

# Healthy seafood for future generations



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Cargill Aqua Nutrition is a world leader in delivering animal health and welfare through feed and nutrition. Living up to our promise of healthy seafood for future generations, our commitment and innovation drive sustainable growth in the global aquaculture industry by enabling better seafood and helping farmers succeed.



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# Letter from leadership

## “I’m thrilled to be leading Cargill towards the future of sustainable aquaculture.”



I joined Cargill's aqua nutrition business in the fall of 2019 after more than 17 years working for Cargill, in the animal nutrition and protein industries. I've enjoyed meeting many of you, our customers and partners in the aquaculture industry, during the last several months. And without exception, one of the primary challenges I con-

tinue hear from our colleagues throughout the value chain is sustainability. How are we going to sustainably feed people as our world population grows and consumers shift their preferences? As highlighted in the Healthy People section of this report, a secure supply of sustainable seafood is key to meeting increasing global demand for protein – and consumers are increasingly basing their food choices on 'health values', which often go beyond personal health to concerns

about animal welfare, antibiotic use and environmental impacts. Our approach to ocean stewardship as a global industry will determine how we meet this challenge.

In October 2019, the World Benchmarking Alliance and the Seafood Stewardship Index (SSI) rated the top 30 seafood companies on sustainability – and Cargill ranked sixth. While this report shows we still have work to do as an industry, at Cargill we were pleased to see aqua nutrition represented so well in the top rankings, since feed has the greatest leverage on delivering sustainable seafood production. We appreciate organizations and rankings like the SSI because they help facilitate conversations through our value chain on how we can tackle the sustainability challenges facing our industry. And it's not a coincidence that also in October 2019 Cargill convened a summit of the North Sea salmon value chain for an open discussion about the future of sustainable salmon feed. The goal of this summit, which included traditional and novel raw material suppliers, farmers, processors and retailers, was to determine what would it take to deliver transformational change in salmon aquaculture, through feed. This group of industry leaders identified three key areas of opportunity and collaborations across the value chain: sustainable raw materials, measurements and reporting, and communication.

Throughout this report, you'll see our progress in these areas and examples of collaboration as we strive to fuel a global transformation through ocean stewardship. SeaBOS and the

GSI are important organizations for pre-competitive collaboration in our sector towards sustainable seafood production and a healthy ocean. Traceability is essential to document sustainable development and our planned capabilities will enable us to verify the progress we have made around sourcing sustainable raw materials and reducing over-fishing and deforestation. We will also continue to improve our footprint environmentally and socially. But there is more to do to meet the challenges and communicate the progress with our value chain partners. The start of 2020 with the global threat from COVID 19 has emphasized the importance of the secure and sustainable supply chains we are developing and how business and communities are inextricably interlinked.

Sustainability is a personal passion of mine and I'm thrilled to be leading Cargill's path forward as we navigate the future of sustainable aquaculture. Cargill's purpose is to nourish the world in a safe, responsible and sustainable way – and we're proud of the role aquaculture plays in fulfilling this purpose.

I look forward to working with you so together we can feed the world in a safe, responsible and sustainable way!

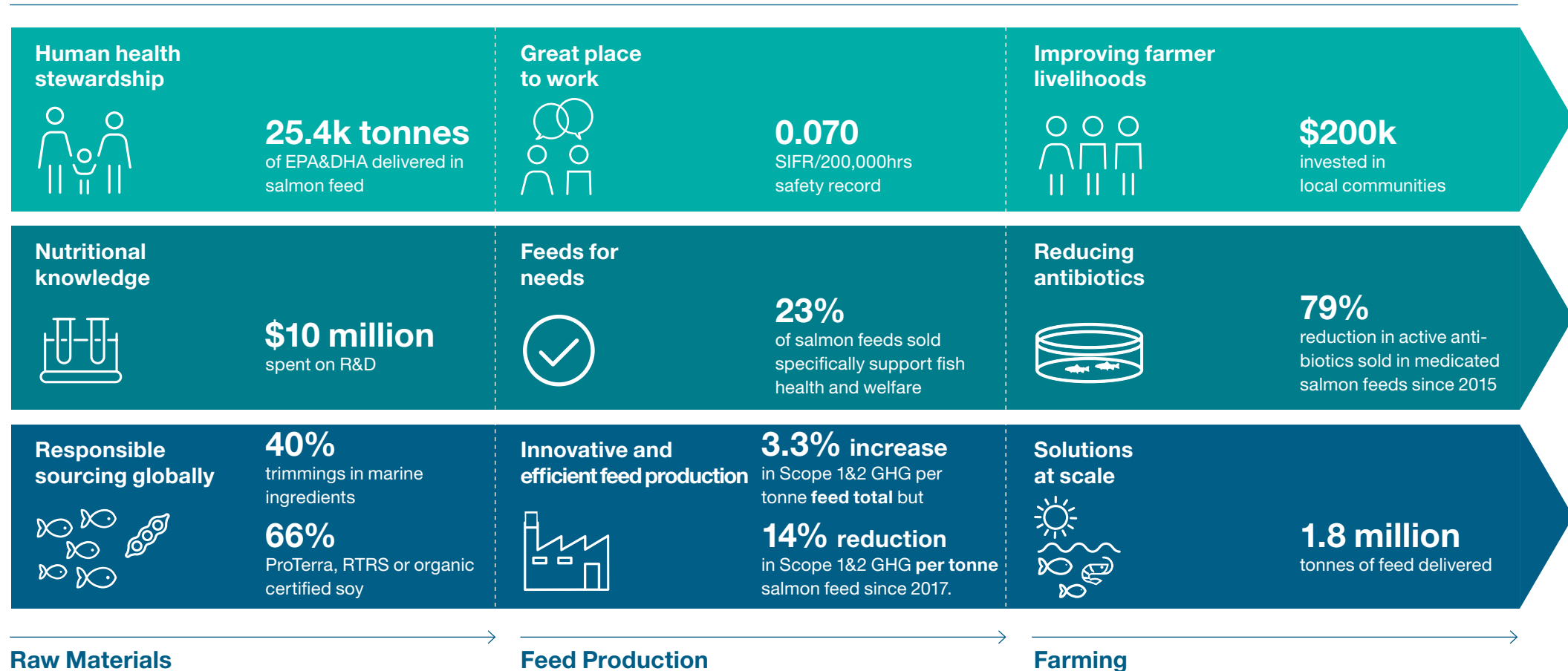
A handwritten signature in black ink, appearing to read 'Pilar Cruz'.

Best regards,  
Pilar Cruz  
*President and Group Leader*

# Healthy seafood for future generations

In order to feed a world population of 10 billion by 2050, we need to intensify food production, while protecting ecosystems and keeping within planetary boundaries.

Here's how we contributed through our global feed operations in 2019:



## Our strategy helps farmers succeed

Aquaculture producers worldwide hold one of the keys to meeting the increasing global demand for healthy seafood for a growing population. Our sustainability strategy is geared towards helping farmers produce more and use less of the world's finite resources, while staying competitive in a fast-changing marketplace.



### Healthy People

We are committed to supporting the sustainable growth of aquaculture and enabling future generations to enjoy the health benefits of eating seafood.



### Healthy Animals

We work alongside farmers, providing core nutrition to help them see thriving growth and to promote health and welfare in their stocks.



### Healthy Planet

We are working diligently to lessen the impact of our feeds, starting with the careful selection of raw materials through better feed efficiencies.



Nutritious seafood for people around the world – rich in valuable protein, essential fatty acids, minerals and vitamins.

## Consumers

## How we support the UN Sustainable Development Goals (SDGs)

As a major feed producer and contributor to food production – with operations worldwide – we want to inspire change and impact positively on the SDGs.



We help to produce more nutritious food around the world.



We help produce healthy seafood, rich in protein, essential omega-3 fatty acids, minerals and vitamins.



We empower and protect our employees and support local communities wherever we operate.



We foster innovation and bring knowledge to bear in seafood production worldwide.



We strive for the best possible use of resources to support sustainable and even healthier seafood.



We explore ways to reduce the carbon footprint of our operations, our feed and the seafood we help produce.



We source our marine ingredients from certified sustainable fisheries and increase resource efficiencies of farmed fish.

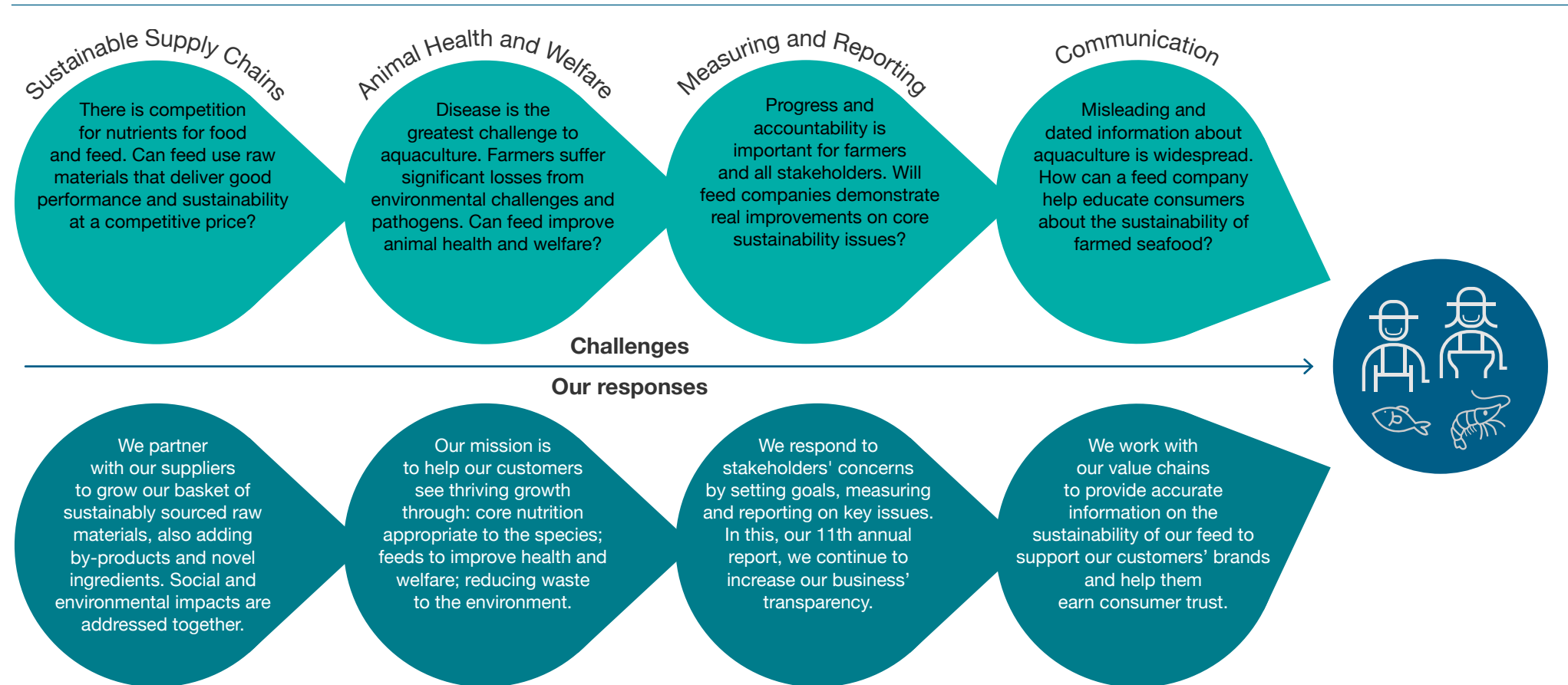


We partner with a range of stakeholders to drive best practices in aquaculture.

# The biggest challenges facing our industry: How Cargill Aqua Nutrition responds

Global aquaculture is seen by many organisations as an important way to help nourish the world. Done well, it has a low environmental footprint, develops a wide range of jobs and skills in rural communities and provides healthy food for consumers globally.

Cargill's aqua nutrition business has an important role in sustainable development of global aquaculture: as one of the largest feed companies we not only deliver solutions, but help raise awareness. In order to understand and share awareness of the key issues, we talk to a broad range of stakeholders about the challenges and opportunities faced by the aquaculture industry in the different regions where we operate. This includes discussions with suppliers and customers, retailers, governmental representatives and non-governmental organisations. Through strong dialogues with our stakeholders in 2019, we highlighted the main areas of interest. It is now the challenge to us and the value chains we operate in to respond with solutions that make quantifiable developments towards more sustainable aquaculture.

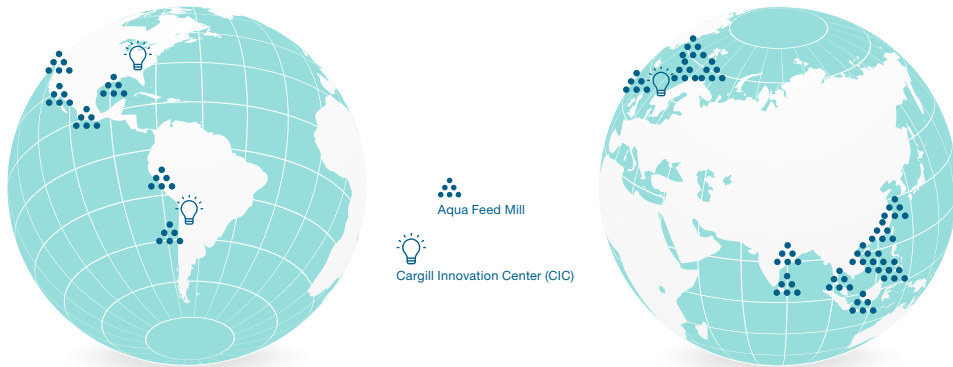


# Supporting our customers around the globe

Cargill Aqua Nutrition is one of the largest aqua feed companies in the world, producing feed for key species like salmon, shrimp, tilapia and other marine species in 20 countries. We operate 40 facilities – 19 fully dedicated to aqua nutrition – around the globe, and aqua-focused Cargill Innovation

Centers in Chile, Norway and the United States that drive our research and development of products and services. These are supported by our Technical Application Centres (TACs) where we run field trials to ensure success.

