change since 2017		-2.7%		2.4%

\* GWP E\_LUC = Global Warming Potential Excluding Land Use Change

\*\* GWP I\_LUC = Global Warming Potential Including Land Use Change

**Global warming potential of salmon feed processed and ready to leave the factory (not including packaging)**

	GWP E_LUC*		GWP I_LUC**	
	Feed (tCO <sub>2</sub> e)	Feed(tCO <sub>2</sub> e/t)	Feed (tCO <sub>2</sub> e)	Feed (tCO <sub>2</sub> e/t)
2017	1,446,325	1.47	2,564,062	2.61
2020	1,645,701	1.43	3,072,261	2.67
Change since 2017		-3.0%		2.1%

\* GWP E\_LUC = Global Warming Potential Excluding Land Use Change

\*\* GWP I\_LUC = Global Warming Potential Including Land Use Change

**GRI 306-2****Waste by type**

This disclosure covers the total waste from each facility. The fate of the waste is reported by the Operations team using information provided by our waste solutions suppliers. Hazardous waste refers to chemicals from the onsite laboratories for analyzing raw materials and feed. Recycled includes reused, composted and recovered waste streams – for all practical purposes, recycling was the majority of this category.

This was the fourth year that this full disclosure has been reported, with full data reported for Norway and Ecuador for the first time. But challenges to get data on the fate of waste remain in India. The fate of bags containing the feeds we sell are not included in this calculation, as we do not have access to that information for many countries. Instead, we have chosen to report the total packaging that we purchase for our products in CQN 3-91.

While it is good to report that 58% of waste was recycled in 2020, more needs to be done to address this issue, especially with plastic waste.

**Fate of waste from facilities (tons)**

	Coldwater	Warmwater*	Group
Recycled	2,608	3,978	6,585
Incinerated	656	1,152	1,808
Landfill	1,610	1,003	2,612
Hazardous	44	239	283
Total	4,918	6,371	11,289
Percent recycled (%)	53%	62%	58%

\* Does not include data for India as no information could be provided

All feed material that is not suitable for sale as finished feed is recycled internally and, with suitable traceability and food safety controls, is returned to the line, classed as "rework". This is used in small inclusions in feeds, ensuring that there is virtually no loss of nutrients from our system once the ingredients enter the factories. As such, Cargill's aqua nutrition business does not add to global food loss and waste, but rather helps use up such waste through its commitment to use by-products from other food systems as raw materials for feeds, where possible (see GRI 301-1).

**CQN 3-85****Mitigation of environmental impacts**

Various projects were carried out at facilities to reduce energy use (and hence GHG emissions), water requirements and waste. The impacts of these are shown in the tables above.

**CQN 3-87****Health feed sales (proportion of sales)**

Functional feeds providing health or health and performance benefits to the fish are important parts of Cargill's aqua nutrition offerings to customers. Originally developed in salmon, the concepts have been applied to warm water feeds and are starting to gain ground. They help to improve the health and welfare of the animals and can be used as part of an integrated health management approach, thus reducing the need to resort to antibiotic treatments. Our new product EWOS® Dermic was launched late in 2018 and we saw great uptake by customers in 2019 and 2020. In warmwater, we reported in 2017 but not in 2018, so there is a gap in the data.

**Per cent sales of health or health and performance functional feeds across Cargill Aqua Nutrition**

	Coldwater Total	Warmwater Total	Group Total
2013	16.5%	-	-
2014	20.6%	-	-
2015	18.8%	-	-
2016	28.5%	-	-
2017	24.2%	8.7%	20.6%
2018	18.3%	-	-
2019	22.6%	3.2%	16.0%
2020	20.3%	1.1%	12.2%

**CQN 3-88****Anti-parasitic feed sales – Salmon**

Previously reported as medicated feeds, this disclosure relates to the proportion of feeds made with medicines to remove parasites, particularly sea lice. These feeds are only made to order on receipt of a veterinary prescription for the medicines, which specifies the dose, quantity and feeding duration. The disclosure only shows the proportion of total sales volume which contained such medication and only relates to salmon feeds. There has been a notable reduction in per cent sales of such medicated feeds, with increased use of physical treatments for sea lice management. However, a slight increase was observed in Scotland and Chile in 2020, while a reduction was seen in Canada.