We are recognized as a leader in innovative nutrition and technology and our brands support customers from regional businesses in North America, Latin America, Asia and Europe. Cargill Aqua Nutrition is wholly owned by Cargill Incorporated.



## Where we place the bar

We support best practices in aquaculture through three main producer certification programs, 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 feed to ASC-certified producers on request and participate in the development of the ASC feed standards.

## Our brands and our feeds



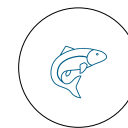
**EWOS®**  
EWOS® is a long-time leader in the aquaculture industry, with a well-earned reputation as a trusted feed supplier in all major salmon farming regions as well as in Vietnam offering feed for tropical fish species.



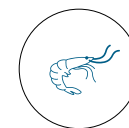
**Purina®**  
The Purina® brand brings more than 100 years of experience to provide a full program of easily digestible, high energy nutrition for shrimp and fish.



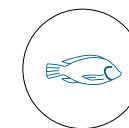
**AQUAXCEL™**  
AQUAXCEL® feeds combine superior nutrition and modern extrusion technology to match the needs of individual species like shrimp, giving the young animals a great start to life and supporting farmer success.



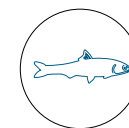
**Salmon**  
Our feeds help salmon farmers succeed on farm and support differentiation of their product to create value.



**Shrimp**  
Our shrimp feeds help to improve healthiness and yield the highest weight gain in the shortest time.



**Tilapia**  
We offer tilapia farmers feed solutions and technical support, helping our customers to thrive.



**Marine Fish**  
Our feeds are tailored for the nutritional needs of a wide range of marine fish around the world.



# Healthy People

- Healthy protein
- Omega 3 – EPA/DHA
- Antibiotic stewardship
- Reducing contaminants
- Social footprint
- Farmer livelihood
- Transparency



## Health values drive consumer decisions

As one of the largest food companies in the world, Cargill has a unique perspective into the consumer mindset across many different markets. We see key trends providing opportunities for protein - including seafood. Consumers are increasingly thinking about meat in their diet as protein and nearly half of consumers are trying to increase protein in their diet<sup>1</sup>. In addition, consumers choose certain proteins for specific reasons. Seafood continues to own the health halo of Omega-3s.

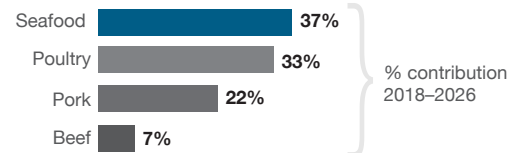
Beyond personal health, consumers have concerns about animal welfare, antibiotic use and environmental impacts, which they also think of as health values – and often believe to be intertwined with negative health impacts.

Consumers want to know the story of the food they are eating: Who made this food and where? Did they deal fairly with the farmers and workers? Were the animals treated humanely?

At Cargill, the idea of Healthy People encompasses these values, including how we support human health through our products. It also addresses the health of the communities which we source from and operate in. Our Supplier Code of Conduct reflects the UN Guiding Principles on Business and Human Rights as well as ILO expectations, and outlines how we expect our supply chains to work with us, ethically and in compliance with applicable laws. Transparency is critical and sharing our work in these areas with our stakeholders is paramount to building trust and achieving progress.

<sup>1</sup>Source: Cargill proprietary research and analyses

## More from less to meet demand for seafood



Global protein demand is expected to grow from 485 to 550 million tonnes from 2018 to 2026, with the largest contribution – more than one third – coming from demand for seafood. With limited resources available globally, producing more with less is key.





## Human health

Farmed fish get their health-promoting omega-3 fatty acids, EPA and DHA, from feed – specifically from marine ingredients like fish oil and algal oil. Cargill designs its nutrition to promote these healthy characteristics, balancing sources and processing raw materials to also keep environmental contaminants such as PCBs and dioxins far below legal limits. Cargill’s salmon feeds now all have no added ethoxyquin. Our feeds support fish health to reduce the need for medicines, including antibiotics. We only add medicines to certain feeds under veterinary prescription to treat specific diseases, where fish welfare is the priority. No medicines are added to our other feeds and we do not add any antibiotics prophylactically. In many of our markets – including Norway – no antibiotics are used in feed.



## Social footprint

We strive to be good neighbors in all communities where we source, operate and sell our products. In Thailand, we have joined the Seafood Task Force to improve conditions in our fishmeal supply chain, and in April 2019 we joined the Global Salmon Initiative (GSI) project Salmón Social in Chile to develop a code of practices to improve the social and environmental standards of its partners’ operations. The code was based on the ASC certification framework and the implementation of the ‘Toolbox for a Responsible Relationship in Communities’ from WWF Chile, Rabobank and Consensus Building Institute.



## Farmer livelihood

According to a February 2019 UN Special Report on the Right to Food, more than 80 percent of global aquaculture production is from small-to-medium-sized fish farmers. Cargill provides training, tools and services that help small farmers around the globe be successful. For example, we have welcomed lupin farmers in the Araucanía Region of Chile into our value chain and support their cooperatives with efforts to optimize their crops. In 2019, we also provided expert advice and support to more than 5000 seafood farmers and workers in Thailand and Vietnam through local workshops and mobile lab services.



## Transparency

Consumers worldwide are increasingly conscious about the food they eat. We want to help educate consumers about the efficiency and favorable ecological footprint of farmed fish by reporting openly and supporting certification schemes. Through partnerships like SeaBOS and GSI, we work with customers, food service and retail industries, suppliers, industry partners, and even our competitors, to keep advancing – and communicating about – sustainability in our industry. Our work to build transparency in the food system helps give consumers confidence in the products they choose.



# Healthy Animals

- Thriving growth
- Robustness
- Welfare
- Recovery
- Health



## Thriving growth

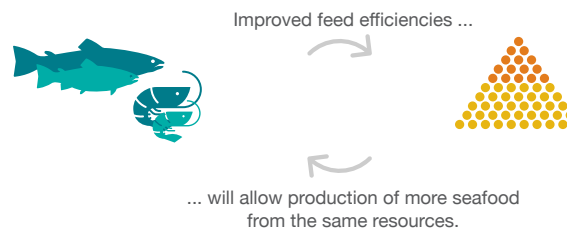
The health and welfare of animals is one of the biggest challenges to the sustainable development and growth of aquaculture globally. Local environmental conditions often expose stocks to disease or fluctuations in water quality. And as aquaculture expands, proximity of farms raises the risk of cross-infection as well as environmental impacts from effluent loads.

At Cargill, our goal is to deliver products and services which help seafood farmers see thriving growth in their stock as well as in their business. We approach this goal by applying the full extent of our market insights and nutritional knowledge. Knowing animals' requirements across all life stages and the nutrients provided by our raw materials, we can

deliver thriving growth with every batch of feed. Providing targeted nutrition for the stock also reduces the amount of waste and effluents – which in turn can help maintain the local water quality and environment, supporting good health.

Cargill works closely with customers across the world to address local challenges. We address the largest challenges through trials at our dedicated innovation centres, where our scientists apply the latest nutritional and technical knowledge to develop and test potential solutions. Thorough testing in our TACs and with individual farmers ensures that new solutions work as promised not only in test tanks, but in full commercial situations.

## More from less by promoting growth, health and welfare



A simple calculation – the eFCR (economic feed conversion ratio) – gives a powerful analysis of the amount of resources used to produce the final seafood at harvest. Improving the eFCR through better feed management and good husbandry will free up resources to produce more seafood.



## Feeds for welfare

The implications of welfare on the animals' performance are increasingly clear, especially in salmon where increased handling of fish in production has had a marked impact on fish growth, eFCR and health. Cargill has developed a range of additions to feed which can be used to address specific welfare challenges – proactively and reactively.

EWOS Dermic has had the greatest impact to help fish recover from handling events and mechanical treatments used for treating sea lice. After handling, if the fish are fed EWOS Dermic they return to feed faster, grow faster and are healthier than on a standard feed.

The overall impact is that the fish recover from the stress faster and that farmers use fewer resources to grow seafood healthily through to harvest.

## Feeds for health

Feed can be used as a carrier for medications. We work with customers and their veterinarians to provide medicated feed, but only when it is needed and, where possible, only with veterinary prescription. Our focus is on providing solutions to minimize the need for antibiotics and limit their application to critical situations.

It is not an easy task, but the potential upside is large and extends beyond aquaculture as it helps to mitigate antimicrobial resistance in food and the broader aquatic environment. Many of the biggest aquaculture producing nations need more support to develop health management systems, and Cargill is involved in developing a taskforce through SeaBOS.

After handling, if the fish are fed EWOS Dermic they return to feed faster, grow faster and are healthier than on a standard feed.

*Renate Kvingedal  
Principal Research Scientist, Health,  
Cargill, Norway*

The Smart PCR service is a very reliable and highly supportive tool for understanding the health status of shrimp in the sampled ponds.

*Francisco Miguel Sánchez Valero  
Technical Coordinator,  
Acuicola El Cardonal, Mexico*

## Detecting diseases

Diseases can impact farms very quickly and it is essential to have rapid and accurate diagnostics to start appropriate treatment as rapidly as possible. Cargill Innovation Center in Colaco, Chile developed the SmartPCR, an innovative service that uses molecular tools to allow multiple, specific and quick detections (within 5 hours) of 3–4 pathogens.

This service is targeted at our shrimp farming customers. Our goal is to serve the customers quickly with quality information regarding their shrimps' health status. Outputs are used to adjust the feeding strategy with the appropriate SmartShield diets to help farmers obtain greater survival rates and better performance. This improves yield while reducing resource input needs – a great sustainability win.

## Choosing the right feed

We provide a range of services and tools to enable our customers to make smarter and quicker decisions. Information from farmers form the basis for our digital development, starting with simple feeding information and growth, and increasingly moving towards real-time monitoring of farm data. As technology improves and becomes more available, we will have the ability to capture information on fish behaviour and health, water quality and other risk as well as opportunities. This will enable farmers to choose the best feeds and management strategies for production each cycle, driving efficiencies and quantifying impacts.





# Healthy Planet

- Resource efficiencies
- Responsible supply chains
  - Overfishing
  - Deforestation
  - Environmental footprint
- Climate action
- Factory emissions
- Managing plastics



## Life cycle thinking drives sustainability

In order to feed the growing human population healthily and sustainably, we need to intensify food production while maintaining ecosystems. The Planetary Boundaries Framework developed by Johan Rockström and colleagues highlights key areas of planetary stress, of which several are relevant to aquaculture: flows of nitrogen and phosphorus; biosphere integrity and especially genetic diversity; land-system change; and climate change.

At Cargill, we leverage our scale and reach to address these boundaries as part of our Healthy Planet approach. Our priority is making the most efficient use of feeds produced from sustainably sourced raw materials. To lessen the pressure on global fishmeal and fish oil supplies, we put great effort

into augmenting key nutrients supplied by marine ingredients with sustainable options from terrestrial sources, by-products and novel ingredients. As a result, we have broadened our raw materials basket significantly, supporting further growth for aquaculture.

We also engage with suppliers and farmers to reduce the impacts of our products over their life-cycle. Apart from the selection of raw materials and the production and nutritional capability of the feed, the environmental footprint of aquaculture is greatly influenced by the choice of packaging, logistics and, especially on-farm feed management and stock performance. With tools like Cargill's Lifecycle Assessment and digital traceability systems, we target measurable improvements in all parts of the value chain to support sustainable growth of aquaculture.

## More from less to protect the planet



Every incremental improvement in eFCR will help to reduce the environment footprint of seafood. By using fewer resources per tonne of seafood, we can reduce land use and GHG emissions, water use, nutrient inputs – and costs.



Our iQuatic solution is helping farmers raise larger and healthier shrimp based on deep analyses of local conditions. Reports from Ecuador show that farmers increase feed efficiencies and biomass output while shortening their production cycles

## Feed efficiencies

High feed efficiency brings rapid growth of the animals. It also reduces the amount of raw materials needed to produce feed and helps to avoid effluents of nitrogen and phosphorus from aquaculture operations, as a larger share of the feed is converted to healthy seafood.

We pursue improvements in feed efficiencies along two main avenues: better formulations and better farm management. Based on our extensive knowledge of the biological needs of the animals, we can formulate feeds with the nutritional capability to grow seafood more efficiently. Yet, on-farm challenges, such as poor health or mortality, reduce the efficiency and cause losses from the food value chain. Consequently, we work closely with our customers to optimize efficiencies, helping them to choose the right feeds for their animals' needs and providing solutions to overcome specific on-farm challenges. Our digital capabilities are helping to improve farmers' decision-making and reduce the overall footprint of their operations. Together we find solutions and build success stories such as that of Eide Fjordbruk – see p. 15.



Throughout 2019 Cargill and the nonprofit Technoserve engaged with lupin farmers in Chile to help them to increase their productivity and profitability. This collaboration is part of an agreement to work with local Mapuche communities to grow yellow lupins for our fish feed.

## Sustainable supply chains

Our ambition is to have a wide range of sustainable raw materials available to choose from. To this end, we work with suppliers back to the origin of the raw materials and engage with a range of stakeholders to set goals and achieve change. Our approach is aligned with key certification schemes, first and foremost ASC, BAP and GlobalGAP.

While our total use of marine ingredients has remained stable, we have worked with our sources to focus on sustainable fisheries and trimmings, see p. 15.

In 2019, we increased the use of novel ingredients, which represent previously untapped nutrient sources. Micro-algae and insect meal both represent small volumes, but production is growing – as is the market. Providing omega-3 fatty acids and valuable amino acids respectively, novel ingredients such as these will support growth of aquaculture feed production, without using more fishmeal and oil.

The use of soy and its impact on land use change caught much attention recently. In 2019, 66% of our group soy purchases were covered by ProTerra, RTRS or organic

Across our operations, 40% of our marine ingredients came from trimmings, 88% from IFFO RS certified suppliers and almost 50% from fisheries aligned to MSC. Great progress on our global sustainable sourcing commitments.

*Jeff Kazin  
Risk Management and Sourcing Lead,  
Cargill Aqua Nutrition, USA*

certifications – 100% in salmon, up from 97.4% in 2018. We are still short of our goal of 100% from FEAC benchmarked schemes by 2020. For more on sourcing of soy and how we are working to improve this, see p. 15.



## Climate action

Seafood production is highly efficient and has a relatively small carbon footprint compared to other livestock production, but still holds potential for further reductions. Feed, more specifically the production and processing of raw materials, represents the largest component of the carbon footprint of farmed seafood prior to transport to the end consumer. The amounts of feed needed to grow the animals, along with their welfare, health, mortalities and feed management all contribute to the total carbon footprint. Fish quality and processing yields also impact significantly on the carbon footprint.

At Cargill, our SBTi approved corporate commitments to reduce Scope 1, 2 & 3 GHG emissions reduce our impact on climate change directly and in the value chains we supply.

Our feeds support efficient growth and can mitigate on-farm challenges, and we work closely with our customers to help them deliver high quality seafood with a high yield of edible protein. In Norway, our Fjordfrende logistics collaboration with Skretting continues, reducing GHG emissions equivalent to 7,500 cars in 2019.

We are also finalizing a major project which will enable us to use life cycle assessment (LCA) data to calculate and reduce the carbon footprint of seafood. This will in turn enable customers to report and better manage the footprint of their products.

## Factory emissions

Within our factories, we are working to reduce our greenhouse gas (GHG) emissions through energy efficiency schemes, which also reduce costs. With lower carbon and renewable energy sources becoming cheaper and increasingly available, Cargill's corporate goal of reducing our absolute GHG emissions by 10% by 2025 looks achievable. Despite growing production by 17% since 2017, total Scope 1&2 GHG emissions only grew by 3.3% thanks to a reduction tonne feed.

A highlight in 2019 was the 14% GHG savings in Chile after the Coronel factory switched to lower-emission fuel. Elsewhere, local initiatives continue to drive down energy use and related emissions. Projects to reduce logistics emissions have also started.

Looking to 2020, we will work to secure contracts for the supply of electricity from renewable supplies where this is available. We are also helping our customers to access similar arrangements from electricity suppliers where possible, helping the value chain reduce overall GHG emissions.

We are about to reach our goal of reducing Scope 1&2 GHG emissions by 50% from 2018 to 2020 in Chile. Our factory in Chile recorded a 14% reduction from 2018 to 2019 by reducing its energy use and switching to lower carbon fuels, and in January 2020 the facility started using only renewable sources of electricity.

*Hugo Contreras Mayagoitia,  
MD Cargill Aqua Nutrition Chile*



In 2019, our operations in Chile facilitated four beach cleanings, three in the Los Lagos Region and one in the Bio Bio Region. Through the Cleanings of the Sea and Beaches initiative, we each year invite customers, neighbors and local authorities to join us in cleaning the shoreline and helping local mollusc farmers to remove old equipment.

## Managing plastics

The quantity of plastic waste accumulating in the environment has raised significant public concerns, and the marine environment, where our suppliers and customers work, is particularly affected. Our use of plastic is limited to the packaging of raw materials and finished feed, and we are working to reduce and better manage our use of plastic in a number of ways.

At our mills, we make use of local facilities to recycle as much incoming packaging material as possible, and we are working with our suppliers to reduce packaging, for example by moving to bulk loads. We have also have set up projects to collect and reuse or recycle the feed packaging from our customers, and we are exploring alternative packaging materials that can be disposed of responsibly and with no harm to the environment. Our work in Scotland on compostable feed bags has been short-listed for an innovation award in 2020.

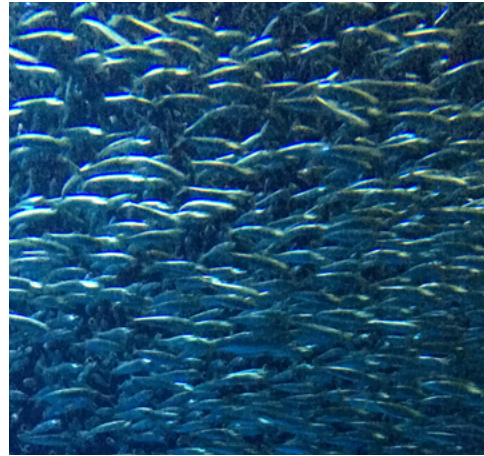
# Partnering for sustainable developments



## Partnering for sustainable farming

Eide Fjordbruk farms Atlantic salmon in western Norway.

In 2019, two sites fed EWOS Rapid Max produced 5,700t of fish from smolt in 9 months in a display of market leading growth and efficiency. Less sea lice impact reduced mortalities and biomass loss by almost two-thirds, improving feed conversion by 8-12% compared to average. Large feed savings reduced phosphorus use by 6t, protein consumption by 300t, and GHG emissions equivalent to taking about 170 cars off the road for a year. All of this was done at a cost saving for the farmer, who needed less feed for his operations.

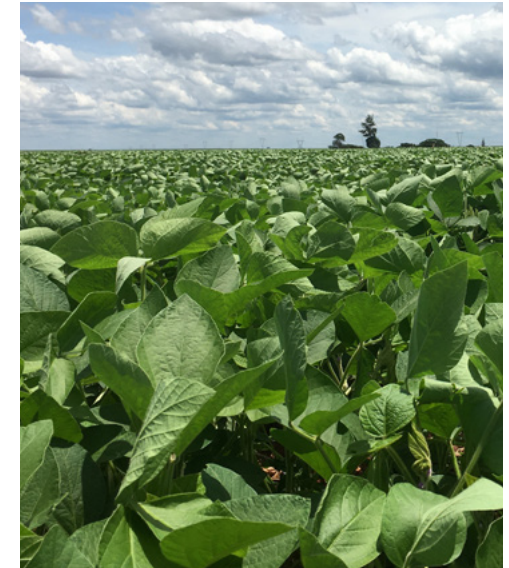


## Supporting growth in insect meal

Waste from food systems cause a significant loss of nutrients.

This loss is difficult to recapture for use in food again. We have partnered with InnovaFeed to use by-products from a Cargill wheat processing mill to feed black soldier fly larvae – a great source of dietary protein.

Production has scaled up enabling us to supply feed with insect meal to a major salmon farmer. In 2020, InnovaFeed will open its full scale 20,000t/yr production facility in France and we look forward to supporting their growth.



## Collaborating for sustainable fisheries

Our 2025 goal is to source marine ingredients only from sustainably managed fisheries.

Fishery Improvement Projects (FIPs) have proved to be effective ways of bringing fishery stakeholders together to develop sustainable management procedures. We continue our engagement with FIPs in Peru and Thailand and encourage suppliers to form more FIPs. In 2019, 9.2% of our forage fish came from FIPs highlighting our support of our suppliers' developments.

Our 2020 focus is to build a coalition of stakeholders on NE Atlantic stocks of blue whiting, herring and Atlantic mackerel to help ensure that regulators set quotas within scientific recommendations for the first time in 5 years.



The combination of large healthy smolts, expert farm management and excellent nutrition from Cargill kept the fish healthy and growing fast to harvest.

*Sondre Eide, CEO  
Eide Fjordbruk, Norway*

## Partnering for sustainable soy

The 'Aquaculture Dialogue on Sustainable Soy Sourcing' met in Brazil at the end of 2019.

The initiative brings together feed companies, soy protein concentrate suppliers and the certification organisation ProTerra to focus on key sustainability issues in the sector.

Outcomes to date are improved traceability and communication, which will enable further steps in 2020 to demonstrate that our Brazilian suppliers farm soy sustainably.

# Performance GRI Data Report





# 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 customised disclosures for topics that we have identified as material to our operations.

## Scope of the report

### Reporting Entities

The Cargill Aqua Nutrition Sustainability Report 2019 covers our dedicated aquaculture feed production units from January to December 2019. 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.





Cargill Aqua Nutrition operations are carried out across 40 facilities in 19 countries, however, only 19 of these facilities are dedicated to aqua-feed 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. During 2019, production of aquafeed

was stopped in our mills in Peru which were reported on in 2017. Our mill in Ecuador had its first full year of production in 2019.

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

This is the eleventh annual report for the salmon feed operations (previously as Cermaq and EWOS). As such, historical trends are shown and discussed in more detail for these operations, referred to as coldwater feeds in comparison to the warmwater feeds.

## Reporting facilities in each country after their classifications

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

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# How we manage sustainability

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

## Sustainability Management

Responsibility for driving sustainability practices throughout the global Cargill Aqua Nutrition group ultimately lies with our 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 and reports to the Sustainability Lead, Cargill Animal Nutrition and Protein. The Director also works with key stakeholder engagement centrally, whilst local issues are covered by the local teams with central co-ordination.

Cargill Aqua Nutrition is part of Animal Nutrition and Health, one of Cargill's enterprises, 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 ([look here](#)). 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 behaviour from each and every person. Cargill's Guiding Principles bring sustainability into everyday business. In 2019 we saw some local teams starting to identify their own sustainability leads, who will promote 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.

## Management Approach

The structure of Cargill Aqua Nutrition enables local and global management of topics and impacts. Local management drives the individual businesses, whilst 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 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 Aqua Nutrition on sustainability issues is reported through its leadership team to Cargill Animal Nutrition and Health and from there to the leadership team for Cargill. The corporate leadership team created a corporate Sustainability Hub (the Hub) in 2018, into which the Sustainability Manager of Cargill Aqua Nutrition reports. The Hub reports to the Corporate Business Operations and Supply Chains lead and Chief Sustainability Officer, who sits in the corporate leadership team. This creates the lines of reporting to corporate leadership – through the Hub and through businesses themselves.

## Material Topics

Cargill corporately increased its open engagement in sustainability through the central Sustainability Hub, which drives key themes and enables information sharing across the corporation. Five key corporate themes are now highlighted: climate change, water, land used, farmer livelihoods, and food loss & waste. In 2020, human rights will be added to this list of corporate priorities. The Hub 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, labour, environment and anti-corruption practices. But in Cargill Aqua Nutrition, 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 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

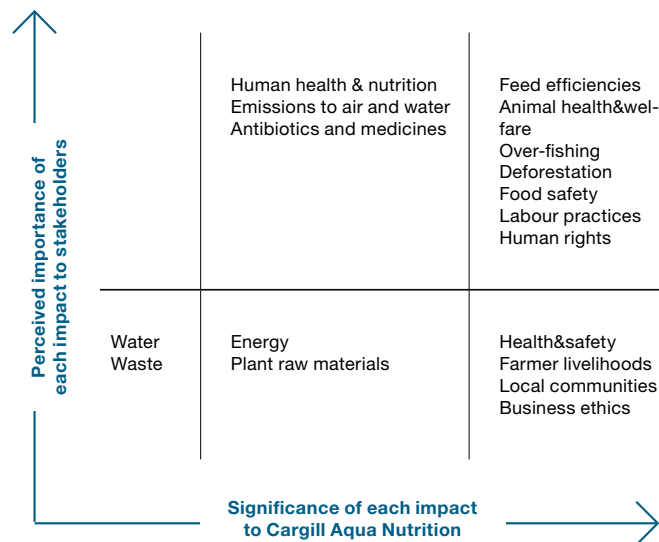
stakeholders, scientific information, management considerations and our sustainability performance. Our leadership team is involved in determining the matrix, which guides our focus and sets our priorities from year to year. The topics are quite varied and we have to apply a precautionary approach to management, whilst more information is being gathered by interested stakeholders.

## External Assurance

Cargill Aqua Nutrition has chosen not to seek external assurance for the Sustainability Report 2019.

## Cargill Aqua Nutrition Materiality Matrix 2019

We use our materiality matrix to prioritise 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.