**Proportion of feed sold with anti-parasite medication**

	Coldwater Total	Canada	Chile	Norway	Scotland
2013	2.1%	1.51%	2.47%	3.56%	1.64%
2014	2.2%	1.22%	0.89%	3.44%	2.91%
2015	2.7%	1.75%	0.61%	3.26%	3.96%
2016	2.8%	0.99%	0.59%	1.71%	4.59%
2017	1.7%	1.87%	0.67%	3.41%	2.03%
2018	1.1%	1.17%	0.29%	1.23%	2.61%
2019	1.3%	1.73%	0.09%	1.30%	3.58%
2020	1.3%	0.95%	0.30%	1.22%	3.73%

**CQN 3-89****Antibiotic feed sales – coldwater**

As with the anti-parasite medicines, antibiotics are only added to Cargill's aqua nutrition feeds on receipt of a veterinary prescription, detailing the product, dose and quantity of feed required. Antibiotics are used in salmon to treat diseases which would otherwise cause severe health and welfare issues, potentially killing many fish. Their use is an indicator of the disease challenges faced by the industry and the options that the farmers have to keep their fish healthy. Many countries do not allow feed companies to add antibiotics to feed by law – instead dosing is carried out at the farm.

But all of Cargill's aqua nutrition business salmon feed facilities reported on this indicator. Over the years we have seen a steady decline in the use of antibiotics, with Norway clear since 2013 and Scotland almost clear. The proportion of antibiotic feed sales has also decreased markedly in Chile as the farmers have more health management options.

In 2020, the operations which did add antibiotics to feed under veterinary prescription only used florfenicol and oxytetracycline. Florfenicol is also recognized as only being used in animals, but oxytetracycline can also be used for humans. Neither of these are listed in the WHO 2018 Critically Important Antimicrobials for Human Medicine as critically important for humans, but they are highly important and should be used with care to reduce the risk of anti-microbial resistance (AMR) developing. The European Medicines Agency categorization of antibiotics for use in animals rates florfenicol as C (caution) and oxytetracycline as D (prudence), clear of the A (avoid) high priority products. Cargill's aqua nutrition business has not added any critically important antimicrobials for human medicines in feeds we have made.

In 2020, we report that we have reduced the proportion of our feed sales containing antibiotics by 72% compared to 2015, as seen in the table below. Importantly we used 80% less total active ingredient.

By only adding antibiotics under veterinary prescription and by developing feed products and solutions which promote the health of the animals so reducing the need to use antibiotics, Cargill's aqua nutrition business is working to reduce the risk of AMR in our supply chains.

**Proportion of feed sold containing antibiotics**

	Coldwater Total	Canada	Chile	Norway	Scotland
2013	8.06%	2.08%	11.13%	0%	0.00%
2014	7.47%	1.89%	10.83%	0%	0.02%
2015	9.49%	2.66%	14.13%	0%	0.06%
2016	5.35%	1.56%	8.61%	0%	0.02%
2017	6.41%	2.11%	9.53%	0%	0.02%
2018	2.24%	2.75%	6.74%	0%	0.07%
2019	1.49%	3.08%	5.38%	0%	0.09%
2020	1.25%	2.86%	5.46%	0%	0.02%

**SOCIAL DISCLOSURES****GRI 403-2****Occupational Health and Safety**

Occupational health and safety is managed within the Environmental Health and Safety part of the operations team. Our methods for measuring injury and occupational disease rates are laid out in the Cargill Injury and Illness Metric Criteria and Definitions and are reported here within the GRI reporting framework.

**Injuries and Occupational Diseases – Employees and Contractors**

This data is reported across all of the Cargill's aqua nutrition business facilities – factories and offices. It was not possible to separate employees from contractors and male from female in this reporting.

Cargill has a strong focus on safety and many safety initiatives have been run during 2020. The reportable injury frequency rate (RIFR) and serious injury frequency rate (SIFR) results were still above our ambitious targets and there is an increased focus on reducing these scores going forwards.

**Summary of injury rates for Cargill's aqua nutrition factories, technical application centres and offices in 2020**

	Reported Injuries	Days Lost	Fatalities	RIFR*	SIFR**	Lost Day Rate***	Accident Free Sites
Target			0	<0.30	<0.10		
Group 2017	17	104	0	1.453	0.342	8.89	73%
Group 2018	12	62	0	1.000	0.167	5.17	53%
Group 2019	15	45	0	0.351	0.070	1.05	77.5%
Group 2020	11	10	0	0.282	0.128	0.26	69.2%
Coldwater 2020	5	10	0	0.405	0.243	0.81	66.7%
Warmwater 2020	6	0	0	0.225	0.075	0.00	70.8%

\* RIFR – Reportable Injury – Frequency Rate per 200,000hrs worked

\*\* SIFR – Serious Injury Frequency Rate per 200,000hrs worked

\*\*\* Lost day rate is based on days lost per 200,000hrs worked

GRI 408-1

**Child labour**

Across Cargill's aqua nutrition business there were no incidences or risks of child labor reported in 2020 in our own facilities. All facilities have a zero tolerance to child labor and obey the local national regulations on this topic. All employees have their identity cards checked to confirm their age on joining.