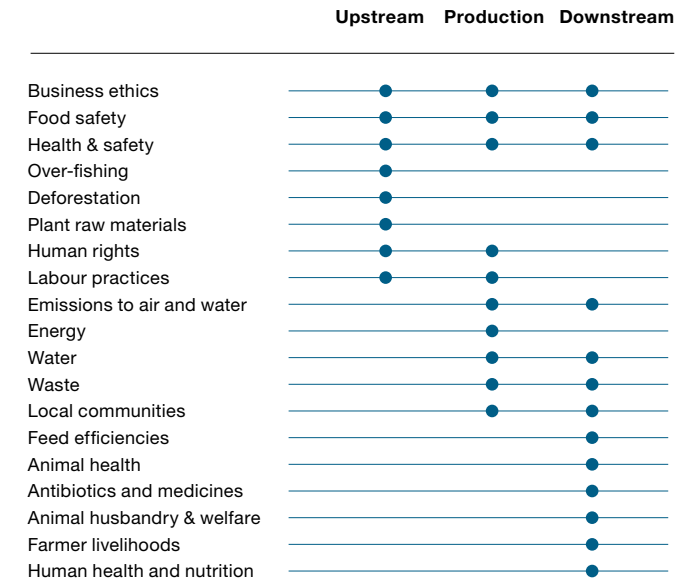
## Monitoring and Reporting

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.

## Where our main impacts occur

The material topics can result in impacts from the sources of raw materials (Upstream), in our mills and operations (Production) or at farming facilities or the end consumer (Downstream).



## Our goals

In our annual Sustainability Report for 2017, we laid out our core goals for Cargill Aqua Nutrition. A second goal on Scope 1&2 GHG emissions was added in 2018 following Cargill's corporate commitment.

The progress towards these goals is shown in the dashboard below, highlighting some good progress in our sourcing, but showing work to do towards our GHG emissions to meet our goals. As part of our benchmarking by SSI in 2019, we recognise that whilst our progress relative to our business sector may be good, we are committed to make much more progress to support on the UN SDGs.

| Goal 2020   | Progress  |           | Group     | Comment  |
|---|-----------|-----------|-----------|--|
|   | Coldwater | Warmwater |           |  |
| By 2020 reduce relative Scope 1&2 GHG emissions by 20% against a 2015 baseline              | -3.8% ↓ ● | 77.0% ↑ ● | 24.2% ↑ ● | Change in emission factors used for electricity in 2018 and increased energy use in warmwater operations has driven this increase.                       |
| By 2025 reduce absolute Scope 1&2 GHG emissions by 10% against a 2017 baseline              | 7.07% ↑ ● | 57.2% ↑ ● | 27.7% ↑ ● | Coldwater feed production growth of 25.2% puts perspective on the increased total output, but warmwater increased emissions faster than feed production. |
| By 2020 source all soy products from supply chains meeting FEFAC benchmarked certifications | 100% ●    | 3.0% ●    | 52.0% ●   | Whilst 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% ●      | 38.0% ●   | 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                      | 92.0% ●   | 69.0% ●   | 88.0% ●   | Great progression towards goal, but challenging to close the gap in Asia. Does not include IFFO RS IP supplies.  |
| By 2025 only source marine ingredients from MSC certified fisheries                         | 57.0% ●   | 13.0% ●   | 50.0% ●   | 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.



# 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.

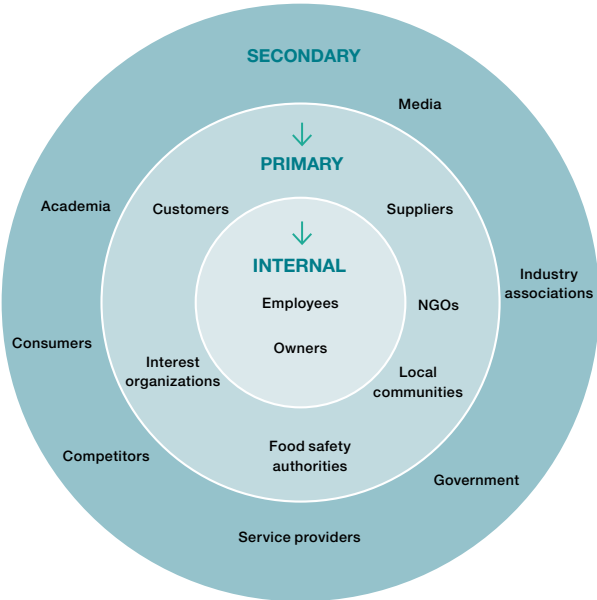
### Engaging with Stakeholders

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 2019 follow.

ASC and BAP are important farm level certification standards for many of our customers globally. Cargill Aqua Nutrition 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 2019 we continued to develop the feed standards for ASC towards completion and anticipated launch in mid 2020. After the development process, the revised BAP feed standards have been sent for final public review and implementation. We are also directly engaged with the Global Aquaculture Association (GAA) on work to develop welfare standards for their farm level standards.

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 are expected in 2020. FEFAC is also working to revise 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.

## Joining forces

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 [here](#).

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. With the formal appointment of their Managing Director Martin Exel in 2019, the group continues its development on: critical issues of IUU fishing and labour 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 organisations, 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 we will bring forward suggestions for common goals across the companies as we work on our theme of ocean stewardship.

## Friends of the Fjord

Calculations show that about 10% of the carbon footprint of the feed can come from the logistics of getting the feed from the mill to the farms. In Norway, boats are used to move feed from the mills, but they often travelled with small loads or even empty. So, in 2019 Cargill partnered with competitor Skretting in Norway to collaborate on logistics in order to find the most efficient delivery patterns. This regularly involves moving feed from both companies on the same boats.

Fredrik Witte, Managing Director of Cargill Aqua Nutrition, North Sea, commented “Fjordfrende, which translates as fjord friend, has reduced the number of vessels moving,



## Environmental Footprint

Across all of our operations we actively find means to reduce the footprint of our raw material sourcing and our feed operations.

saving time and cost through greater efficiencies. The result will reduce GHG emissions from the combined fleet of 1.52 million tonnes CO<sub>2</sub>eq per year, equivalent to about 7,500 cars. With Cargill's focus on our customers, we deliver more efficiently and with a significantly lower footprint". Further developments will come with more efficient vessels with multifunctional roles, but the importance of collaboration to achieve sustainable development will remain crucial.

## Sustainable fisheries

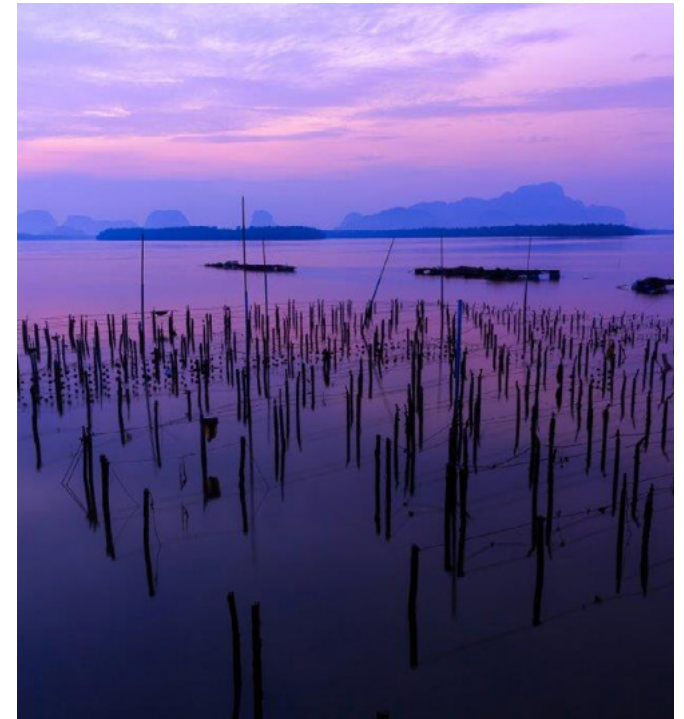
Developing sustainable raw materials has been a theme for many years and we continue to do this in a variety of ways. In fisheries, we are involved in a fishery improvement project in Peru, working with the fishing industry and its trade association, the Peruvian government and its fishery management 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 we hope to conclude it in 2020 so the fishery will be ready for assessment. 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. 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 labour risks.

The IFFO RS standard has been a mainstay of our marine ingredients certifications since it was launched in 2011. 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 IFFO RS 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.

We also encourage development of new raw materials for feed ingredients, working with various organisations, 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 programme for aquaculture start up's. The aim is to bridge the gap between breakthrough, innovative ideas and their commercialization. The programme 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.

## Collaboration is the key

We believe that collaboration throughout the value chain is necessary to continue to improve our company's – and industry's – sustainability. In 2019, we convened suppliers, farmers and retailers from north-western Europe for an aquaculture value chain summit on the future of sustainable feed. The



## Social footprint

We have focussed on participation in a series of initiatives relevant to our business, our customers, and our employees.



group comprised a range of traditional and novel raw material suppliers; Cargill as the feed company; four Norwegian salmon farming companies; three seafood processors; and three European retailers. The goal was to bring decision makers and influencers together to determine what would it take to deliver transformational change in salmon aquaculture, through feed. Summit participants identified three key areas for collaboration within and across value chains: sustainable raw materials; measurements and reporting; and communication. Cargill continues to collaborate on how to best deliver on these findings. For example, Cargill led communications and coordination on key topics like blue whiting quotas in the North Sea, formed partnerships in 2019 with companies like InnovaFeed and White Dog Labs on novel feed ingredients and developed a life cycle assessment tool to support measurement of green house gasses in feed production.

Reports on soy and deforestation concerns pushed this issue up the agenda and we worked with our customers throughout 2019 to communicate our position. The Cerrado Manifesto and the subsequent Statement of Support for this were already well covered by our activities in purchasing soy, as demonstrated later in this report. But we had to communicate this regularly throughout the year. We also partnered with our feed competitors and farming organisations in Norway to address concerns raised by the Norwegian NGOs Rainforest Foundation Norway and Framtiden i våre hender (Future in our hands). This resulted in a working group being set up in 2019 between the ProTerra Foundation which certifies our soy protein concentrate suppliers in Brazil, the soy supply companies and the major feed companies in Norway, so that we can work together on some key developments and communications to demonstrate the land management

being carried out in Brazil to avoid land conversion. This working group is known as Aquaculture Dialogue on Sustainable Soy Sourcing from Brazil and is an excellent example of how pre-competitive collaboration can address critical issues in a sector. One of our suppliers, CJ Selecta, launched their first sustainability report in accordance with GRI Standards in 2020. This expands on the work they have carried out with members of the Dialogue and helps to make our whole supply chain more transparent. We congratulate them on this work.

## Local engagement

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 have been able to extend this project thanks to Cargill Corporate funds and support from Technoserve, the Centro de Genómica Nutricional Agroacuicola (CGNA), NgSeed and of course the Mapuche communities.

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 neighbours 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 tonnes 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



Cargill Aqua Nutrition has joined forces with the leading salmon feed producers in an initiative to ensure that soy being sourced for feed is not contributing to deforestation of the Amazon in Brazil.

explained in more detail in the Community Enrichment Report for Cargill Aqua Nutrition Chile.

## Managing our plastics

Concerns about contaminants in food continue and have focused on microplastics during 2019. The marine environment has been shown to contain plastic waste from land and sea, that slowly breaks down and can then be ingested by organisms. Whilst we continue our own efforts to reduce our use of plastics and recover feed bags from customers for recycling, we have also opened discussions with various stakeholders to understand the potential impact of microplastics in the food chain. We are also looking at fully compostable alternatives to plastic packaging for feed, with a pilot project with a customer in Scotland already trialling the materials.

Through SeaBOS and with IFFO we are engaged in projects to begin to quantify the amount of microplastic which may be in our value chains and understand any potential risks which may be associated with it. This will be a long project which we will continue to report on. The outcomes will help advise us on developing a general plastics approach and possible policy.

## Promoting equal opportunities

In Canada, we have worked with a variety of local NGOs on projects in our neighbouring communities, such as Yo Bro! Yo Girl! which cultivates resilience in at-risk youths and empowers them to avoid risks of drug use, gang affiliation, crime and violence and the Surrey Urban Mission Society, which provide meals, services and shelter to the homeless and people struggling with poverty and addiction. Internally, the Cargill Women's Network was set up in our Surrey site, aiming to support production employees and make the workplace and jobs more attractive to female employees. Supporting Dress for Success Vancouver is helping women to gain financial independence through our donations and volunteering activities.

# Progressing together – some of the associations we partner with



### Feed trade associations

By working with associations, such as FEAC 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)  
[ifif.org](http://ifif.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/)



### Seafood Task Force

We joined the Seafood Task Force in 2017. Working in Thailand, this initiative set up to focus on labor issues.  
[seafoodtaskforce.global](http://seafoodtaskforce.global)



### United Nations High Level Panel for a Sustainable Ocean Economy

At the end of 2019 we joined the Advisory Network and are anticipating the creation of the Food from the Ocean Coalition where we believe we have 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

### Our organisation

Cargill 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 2019 as explained in Reporting Entities (page 17).

### GRI 102-7

### Size of the operation

The total aquafeed produced by Cargill's Animal Nutrition and Health Enterprise was 2.1 million tonnes, but from the dedicated aqua feed mills the amount was 1,838,240 tonnes. This was split between the salmon feed producing mills and the others 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       |
| Feed sold     | 2019 | 1,191,504           | 640,694             | 1,838,240       |

Salmon feed production and sales have built on good growth in Norway and Scotland and stability in Canada and Chile. The Americas have had new mill in Ecuador and in Asia the first full year with both mills in India has given growth since 2018. This resulted in an overall growth in production since 2016 of 24%.

### 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 2 new factories are now operational. The total of coldwater group employees has dropped since a peak in 2017, but the proportion of females in that group continues to drop from the peak of 20.5% in 2017, although it has increased slightly in the warmwater group (12.6% in 2017).

|  | Coldwater Total | Warmwater Total | Group Total* |
|--|-----------------|-----------------|--------------|
| Total workforce                            | 846             | 998             | 1,929        |
| <b>Total employees</b>                     | 740             | 981             | 1,798        |
| <b>Female employees</b>                    | 110             | 131             | 269          |
| <b>Male employees</b>                      | 631             | 850             | 1,529        |
| <i>Employees – female proportion (%)</i>   | 14.8%           | 13.4%           | 15.0%        |
| Total contractors                          | 106             | 17              | 131          |
| Female contractors                         | 14              | 1               | 20           |
| Male contractors                           | 92              | 16              | 112          |
| <i>Contractors – female proportion (%)</i> | 13.2%           | 7.4%            | 14.9%        |

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

Cargill Aqua Nutrition 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 (for example 7.2% females in the warmwater feeds).

|  | Coldwater Total | Warmwater Total | Group Total |
|--|-----------------|-----------------|-------------|
| <b>Employee Category:</b>                                      |                 |                 |             |
| Total number of management and administration female employees | 99              | 114             | 241         |
| Total number of management and administration male employees   | 206             | 455             | 703         |
| – Management and admin employees proportion female (%)         | 32.5%           | 20.1%           | 25.5%       |

#### Senior Management Teams\*:

|   |       |       |       |
|---|-------|-------|-------|
| Senior management                           | 23    | 18    | 52    |
| Number of female senior management hires    | 7     | 1     | 11    |
| Senior managers – proportion of females (%) | 30.4% | 5.6%  | 21.2% |
| Senior managers – proportion of males (%)   | 69.6% | 94.4% | 78.8% |

#### Global Leadership Team\*\*:

|                       |  |  |       |
|-----------------------|--|--|-------|
| Membership            |  |  | 8     |
| Number of females     |  |  | 1     |
| Proportion of females |  |  | 12.5% |

\*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 favour of males across the whole company. This reflects the predominance of factory based work. However, moving into the management and administration sector, 25.5% of employees were female. The number has been stable for the coldwater facilities at just over 30% and Cargill Aqua Nutrition is working to encourage greater diversity across all employment sectors and especially in senior management.

### GRI 102-41

#### Collective bargaining

The right to collective bargaining is available in all countries, but in some countries no employees have chosen to pursue this yet. Overall, 28.75% of our employees globally are covered by collective bargaining agreements, with the highest share being in Canada, Chile and Norway.

### 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 the Cargill Aqua Nutrition integrated management system (IMS), which covers ISO 9001, 14,001, 22,000 and OHSAS 18001. In addition, our facilities in Canada, Chile and Scotland are BAP certified, whilst 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 Aqua Nutrition facilities make feed to order for our customers that is compliant to ASC farm standards' requirements.

#### Factory level certifications currently held

| Region                         | Country   | ISO 9001 | ISO 14001 | ISO 22000 | OHSAS 18001 | Global GAP | BAP |
|--------------------------------|-----------|----------|-----------|-----------|-------------|------------|-----|
| Coldwater                      | Canada    | ✓        | ✓         | ✓         | ✓           | ✓          | ✓   |
|                                | Chile     | ✓        | ✓         |           | ✓           | ✓          | ✓   |
|                                | Norway    | ✓        | ✓         | ✓         | ✓           | ✓          |     |
|                                | Scotland  | ✓        | ✓         | ✓         | ✓           | ✓**        | ✓   |
| Warmwater                      | Ecuador   |          |           |           |             |            | ✓   |
|                                | Mexico    |          |           |           |             |            |     |
|                                | USA       |          |           |           |             | ✓          | ✓   |
|                                | China     |          |           | ✓         |             |            | ✓   |
|                                | India     |          |           | ✓         |             |            | ✓   |
|                                | Indonesia |          |           | ✓         |             |            |     |
|                                | Thailand  |          |           | ✓         |             |            | ✓   |
| Vietnam                        | ✓         | ✓        | ✓         | ✓         | ✓           | ✓          |     |
| <b>Total plants certified*</b> | <b>7</b>  | <b>7</b> | <b>10</b> | <b>7</b>  | <b>8</b>    | <b>11</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

### 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. Supplier auditing was above target in warmwater, reflecting new suppliers coming in and having to be audited. By contrast the coldwater team were behind on planned audits.

|                            | Coldwater Total | Warmwater Total |
|----------------------------|-----------------|-----------------|
| Planned                    | 23              | 11              |
| Performed                  | 12              | 15              |
| Performance (% of planned) | 52%             | 136%            |

Of a total of about 650 suppliers used in 2019, 85% had signed our Supplier Code of Conduct, a slip from last year and 2017 which will need to be corrected during 2020.

### CQN 1-82

#### Fines and sanctions for non-compliance

Two fines for non-compliance were recorded in 2019: \$49 for low fat in a product and \$50 for low protein in a product, both in USA.

## ECONOMIC DISCLOSURES

### Production and sales data

As a part of a private company, Cargill Aqua Nutrition 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). Tonnes of feed produced and sold are disclosed in GRI 102-7.

### GRI 201-1

#### Economic value

Community projects are particularly important to Cargill and all operations are encouraged to donate to relevant projects. In 2019 a total of US\$199,420 was given to local community projects by Cargill Aqua Nutrition feed operations globally. This does not include voluntary activities by employees to these and other projects.

#### Financial assistance received from government

Financial assistance from governments in 2019 was received China, Ecuador and Canada only. This came in the form of tax relief and credits, subsidies and financial incentives, total \$269,338. The financial incentives were related to a waste water treatment and recycling project in Canada, incentive for setting up a new operation in Ecuador.

#### Minimum wages

The average entry level wage for all employees was reported at or above national minimum wage requirements for all reporting countries, converted to US dollars from local currencies. All countries met or exceeded legal requirements and generally females had a higher entry level wage than males, reflecting their greater representation in management and administration.

### GRI 202-2

#### Proportion of local hires

Cargill Aqua Nutrition 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              | 18              | 52          |
| Number of local hires for the senior management group   | 7               | 1               | 11          |
| Percent of senior management hired from local community | 95.7%           | 77.8%           | 90.4%       |

### GRI 205-2

#### Anti-corruption training

Centralised training on anti-corruption and other issues was carried out across Cargill Aqua Nutrition 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.

|   | Cargill Code of Conduct | Anti-bribery Training Policy |
|---|-------------------------|------------------------------|
| Global Leadership Team Trained (number)   | 6                       | 3                            |
| Global Leadership Team Trained (per cent) | 75%                     | 37.5%                        |
| Employees Trained (number)                | 913                     | 328                          |
| Employees Trained (per cent of total)     | 51%                     | 18%                          |

## 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 coldwater and warmwater feeds, 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 – Coldwater and Warmwater feeds

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”. A map on page 32 shows the global distribution of our sourcing of terrestrial ingredients.

| Ingredient Category*                         | Coldwater Feeds |  | Warmwater Feeds |  |
|--|-----------------|--|-----------------|--|
|  | Average         | Countries of Origin                                  | Average         | Countries of Origin  |
| Fishmeal                                     | 14.5%           | See below  | 8.7%            | See below  |
| of which Trimmings Meals                     | 5.9%            | See below  | 5.4%            | See below  |
| Fish Oil                                     | 10.4%           | See below  | 1.2%            | See below  |
| of which Trimmings Oils                      | 2.9%            | See below  | 0.7%            | See below  |
| Vegetable Proteins                           | 32.5%           | Argentina, Brazil, China, France, India, USA, others | 32.3%           | Argentina, Bolivia, Brazil, Canada, India, Mexico, USA, others |
| of which Soy Proteins**                      | 14.0%           | Brazil (Argentina, China, Paraguay, USA)             | 27.3%           | Argentina, Bolivia, Brazil, USA (India, Ecuador)               |
| Vegetable Oils                               | 15.1%           | Belarus, Canada, Chile, Russia, West Africa, others  | 1.6%            | (Bolivia, China, Ecuador, India, Mexico, USA), others          |
| of which Soy Oil**                           | 1.1%            | (Argentina, USA, West Africa)                        | 0.6%            | (Bolivia, China, Ecuador, India, Mexico, USA)                  |
| of which Palm Oil**                          | 0.1%            | (Indonesia)  | 0.2%            | Indonesia  |
| of which Algal Oil                           | 0.04%           | Others   | 0.0%            | -  |
| Animal By-Products                           | 11.0%           | Brazil, Germany, Spain, UK, USA, others              | 7.9%            | India, Mexico, USA, others                                     |
| Carbohydrates and Binders                    | 13.2%           | Chile, Germany, UK, others                           | 29.8%           | France, Indonesia, Mexico, USA, Vietnam, others                |
| Total co-products***                         | 37.5%           |  | 27.3%           |  |
| Total co-products including soybean meals*** | 51.5%           |  | 54.6%           |  |
| Total novel ingredients****                  | 5.7%            |  | 1.3%            |  |

\* 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       | 179,688   | 56,019    | 235,707 |
|                          | Forage fish | 59.1%     | 38.6%     | 54.1%   |
|                          | Trimmings   | 40.9%     | 62.7%     | 45.9%   |
| Fish oil                 | Total       | 129,182   | 7,472     | 136,654 |
|                          | Forage fish | 71.9%     | 38.1%     | 69.6%   |
|                          | Trimmings   | 28.1%     | 61.9%     | 30.4%   |
| Marine Ingredients Total | Trimmings   | 35.5%     | 62.9%     | 40.2%   |

\* 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/>). A map showing the major FAO fishing areas where the fisheries we sourced from is on page 33.

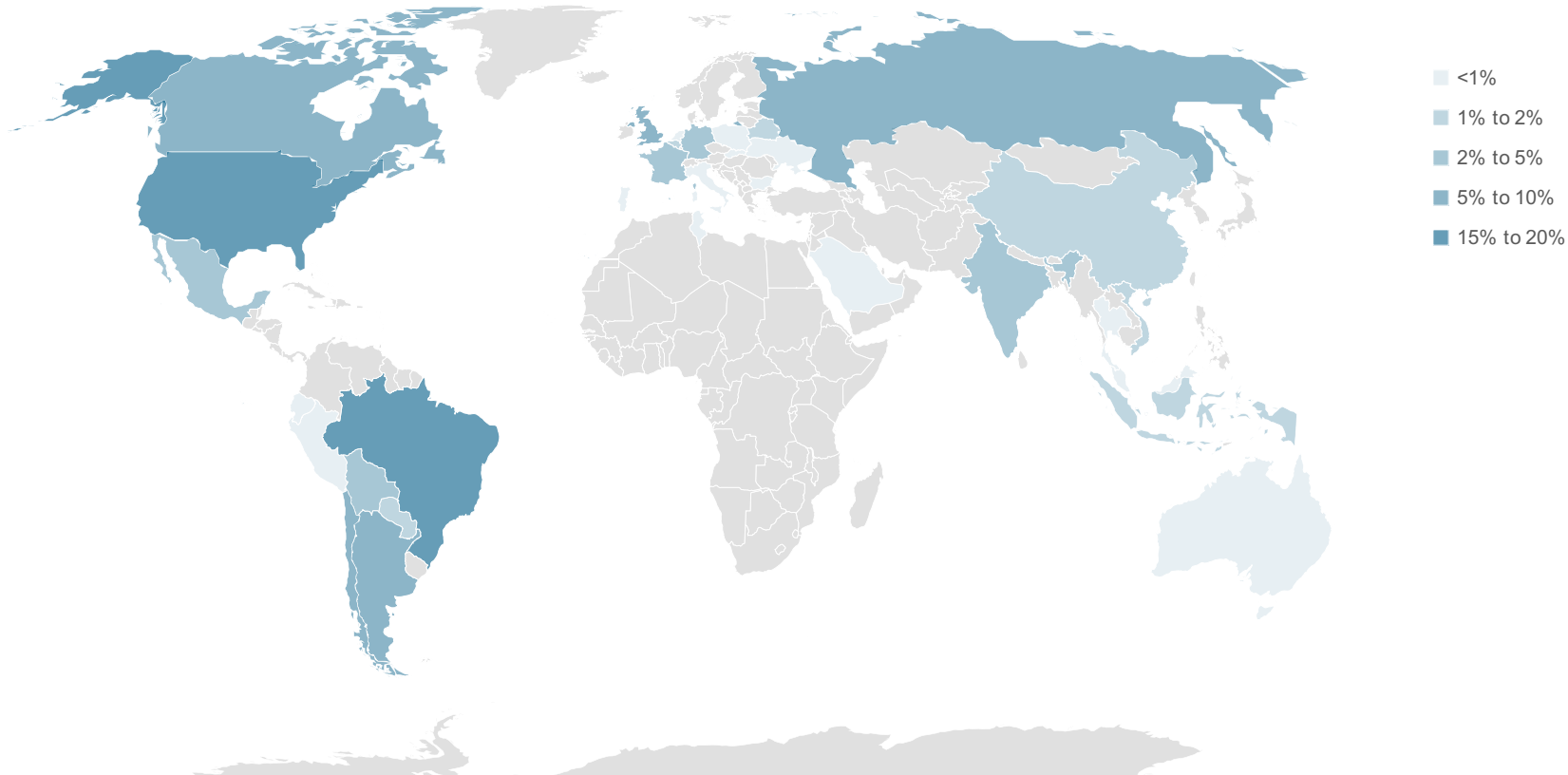
## Coldwater feeds

| Species   | Country of Origin            | % of Forage Fish Total |
|---|------------------------------|------------------------|
| Blue whiting                                      | Denmark, Faroe Islands,      |                        |
| – <i>Micromesistius poutassou</i>                 | Iceland, Ireland, Norway, UK | 28.7%                  |
| Peruvian anchovy <i>Engraulis ringens</i>         | Chile, Peru                  | 17.1%                  |
| Gulf menhaden – <i>Brevoortia patronus</i>        | USA                          | 12.1%                  |
| European sprat – <i>Sprattus sprattus</i>         |                              | 6.8%                   |
| Araucanian herring – <i>Strangomera bentincki</i> | Chile                        | 5.8%                   |
| Atlantic herring – <i>Clupea harengus</i>         | Denmark, Iceland, Norway     | 5.5%                   |
| Sandeels – <i>Ammodytes spp.</i>                  | Denmark, Norway              | 5.0%                   |
| South American pilchard – <i>Sardinops sagax</i>  | Chile, Mexico, Panama        | 4.0%                   |
| Round sardine – <i>Sardinella aurata</i>          | Mauretania                   | 3.4%                   |
| Norway pout – <i>Trisopterus esmarkii</i>         | Denmark, Iceland, Norway     | 3.2%                   |
| Indian oil sardine – <i>Sardinella longiceps</i>  | Oman                         | 2.1%                   |
| Miscellaneous Species                             | -                            | 6.2%                   |