Raw material supply chains remain a potential risk for child labor. In 2017, all suppliers signed the Supplier Code of Conduct, or provided their own similar code of conduct, which specifically addresses the issue of child labor. In 2020, new suppliers were also required to sign the Code of Conduct. In the future, more investigation will be carried out as to the risk of child labor in our supply chains and where necessary audits will be undertaken to help ensure that no child labor is used.

# Abbreviations

<b>ASC</b>	Aquaculture Stewardship Council	<b>LCA</b>	Life Cycle Assessment
<b>BAP</b>	Best Aquaculture Practice	<b>LPG</b>	Liquefied Petroleum Gas
<b>CO2e</b>	CO2 equivalents	<b>LUC</b>	Land Use Change
<b>DCF</b>	Deforestation- and conversion-free	<b>MODR</b>	Marine Oil Dependency Ratio
<b>eFCR</b>	economic Feed Conversion Ratio	<b>MPDR</b>	Marine Protein Dependency Ratio
<b>EUPEF</b>	EU Product Environmental Footprint	<b>MSC</b>	Marine Stewardship Council
<b>FAO</b>	Food and Agriculture Organization of the United Nations	<b>NAPA</b>	North Atlantic Pelagic Advocacy Group
<b>FEFAC</b>	European Feed Manufacturers' Federation	<b>NGO</b>	Non-Governmental Organisation
<b>FFDR</b>	Forage Fish Dependency Ratio	<b>RIFR</b>	Reportable Injury Frequency Rate
<b>FFER</b>	Forage Fish Efficiency Ratio	<b>RSPCA</b>	Royal Society for the Prevention of Cruelty to Animals
<b>FFIF</b>	Forage Fish Inclusion Factor	<b>RSPO</b>	Roundtable on Sustainable Palm Oil
<b>FIFO</b>	Fish In Fish Out	<b>RTRS</b>	RoundTable on Responsible Soy
<b>FIP</b>	Fishery Improvement Project	<b>SFP</b>	Sustainable Fisheries Partnership
<b>GAA</b>	Global Aquaculture Alliance	<b>SIFR</b>	Serious Injury Frequency Rate
<b>GDST</b>	Global Dialogue on Seafood Traceability	<b>SeaBOS</b>	Seafood Business for Ocean Stewardship
<b>GHG</b>	GreenHouse Gases	<b>TAC</b>	Technical Application Centre
<b>GLT</b>	Group Leadership Team	<b>UFAS</b>	Universal Feed Assurance Scheme
<b>GRI</b>	Global Reporting Initiative	<b>WHO</b>	World Health Organization
<b>GSI</b>	Global Salmon Initiative	<b>WWF</b>	World Wide Fund for Nature
<b>GWP</b>	Global Warming Potential		
<b>IEA</b>	International Energy Agency		
<b>IFFO RS</b>	Now MarinTrust		
<b>IFIF</b>	International Feed Industry Federation		
<b>IPCC</b>	Intergovernmental Panel on Climate Change		
<b>IUU</b>	Illegal, Unregulated and Unreported		
<b>KDE</b>	Key Data Elements		

# GRI content index

The following pages provide an index to GRI disclosures and other topics and impacts that we have identified as material in our operations.