## 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.

### CQN Group, share of tonnes received

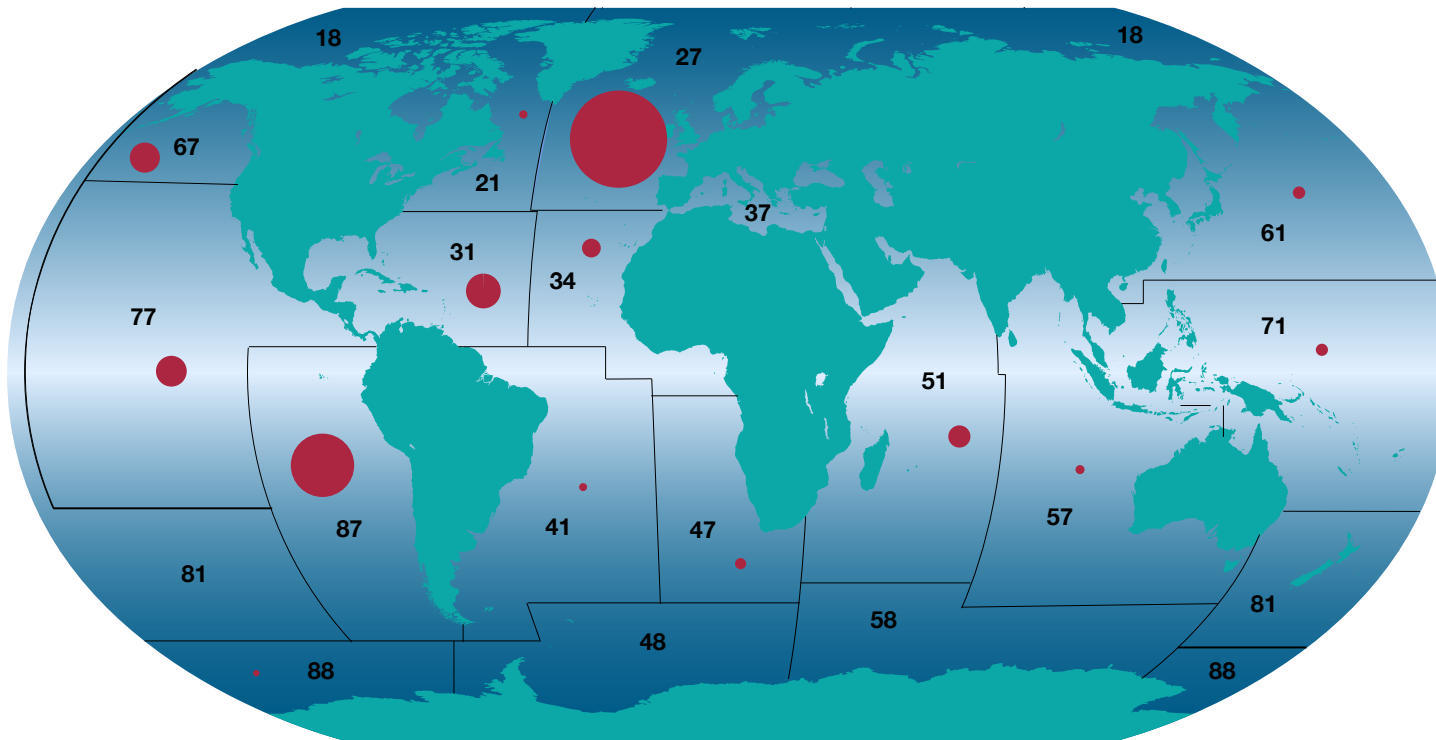




## Sourcing of marine ingredients

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, focussing 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 tonnes of marine ingredients purchased



| Major Fishing Areas            | Percent |
|--------------------------------|---------|
| Antarctic                      | <1%     |
| 21 – Atlantic, Northwest       | <1%     |
| 27 – Atlantic, Northeast       | 52%     |
| 31 – Atlantic, Western Central | 7%      |
| 34 – Atlantic, Eastern Central | 2%      |
| 41 – Atlantic, Southwest       | <1%     |
| 47 – Atlantic, Southeast       | <1%     |
| 51 – Indian Ocean, Western     | 3%      |
| 57 – Indian Ocean, Eastern     | <1%     |
| 61 – Pacific, Northwest        | <1%     |
| 67 – Pacific, Northeast        | 5%      |
| 71 – Pacific, Western Central  | <1%     |
| 77 – Pacific, Eastern Central  | 5%      |
| 87 – Pacific, Southeast        | 22%     |
| 88 – Pacific, Antarctic        | <1%     |
| Not known                      | 1%      |

## Warmwater Feeds

| Species   | Country of origin | % of Forage Fish Total |
|---|-------------------|------------------------|
| Peruvian anchovy – <i>Engraulis ringens</i>           | Peru              | 32.5%                  |
| Gulf menhaden – <i>Brevoortia patronus</i>            | USA               | 23.8%                  |
| South American pilchard – <i>Sardinops sagax</i>      | Mexico            | 6.1%                   |
| Pacific anchoveta – <i>Cetengraulis mysticetus</i>    | Ecuador           | 3.6%                   |
| Pacific thread herring – <i>Opisthonema libertate</i> | Mexico            | 2.3%                   |
| Squid – mixed species                                 | South Korea       | 2.1%                   |
| Mixed species*  | Thailand, Vietnam | 26.8%                  |
| Miscellaneous species                                 | -                 | 2.8%                   |

\* 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         | 46.9%                |
| Atlantic mackerel – <i>Scomber scombrus</i>      | Denmark, Iceland, Ireland, Norway, UK         | 7.4%                 |
| Chilean jack mackerel – <i>Trachurus murphyi</i> | Chile   | 4.0%                 |
| North Pacific hake – <i>Merluccius gayi</i>      | USA   | 4.0%                 |
| Alaska pollock – <i>Theragra chalcogramma</i>    | USA   | 3.9%                 |
| Capelin – <i>Mallotus villosus</i>               | Iceland, Norway                               | 3.3%                 |
| Mixed whitefish*                                 | Denmark, Iceland, Ireland, Norway, UK, others | 24.3%                |
| Miscellaneous species                            | -   | 5.2%                 |

\* 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 |
|---|--|----------------------|
| Skipjack tuna – <i>Katsuwonus pelamis</i>             | Ecuador, Mauritius, Mexico, Peru, Thailand, USA, Vietnam | 29.4%                |
| Yellowfin tuna – <i>Thunnus albacares</i>             | Ecuador, Mexico, Vietnam                                 | 20.2%                |
| Peruvian anchovy – <i>Engraulis ringens</i>           | Peru   | 8.1%                 |
| Squid – mixed species                                 | Chile, India, Peru, South Korea                          | 7.0%                 |
| Pangasius – <i>Hypothalamus spp.**</i>                | Vietnam  | 6.9%                 |
| Atlantic salmon – <i>Salmo salar**</i>                | Chile  | 5.9%                 |
| Indian oil sardine – <i>Sardinella longiceps</i>      | India  | 5.1%                 |
| Pacific thread herring – <i>Opisthonema libertate</i> | Mexico   | 2.2%                 |
| Mixed fish**  | Vietnam, Thailand  | 9.8%                 |
| Others  | -  | 5.2%                 |

\* Fish derived solely from aquaculture

\*\* Includes fish from aquaculture and wild

## Certification of marine ingredients

Cargill Aqua Nutrition has a focus on purchasing certified fishmeal and oil, specifying IFFO RS 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](#)\*

We also support fisheries in the improvers' program or transitioning to these certifications. This disclosure shows the quantity of marine ingredients for salmon feed that were purchased from IFFO RS certified factories. The results are similar to 2018, also reflecting that it is easier to get IFFO RS certified forage meal and oil than trimmings meal and oil.

Our goal for our salmon feeds is to have all of our marine ingredient coming from factories certified to IFFO RS standards by 2020. We are close to this, but need to work a bit more with our suppliers, particularly for fish oil. In May 2020 IFFO RS rebranded to MarinTrust and Cargill Aqua Nutrition's commitment to these standards remains the same.

## The proportion of marine ingredients sourced from certified supply chains and fisheries, or from credible improvement projects in 2019

|                        | None  | IFFO RS IP | IFFO RS | Comprehensive FIP | MSC aligned fishery* |
|------------------------|-------|------------|---------|-------------------|----------------------|
| <b>Coldwater Feeds</b> |       |            |         |                   |                      |
| Forage fish            | 10.0% | 0.6%       | 89.4%   | 7.5%              | 48.1%                |
| Trimblings             | 3.4%  | 0.0%       | 96.6%   | 0.2%              | 73.2%                |
| <b>Warmwater Feeds</b> |       |            |         |                   |                      |
| Forage fish            | 23.8% | 0.0%       | 76.2%   | 17.9%             | 8.9%                 |
| Trimblings             | 35.6% | 0.0%       | 64.4%   | 0.0%              | 16.2%                |
| <b>Group Totals</b>    |       |            |         |                   |                      |
| Forage fish            | 11.4% | 0.5%       | 88.0%   | 8.6%              | 44.0%                |
| Trimblings             | 12.0% | 0.0%       | 88.0%   | 0.1%              | 58.0%                |

\* MSC aligned fishery shows that the fish were caught from a fishery that has been assessed 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 2019, the global use of marine ingredients in coldwater feeds by Cargill Aqua Nutrition, which are predominantly for salmon, was 24.9% as a percentage of feed sold (down from 30.7% in 2017 and 27.6% in 2018). This shows a drop over the last two years having been relatively stable since 2012, the inclusion of marine ingredients from forage fish has fallen from almost 24% to 16.1% of the feed sold. Trimblings meals and oils now represent 35.5% of the marine ingredients used globally in our salmon feeds.

By contrast our warmwater feeds, which are for a mix of species of fish and shrimp, contained only 9.9% marine ingredients. Our sourcing policy has a preference for trimblings for these feeds, reflected in the 62.9% of marine ingredients which came from trimblings.

## Marine nutrient ratios – Coldwater Feeds

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 drop in 2019 for MPDR and MODR was driven by the reduced forage fishmeal and oil content and the reduced eFCR compared to 2018.

$$\text{MPDR} = \text{fishmeal\%} * 68\% * \text{average eFCR} / 17.5\%$$

$$\text{MODR} = (\text{fishoil\%} + (\text{fishmeal\%} * 8\%)) * \text{average eFCR} / 17.5\%$$

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

\* 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.

$$\text{FFDRm} = (\text{forage fishmeal in feed \%} * \text{eFCR}) / 24\%$$

$$\text{FFDRo} = (\text{forage fish oil in feed \%} * \text{eFCR}) / 5\%*$$

$$\text{FFIF} = (\text{forage fishmeal\%} + \text{forage fish oil\%}) / (\text{yield of fishmeal} + \text{yield of fish oil})$$

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

\* 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 |
|---|------|------|------|------|------|
| Forage Fish Dependency Ratio protein (FFDRm) feed | 0.48 | 0.54 | 0.55 | 0.45 | 0.36 |
| Forage Fish Dependency Ratio oil (FFDRo) feed     | 1.48 | 1.44 | 1.46 | 1.40 | 1.50 |
| Feed Fish Inclusion Factor (FFIF)                 | 0.66 | 0.70 | 0.71 | 0.62 | 0.56 |
| Global eFCR *                                     | 1.24 | 1.27 | 1.23 | 1.36 | 1.25 |
| FFDRm fish  | 0.60 | 0.69 | 0.68 | 0.62 | 0.45 |
| FFDRo fish  | 1.84 | 1.83 | 1.80 | 1.90 | 1.88 |
| Fish In Fish Out ratio (FIFO)                     | 0.66 | 0.70 | 0.71 | 0.62 | 0.56 |

\* Estimated annual average eFCR for salmon

### Marine nutrient ratios – Warmwater Feeds

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.