## GENERAL DISCLOSURES

GRI Standard Number	GRI Standard Title	Disclosure Number	Disclosure Title Individual disclosure items ('a', 'b', 'c', etc.) are not listed here	Core Options	Page*	UNGC Principle
GRI 102	General Disclosures	102-01	Name of the organization	Core	1	
GRI 102	General Disclosures	102-02	Activities, brands, products, and services	Core	4-5	
GRI 102	General Disclosures	102-03	Location of headquarters	Core	Back cover	
GRI 102	General Disclosures	102-04	Location of operations	Core	4, 21	
GRI 102	General Disclosures	102-05	Ownership and legal form	Core	4, 19	
GRI 102	General Disclosures	102-06	Markets served	Core	4-5	
GRI 102	General Disclosures	102-07	Scale of the organization	Core	33	
GRI 102	General Disclosures	102-08	Information on employees and other workers	Core	33-34	6
GRI 102	General Disclosures	102-09	Supply chain	Core	10-11, 35-40	
GRI 102	General Disclosures	102-10	Significant changes to the organization and its supply chain	Core	3, 33	
GRI 102	General Disclosures	102-11	Precautionary Principle or approach	Core	23	7
GRI 102	General Disclosures	102-12	External initiatives	Core	26-28	1-10
GRI 102	General Disclosures	102-13	Membership of associations	Core	30-31	
GRI 102	General Disclosures	102-14	Statement from senior decision-maker	Core	3	
GRI 102	General Disclosures	102-16	Values, principles, standards, and norms of behavior	Core	19, 22-23	1-10
GRI 102	General Disclosures	102-18	Governance structure	Core	22-23	
GRI 102	General Disclosures	102-40	List of stakeholder groups	Core	26-28	
GRI 102	General Disclosures	102-42	Identifying and selecting stakeholders	Core	26	
GRI 102	General Disclosures	102-43	Approach to stakeholder engagement	Core	26	
GRI 102	General Disclosures	102-44	Key topics and concerns raised	Core	23-24, 26-28	
GRI 102	General Disclosures	102-45	Entities included in the consolidated financial statements	Core	35	
GRI 102	General Disclosures	102-46	Defining report content and topic Boundaries	Core	21, 24	
GRI 102	General Disclosures	102-47	List of material topics	Core	24	
GRI 102	General Disclosures	102-48	Restatements of information	Core	21, 43, 44	
GRI 102	General Disclosures	102-49	Changes in reporting	Core	23-24	
GRI 102	General Disclosures	102-50	Reporting period	Core	21	
GRI 102	General Disclosures	102-51	Date of most recent report	Core	21	
GRI 102	General Disclosures	102-52	Reporting cycle	Core	21	
GRI 102	General Disclosures	102-53	Contact point for questions regarding the report	Core	Back cover	
GRI 102	General Disclosures	102-54	Claims of reporting in accordance with the GRI Standards	Core	21	
GRI 102	General Disclosures	102-55	GRI content index	Core	49-50	
GRI 102	General Disclosures	102-56	External assurance	Core	30	
GRI 103	Management Approach	103-1	Explanation of the material topic and its Boundary	Core	24	
GRI 103	Management Approach	103-2	The management approach and its components	Core	22-23, 29	
GRI 103	Management Approach	103-3	Evaluation of the management approach	Core	22-23, 29	

**ECONOMIC, ENVIRONMENTAL AND SOCIAL STANDARD DISCLOSURES**

<b>GRI Standard Number</b>	<b>GRI Standard Title</b>	<b>Disclosure Number</b>	<b>Disclosure Title Individual disclosure items ('a', 'b', 'c', etc.) are not listed here</b>	<b>Topic Boundary</b>	<b>Page</b>	<b>UNGC Principle</b>
GRI 202	Market Presence	202-2	Proportion of senior management hired from the local community	Local community	35	6
GRI 205	Anti-Corruption	205-2	Communication and training about anti-corruption policies and procedures	Internal	35	10
GRI 301	Materials	301-1	Materials used by weight or volume	Upstream	35-40	7
GRI 302	Energy	302-1	Energy consumption within the organization	Internal	42	7
GRI 302	Energy	302-3	Energy intensity	Internal	42	8
GRI 302	Energy	302-4	Reduction of energy consumption	Internal	42-43	9
GRI 303	Water	303-1	Water withdrawal by source	Internal	43	7
GRI 304	Biodiversity	304-2	Significant impacts of activities, products, and services on biodiversity	Internal	43	8
GRI 305	Emissions	305-1	Direct (scope 1) GHG emissions	Internal	43-44	7
GRI 305	Emissions	305-2	Energy indirect (scope 2) GHG emissions	Upstream	43-44	7
GRI 305	Emissions	305-4	GHG emissions intensity	Internal	43-44	8
GRI 306	Effluents and waste	306-2	Waste by type and disposal method	Internal	44-45	7
GRI 403	Occupational Health and Safety	403-2	Types of injury and rates of injury, occupational diseases, lost days, and absenteeism, and number of work-related fatalities	Internal	46	
GRI 408	Child Labor	408-1	Operations and suppliers at significant risk for incidents of child labor	Internal	47	5

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Customized	CQN 3-88		Anti-parasitic feed sales	Downstream	45	9
Customized	CQN 3-89		Antibiotic feed sales	Downstream	46	9
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