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

|      | FFERm feed | FFDRo feed | FFIF | eFCR* | FFERm | FFERo | FIFO |
|------|------------|------------|------|-------|-------|-------|------|
| 2019 | 0.15       | 0.10       | 0.13 | 1.5   | 0.22  | 0.15  | 0.20 |

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

### CQN 3-90

#### Plant index – Coldwater Feeds

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 Aqua Nutrition Chile has greatly increased its sourcing of certified soy, with 100% coverage with RTRS credits (from 8.7% certified in 2016). With Cargill Aqua Nutrition operations in Canada not using soy products, in 2019 100% of the soy used in CQN salmon feeds was ProTerra, RTRS or organic certified, providing great security against deforestation. Palm oil is 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   | Coldwater Total |
|--------------|----------------|--------|----------------------------------|----------|--|-----------------|
| Soy products | Certifications | n/a    | RTRS                             | ProTerra | ProTerra, Organic                                      |                 |
|              | % certified    | n/a    | 100%                             | 100%     | 100%   | 100%            |
|              | Origins        | n/a    | Argentina, Brazil, Paraguay, USA | Brazil   | Brazil (conventional); China 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      | Indonesia  |                 |

### CQN 3-91

#### Packaging for finished goods

Packaging for finished goods represents the main use of plastic for Cargill Aqua Nutrition, 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.

More details are required to be added to this reporting to get more detail on the types of plastics used and to ensure that reports from Thailand and Ecuador are included in the future.

#### Total packaging materials (tonnes) for goods sold in 2109

|                        | Coldwater    | Warmwater     | Group         |
|------------------------|--------------|---------------|---------------|
| Bulk bags              | 1,366        | 13            | 1,378         |
| Polyethylene bags      | 1,719        | 1,956         | 3,675         |
| Polypropylene bags     | 1,941        | 11,571        | 13,513        |
| <b>Total bags</b>      | <b>5,026</b> | <b>13,540</b> | <b>18,566</b> |
| Miscellaneous Items    | 3,805        | 3,901         | 7,706         |
| <b>Total Packaging</b> | <b>8,831</b> | <b>17,441</b> | <b>26,272</b> |

## 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 similar to 2013 again. Only Scotland is using renewable direct energy for coldwater feeds (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. 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 2019 – Coldwater Feeds

| Energy Type                              | Energy Source | 2015             | 2016           | 2017*            | 2018             | 2019             |
|--|---------------|------------------|----------------|------------------|------------------|------------------|
| Direct Energy (GJ)                       | Non-renewable | 543,107          | 513,956        | 611,277          | 607,450          | 639,819          |
| Direct Energy (GJ)                       | Renewable     | 59,915           | 53,291         | 47,470           | 55,047           | 71,207           |
| Indirect Energy (GJ)                     | Electricity   | 429,772          | 418,316        | 436,810          | 453,949          | 521,485          |
| <b>Total Energy Use (GJ)</b>             |               | <b>1,032,794</b> | <b>985,563</b> | <b>1,095,557</b> | <b>1,116,446</b> | <b>1,232,511</b> |
| Change relative to 2017 (%)              |               | -                | -              | 0                | 1.9              | 12.5             |
| <b>Energy per tonne feed made (GJ/t)</b> |               | <b>0.987</b>     | <b>1.044</b>   | <b>1.109</b>     | <b>1.071</b>     | <b>0.997</b>     |
| Change relative to 2017 (%)              |               |                  |                | 0.00%            | -3.43%           | -10.12%          |

\* 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 | 2015           | 2016           | 2017*          | 2018           | 2019           |
|--|---------------|----------------|----------------|----------------|----------------|----------------|
| Direct Energy (GJ)                       | Non-renewable | 266,630        | 285,586        | 272,840        | 279,149        | 363,119        |
| Direct Energy (GJ)                       | Renewable     | 148,568        | 108,415        | 75,397         | 41,163         | 66,601         |
| Indirect Energy (GJ)                     | Electricity   | 231,959        | 240,880        | 209,504        | 341,355        | 371,802        |
| <b>Total Energy Use (GJ)</b>             |               | <b>647,157</b> | <b>634,881</b> | <b>557,741</b> | <b>661,667</b> | <b>801,522</b> |
| Change relative to 2017 (%)              |               |                |                | 0.00%          | 18.63%         | 43.71%         |
| <b>Energy per tonne feed made (GJ/t)</b> |               | <b>0.883</b>   | <b>0.959</b>   | <b>1.047</b>   | <b>1.180</b>   | <b>1.246</b>   |
| Change relative to 2017 (%)              |               |                |                | 0.00%          | 12.66%         | 18.99%         |

\* 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 tonne feed made is almost stable since 2017.

#### Energy use 2019 – Group Feeds

| Energy Type                              | Energy Source | 2015             | 2016             | 2017*            | 2018             | 2019             |
|--|---------------|------------------|------------------|------------------|------------------|------------------|
| Direct Energy (GJ)                       | Non-renewable | 809,737          | 799,542          | 884,117          | 886,599          | 1,002,938        |
| Direct Energy (GJ)                       | Renewable     | 208,483          | 161,706          | 122,867          | 96,210           | 137,808          |
| Indirect Energy (GJ)                     | Electricity   | 661,730          | 659,196          | 646,313          | 795,304          | 893,287          |
| <b>Total Energy Use (GJ)</b>             |               | <b>1,679,950</b> | <b>1,620,444</b> | <b>1,653,297</b> | <b>1,778,113</b> | <b>2,034,033</b> |
| Change relative to 2017 (%)              |               |                  |                  | 0.00%            | 7.55%            | 23.03%           |
| <b>Energy per tonne feed made (GJ/t)</b> |               | <b>0.944</b>     | <b>1.009</b>     | <b>1.087</b>     | <b>1.109</b>     | <b>1.082</b>     |
| Change relative to 2017 (%)              |               |                  |                  | 0.00%            | 1.99%            | -0.49%           |

\* 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

### Reduction of energy consumption

Last year, we reported on the work of the energy efficiencies team, which was focussing on reducing energy waste, through initiatives such as plugging leaks and improving insulation. Whilst still ensuring these areas, in 2019 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, 2019 saw investment to change from fuel oil to natural gas as the major source of heat. This enabled some energy savings, but also delivered a 14% reduction in GHG emissions. The facility hopes to continue to support this development by sourcing electricity from a supplier guaranteeing renewable sources from January 2020, which will bring an estimated 50% reduction in total emissions for this facility. Continuing work to reduce energy consumption there will also further reduce the Scope 1 and 2 emissions.

### GRI 303-1

#### Water usage

Water is used in the production of feed as part of the cooking process in extrusion and steam pelleting. It is also used in the production of steam, for cooling and for treating some emissions. Monitoring 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 2019, groundwater provided 28% of total water use, 5% came from surface water and the remainder came from municipal supplies.

#### Water use in feed production

|                 | Year | Total Water Use (litres) | Water Use (litres per tonne feed made) |
|-----------------|------|--------------------------|--|
| Coldwater Feeds | 2015 | 502,832,345              | 460                                    |
|                 | 2016 | 471,247,096              | 506                                    |
|                 | 2017 | 493,850,277              | 503                                    |
|                 | 2018 | 444,549,848              | 431                                    |
|                 | 2019 | 500,100,950              | 404                                    |
| Warmwater Feeds | 2019 | 275,803,182              | 448                                    |
| Group Feeds     | 2019 | 775,904,132              | 419                                    |

### 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 Aqua Nutrition. 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 ([www.aib-net.org/facts/european-residual-mix](http://www.aib-net.org/facts/european-residual-mix)). Applying this approach historically, we see a steady use of electricity by our facilities in Norway, but a great rise in associated emissions, which means that we cannot meet our goals using this approach. This transformation has been applied from 2016 onwards, resulting in a large increase in calculated absolute GHG emissions from that date.

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 was applied this year, now using 280gCO<sub>2</sub>/kWh in 2018 (<https://www.aib-net.org/facts/european-residual-mix>). Applying the residual mix approach historically, we see a great rise in emissions from our Norway facilities despite a relatively constant use of electricity, which means that we cannot meet our goals using this approach. We will therefore align our emissions goals with the Cargill corporate approach, whilst also demonstrating our overall energy use reduction. Given the re-calculation of the GHG factors, especially for Norway, meeting our original goals against the 2015 baseline will prove challenging, but we hope to deliver on time and certainly on the 2025 goals against the 2017 baseline.

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

|  | 2015       | 2016       | 2017*      | 2018       | 2019       |
|--|------------|------------|------------|------------|------------|
| Absolute Scope 1&2 GHG emissions (tCO <sub>2</sub> e)                | 68,050,298 | 64,692,844 | 71,845,163 | 73,210,803 | 77,397,792 |
| Absolute scope 1&2 GHG change relative to 2017 (%)                   |            |            | 0.0%       | 1.9%       | 7.7%       |
| Average Scope 1&2 GHG intensity (tCO <sub>2</sub> e/t feed produced) | 0.065      | 0.068      | 0.073      | 0.070      | 0.063      |
| Average Scope 1&2 GHG change relative to 2017 (%)                    |            |            | 0.0%       | -3.4%      | -13.9%     |

\* Indicates baseline year defined by Cargill

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

|  | 2015       | 2016       | 2017*      | 2018       | 2019       |
|--|------------|------------|------------|------------|------------|
| Absolute Scope 1&2 GHG emissions (tCO <sub>2</sub> e)                | 49,176,367 | 52,081,686 | 48,568,086 | 69,348,162 | 76,339,571 |
| Absolute Scope 1&2 GHG change relative to 2017 (%)                   | -          | -          | 0.00%      | 42.79%     | 57.18%     |
| Average Scope 1&2 GHG intensity (tCO <sub>2</sub> e/t feed produced) | 0.067      | 0.079      | 0.091      | 0.124      | 0.119      |
| Average Scope 1&2 GHG change relative to 2017 (%)                    | -          | -          | 0.00%      | 35.60%     | 30.15%     |

\* indicates baseline year defined by Cargill

### CQN 3-83

#### Ecological footprint and carbon footprint – Coldwater Feeds

During 2019 Cargill Aqua Nutrition is in the process of switching the reporting of our Scope 3 emissions and the total feed carbon footprint from the old ecological footprint model which has been used since 2005 to a life cycle assessment (LCA) model. The collection of data for this is not complete at the time of reporting, but will be made in 2020.

The reporting model will follow the European Union's Product Environmental Footprint Category Rules for Feed and will initially be based on consolidated data for the original raw materials and their processing, on a country level where possible. However, we are also engaging with our suppliers to develop primary data with them for our own supply chains, so we can maximise the benefits from our supply chains and work with them to reduce hotspots.

### 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 analysing 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 third year that this full disclosure has been reported, but challenges to get data on the fate of waste remain in Norway and Ecuador (previously discussed in 2018). 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.

Whilst it is good to report that 66% of waste was recycled in 2017, more needs to be done to address this issue, especially with plastic waste.

#### Fate of waste from facilities (tonnes)

|                      | Coldwater* | Warmwater** | Group |
|----------------------|------------|-------------|-------|
| Recycled             | 2,770      | 860         | 3,630 |
| Incinerated          | 0          | 0           | 0     |
| Landfill             | 960        | 840         | 1,800 |
| Hazardous            | 30         | 3           | 33    |
| Total                | 3,760      | 1,700       | 5,460 |
| Percent recycled (%) | 74%        | 51%         | 66%   |

\* Does not include data for Norway (3 mills) as no information could be provided

\*\* Does not include data for Ecuador (1 mill) 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 Aqua Nutrition 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.

### GRI 307-1

#### Fines for non-compliance with environmental safety laws

No fines or sanctions for non-compliance with environmental safety laws were applied to our aqua feed operations in 2019.

### 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 Aqua Nutrition's offerings to customers. Originally developed for 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. 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%       |

#### CQN 3-88

#### Anti-parasitic feed sales – Coldwater Feeds

Previously reported as medicated feeds, this disclosure relates to the proportion of feeds made with medicines to remove parasites, particularly sealice. 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, slight increases were observed in Canada and Scotland in 2019.

#### 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%    |

#### CQN 3-89

#### Antibiotic feed sales – Coldwater Feeds

As with the anti-parasite medicines, antibiotics are only added to Cargill Aqua Nutrition feeds on receipt of a veterinary prescription, detailing the product, dose and quantity of feed required. They are never added prophylactically to our feeds. 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.

But all of Cargill Aqua Nutrition's 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 2019, 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 Aqua Nutrition has not added any critically important antimicrobials for human medicines in feeds we have made.

By only adding antibiotics under veterinary prescription and by developing feeds which promote the health of the animals so reducing the need to use antibiotics, Cargill Aqua Nutrition 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%    |



## 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 Aqua Nutrition 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 2019. 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 Aqua Nutrition factories and offices in 2019

|                | 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 | 1.054          | 77.5%               |
| Coldwater 2019 | 8                 | 19        | 0          | 0.624 | 0.078 | 1.482          | 71.4%               |
| Warmwater 2019 | 7                 | 26        | 0          | 0.234 | 0.069 | 0.870          | 84.0%               |

**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 Aqua Nutrition there were no incidences or risks of child labour reported in 2019 in our own facilities. All facilities have a zero tolerance to child labour 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 labour. 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 labour. In 2019, 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 labour in our supply chains and where necessary audits will be undertaken to ensure that no child labour is used.

### GRI 416-2

#### Non-compliance with food safety

There were no incidents of non-compliance with food safety across Cargill Aqua Nutrition feed facilities in 2019.

### CQN 4-80

#### Whistle blowing

There were ten issues of whistle blowing across Cargill Aqua Nutrition in 2019. Of these 6 were anonymous and in 4 case the whistle blower gave their name. All cases were resolved within 2019.

### CQN 4-81

#### Local community complaints

It is very important to be a good neighbour with the local communities where we operate. We aim for zero complaints over the year, but this is often difficult to achieve. This disclosure shows our performance, which is mainly handled by the operations team. The biggest cause of complaints in 2019 was smell – as for previous years – mainly from the fishmeal and oil which have pungent odours. Complaints were only received at two facilities (43 and 3 respectively) and both reacted: one installing a deodouriser and the other renewing the biofilter material to make it more efficient and eliminating the odours.

#### Overview of causes of local community complaints in 2019

|               | Group Total |
|---------------|-------------|
| Environmental | 0           |
| Noise         | 0           |
| Smell         | 46          |
| Traffic       | 0           |
| Other         | 0           |
| <b>Total</b>  | <b>46</b>   |

### GRI 419-1

#### Fines for non-compliance with social and economic laws and regulations

There were no cases of non-compliances with social or economic laws or regulations across Cargill Aqua Nutrition in 2019.

# Abbreviations

|                |   |
|----------------|---|
| <b>ASC</b>     | Aquaculture Stewardship Council             |
| <b>BAP</b>     | Best Aquaculture Practice                   |
| <b>eFCR</b>    | economic Feed Conversion Ratio              |
| <b>FEFAC</b>   | European Feed Manufacturers' Federation     |
| <b>FFDR</b>    | Forage Fish Dependency Ratio                |
| <b>FFER</b>    | Forage Fish Efficiency Ratio                |
| <b>FFIF</b>    | Forage Fish Inclusion Factor                |
| <b>FIFO</b>    | Fish In Fish Out                            |
| <b>FIP</b>     | Fishery Improvement Programme               |
| <b>GAA</b>     | Global Aquaculture Alliance                 |
| <b>GDST</b>    | Global Dialogue on Seafood Traceability     |
| <b>GHG</b>     | GreenHouse Gases                            |
| <b>GLT</b>     | Group Leadership Team                       |
| <b>GSI</b>     | Global Salmon Initiative                    |
| <b>IFFO RS</b> | Now MarinTrust                              |
| <b>KDE</b>     | Key Data Elements                           |
| <b>LCA</b>     | Life Cycle Assessment                       |
| <b>MODR</b>    | Marine Oil Dependency Ratio                 |
| <b>MPDR</b>    | Marine Protein Dependency Ratio             |
| <b>MSC</b>     | Marine Stewardship Council                  |
| <b>NGO</b>     | Non-Governmental Organisation               |
| <b>RTRS</b>    | RoundTable on Responsible Soy               |
| <b>SBTi</b>    | Science Based Targets initiative            |
| <b>SeaBOS</b>  | Seafood Business for Ocean Stewardship      |
| <b>SSI</b>     | Seafood Stewardship Index                   |
| <b>TAC</b>     | Technical Application Centre                |
| <b>UN</b>      | United Nations                              |
| <b>UN SDG</b>  | United Nations Sustainable Development Goal |
| <b>WBA</b>     | World Benchmarking Alliance                 |
| <b>WWF</b>     | World Wide Fund for Nature                  |

# 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         | <u>1</u>          |                |
| GRI 102             | General Disclosures | 102-02            | Activities, brands, products, and services   | Core         | <u>7</u>          |                |
| GRI 102             | General Disclosures | 102-03            | Location of headquarters   | Core         | <u>Back Cover</u> |                |
| GRI 102             | General Disclosures | 102-04            | Location of operations   | Core         | <u>7, 17</u>      |                |
| GRI 102             | General Disclosures | 102-05            | Ownership and legal form   | Core         | <u>7</u>          |                |
| GRI 102             | General Disclosures | 102-06            | Markets served   | Core         | <u>7</u>          |                |
| GRI 102             | General Disclosures | 102-07            | Scale of the organization  | Core         | <u>28</u>         |                |
| GRI 102             | General Disclosures | 102-08            | Information on employees and other workers   | Core         | <u>28</u>         | <u>6</u>       |
| GRI 102             | General Disclosures | 102-09            | Supply chain   | Core         | <u>13, 30-34</u>  |                |
| GRI 102             | General Disclosures | 102-10            | Significant changes to the organization and its supply chain                           | Core         | <u>28</u>         |                |
| GRI 102             | General Disclosures | 102-11            | Precautionary Principle or approach  | Core         | <u>18</u>         | <u>7</u>       |
| GRI 102             | General Disclosures | 102-12            | External initiatives   | Core         | <u>19</u>         | <u>01.okt</u>  |
| GRI 102             | General Disclosures | 102-13            | Membership of associations   | Core         | <u>26</u>         |                |
| GRI 102             | General Disclosures | 102-14            | Statement from senior decision-maker   | Core         | <u>3</u>          |                |
| GRI 102             | General Disclosures | 102-16            | Values, principles, standards, and norms of behavior                                   | Core         | <u>3, 18</u>      | <u>01.okt</u>  |
| GRI 102             | General Disclosures | 102-18            | Governance structure   | Core         | <u>18</u>         |                |
| GRI 102             | General Disclosures | 102-40            | List of stakeholder groups   | Core         | <u>22-26</u>      |                |
| GRI 102             | General Disclosures | 102-41            | Collective bargaining agreements   | Core         | <u>29</u>         | <u>3</u>       |
| GRI 102             | General Disclosures | 102-42            | Identifying and selecting stakeholders   | Core         | <u>22</u>         |                |
| GRI 102             | General Disclosures | 102-43            | Approach to stakeholder engagement   | Core         | <u>22</u>         |                |
| GRI 102             | General Disclosures | 102-44            | Key topics and concerns raised   | Core         | <u>19, 22-26</u>  |                |
| GRI 102             | General Disclosures | 102-45            | Entities included in the consolidated financial statements                             | Core         | n/a               |                |
| GRI 102             | General Disclosures | 102-46            | Defining report content and topic Boundaries   | Core         | <u>17, 19</u>     |                |
| GRI 102             | General Disclosures | 102-47            | List of material topics  | Core         | <u>19</u>         |                |
| GRI 102             | General Disclosures | 102-48            | Restatements of information  | Core         | <u>17</u>         |                |
| GRI 102             | General Disclosures | 102-49            | Changes in reporting   | Core         | <u>17</u>         |                |
| GRI 102             | General Disclosures | 102-50            | Reporting period   | Core         | <u>17</u>         |                |
| GRI 102             | General Disclosures | 102-51            | Date of most recent report   | Core         | <u>17</u>         |                |
| GRI 102             | General Disclosures | 102-52            | Reporting cycle  | Core         | <u>17</u>         |                |
| GRI 102             | General Disclosures | 102-53            | Contact point for questions regarding the report                                       | Core         | <u>Cover</u>      |                |
| GRI 102             | General Disclosures | 102-54            | Claims of reporting in accordance with the GRI Standards                               | Core         | <u>17</u>         |                |
| GRI 102             | General Disclosures | 102-55            | GRI content index  | Core         | <u>42</u>         |                |
| GRI 102             | General Disclosures | 102-56            | External assurance   | Core         | <u>19</u>         |                |
| GRI 103             | Management Approach | 103-1             | Explanation of the material topic and its Boundary                                     | Core         | <u>19</u>         |                |
| GRI 103             | Management Approach | 103-2             | The management approach and its components   | Core         | <u>18</u>         |                |
| GRI 103             | Management Approach | 103-3             | Evaluation of the management approach  | Core         | <u>18</u>         |                |

## ECONOMIC, ENVIRONMENTAL AND SOCIAL STANDARD DISCLOSURES

| GRI Standard Number | GRI Standard Title             | Disclosure Number | Disclosure Title Individual disclosure items ('a', 'b', 'c', etc.) are not listed here  | Topic Boundary  | Page      | UNGC Principle |
|---------------------|--------------------------------|-------------------|---|-----------------|-----------|----------------|
| GRI 201             | Economic Performance           | 201-1             | Direct economic value generated and distributed   | Local community | <u>30</u> |                |
| GRI 201             | Economic Performance           | 201-4             | Financial assistance received from government   | Internal        | <u>30</u> |                |
| GRI 202             | Market Presence                | 202-1             | Ratios of standard entry level wage by gender compared to local minimum wage  | Local community | <u>30</u> | <u>6</u>       |
| GRI 202             | Market Presence                | 202-2             | Proportion of senior management hired from the local community  | Local community | <u>30</u> | <u>6</u>       |
| GRI 205             | Anti-Corruption                | 205-2             | Communication and training about anti-corruption policies and procedures  | Internal        | <u>30</u> | <u>10</u>      |
| GRI 301             | Materials                      | 301-1             | Materials used by weight or volume  | Upstream        | <u>30</u> | <u>7</u>       |
| GRI 302             | Energy                         | 302-1             | Energy consumption within the organization  | Internal        | <u>37</u> | <u>7</u>       |
| GRI 302             | Energy                         | 302-3             | Energy intensity  | Internal        | <u>37</u> | <u>8</u>       |
| GRI 302             | Energy                         | 302-4             | Reduction of energy consumption   | Internal        | <u>37</u> | <u>9</u>       |
| GRI 303             | Water                          | 303-1             | Water withdrawal by source  | Internal        | <u>38</u> | <u>7</u>       |
| GRI 304             | Biodiversity                   | 304-2             | Significant impacts of activities, products, and services on biodiversity   | Internal        | <u>38</u> | <u>8</u>       |
| GRI 305             | Emissions                      | 305-1             | Direct (scope 1) GHG emissions  | Internal        | <u>38</u> | <u>7</u>       |
| GRI 305             | Emissions                      | 305-2             | Energy indirect (scope 2) GHG emissions   | Upstream        | <u>38</u> | <u>7</u>       |
| GRI 305             | Emissions                      | 305-4             | GHG emissions intensity   | Internal        | <u>38</u> | <u>8</u>       |
| GRI 306             | Effluents and waste            | 306-2             | Waste by type and disposal method   | Internal        | <u>39</u> | <u>7</u>       |
| GRI 307             | Environmental Compliance       | 307-1             | Non-compliance with environmental laws and regulations  | Internal        | <u>39</u> | <u>8</u>       |
| 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        | <u>41</u> |                |
| GRI 408             | Child Labor                    | 408-1             | Operations and suppliers at significant risk for incidents of child labor   | Internal        | <u>41</u> | <u>5</u>       |
| GRI 416             | Customer Health and Safety     | 416-2             | Incidents of non-compliance concerning the health and safety impacts of products and services                                 | Internal        | <u>41</u> |                |
| GRI 419-1           | Socioeconomic Compliance       | 419-1             | Non-compliance with laws and regulations in the social and economic area  | Internal        | <u>41</u> | <u>1</u>       |

## CUSTOMIZED DISCLOSURES

|            |          |  |  |                 |           |               |
|------------|----------|--|--|-----------------|-----------|---------------|
| Customized | CQN 1-80 |  | Management standards                   | Internal        | <u>29</u> | <u>7</u>      |
| Customized | CQN 1-81 |  | Supply chain auditing                  | Internal        | <u>29</u> | <u>2</u>      |
| Customized | CQN 1-82 |  | Fines and sanctions for non-compliance | Internal        | <u>30</u> |               |
| Customized | CQN 3-80 |  | Marine index                           | Upstream        | <u>35</u> | <u>7</u>      |
| Customized | CQN 3-83 |  | Ex-work ecological footprint           | Internal        | <u>39</u> | <u>8</u>      |
| Customized | CQN 3-85 |  | Mitigation of environmental impacts    | Internal        | <u>39</u> | <u>8</u>      |
| Customized | CQN 3-87 |  | Health feed sales                      | Downstream      | <u>39</u> | <u>9</u>      |
| Customized | CQN 3-88 |  | Anti-parasitic feed sales              | Downstream      | <u>40</u> | <u>9</u>      |
| Customized | CQN 3-89 |  | Antibiotic feed sales                  | Downstream      | <u>40</u> | <u>9</u>      |
| Customized | CQN 3-90 |  | Plant index                            | Upstream        | <u>36</u> | <u>7</u>      |
| Customized | CQN 4-80 |  | Whistle blowing incidents              | Internal        | <u>41</u> | <u>01.okt</u> |
| Customized | CQN 4-81 |  | Local community complaints             | Local Community | <u>41</u> | <u>1</u>      |



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### Abbreviations

|                |  |
|----------------|--|
| <b>ASC</b>     | Aquaculture Stewardship Council  |
| <b>BAP</b>     | Best Aquaculture Practices   |
| <b>eFCR</b>    | economic Feed Conversion Ratio   |
| <b>GHG</b>     | Greenhouse Gas   |
| <b>GSI</b>     | Global Salmon Initiative   |
| <b>IFFO RS</b> | The Marine Ingredients Organization<br>Global Standard for Responsible<br>Supply |
| <b>ILO</b>     | International Labour Organisation  |
| <b>MSC</b>     | Marine Stewardship Council   |
| <b>RIFR</b>    | Reportable Injury Frequency Rate   |
| <b>RTRS</b>    | Roundtable for Responsible Soy   |
| <b>SBTi</b>    | Science Based Targets initiative   |
| <b>SDG</b>     | Sustainable Development Goal   |
| <b>SeaBOS</b>  | Seafood Business for Ocean<br>Stewardship  |
| <b>SIFR</b>    | Severe Injury Frequency Rate   |
| <b>TAC</b>     | Technical Application Centre   |