Cargill Aqua Nutrition Sustainability Report 2018

Healthy seafood for future generations

Cargill® Helping the world *thrive*

ABOUT US

Cargill Aqua Nutrition is a world leader in aquaculture feed and nutrition. To deliver on our promise of healthy seafood for future generations, we commit to support the sustainable growth of the global aquaculture industry by enabling better seafood and helping farmers succeed.

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Healthy Seafood for Future Generations

We work hard to be close to our suppliers and customers; providing transparency on how we produce feeds that meet the needs of fish, farmers and consumers; helping sustain the communities and planet we call home.

This report marks our tenth year reporting on Cargill's salmon feed production. We saw significant changes to global aquaculture during this last decade, but the common thread has been the increasing focus on sustainable seafood. At Cargill, we never stop pursuing the tools that help produce the most sustainable seafood possible. We're proud of this work, but we also know sustainability works best through collaboration. Through partnerships like Seafood Business for Ocean Stewardship (SeaBOS) and Global Salmon Initiative (GSI), we work with customers, suppliers, industry partners, and even our competitors, to keep advancing sustainability in our industry.

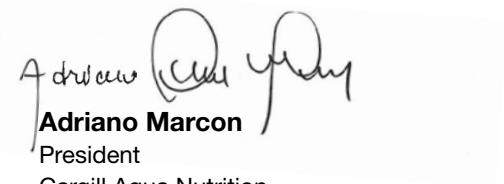
Sustainable feeds start with sourcing responsible raw materials. Through continued work with suppliers we now source more sustainable marine materials than ever before. We are making tremendous progress toward our 2025 target of 100% Marine Stewardship Council (MSC)-certified marine ingredients, with 2017–18 showing 43% MSC certified marine ingredients globally and 65% MSC-certified marine ingredients in Norway and Scotland. We are applying similar work on terrestrial ingredients and partnering with suppliers on scaling up production of new raw materials coming into our supply chain.

Sustainability is also about helping our customers be as productive as possible. We start with young fish nutrition, building stronger fish through feed that provides highly available nutrients, minimises waste to the environment and maximises performance. Our sustainable feeds also deliver healthy, thriving growth across the range of farming environments. And our digital tools, especially myEWOS, enable us to be closer than ever to customers' needs to continue to improve performance.

The greatest challenge to aquaculture's global growth is fish health and welfare. Our health feeds help customers meet this challenge. The latest addition, EWOS® Dermic, has already made a big impact, enabling fish to recover quickly and get back to healthy growth.

Our success is built on our business culture. Safety is always our focus and we strive to improve our inclusion and diversity across our team. We are proud to have more women in leadership than ever. We believe that welcoming diversity of thoughts will help us solve complex problems more efficiently. We are never satisfied – we never stop looking for solutions to the industry's biggest challenges. I look forward to what the next 10 years will bring, because together we will drive the changes to deliver sustainable growth of global aquaculture long into the future.

We are never satisfied – we never stop looking for solutions to the industry's biggest challenges.



Adriano Marcon
President
Cargill Aqua Nutrition

Healthy Seafood for Future Generations

In order to feed a world population of 10 billion by 2050, we need to intensify food production while maintaining ecosystems and keeping within planetary boundaries. Here's how we contribute through our salmon feed operations.

Nutritional knowledge to supply fish needs from a broad raw material basket

>$10M

More than $10 million spent on internal R&D each year

Feeds for needs to support fish health and welfare, and help farmers achieve success, sustainably

18.3%

Feeds to promote health for specific or generic challenges, without medicines, accounted for 18.3% of feed sales

Digital solutions putting the power of big data in the hands for farmers for more efficient production

1M

We delivered around one million tonnes of salmonid feed to customers worldwide

Nutritious seafood rich in valuable protein, essential fatty acids, minerals and vitamins

32.3%

32.3% of our marine ingredients were sourced from trimmings **and fishery waste**

Responsible sourcing of raw materials, partnering to ensure sustainable supplies

100%

100% of soy used in Norway and Scotland was certified ProTerra

5.6%

Compared to 2017, GHG emissions were reduced by 5.6% per tonne feed made and freshwater used to make the feed was reduced by 14.8%

Innovative technologies and efficient production to deliver quality feeds with the least possible environmental footprint

Strategic collaborations to advance sustainable production practices across the industry

Raising what's possible

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 to produce more while using less and to stay competitive in a fast-changing marketplace.

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 sustainable fisheries and increase resource efficiencies of farmed fish.

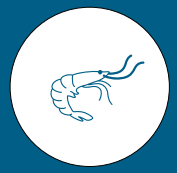
We partner with a range of stakeholders to drive best practices in aquaculture.

Our Products and Solutions

Salmon and shrimp feeds represent the largest share of our production by volume, but we supply feeds for over 30 aquacultured species in total.

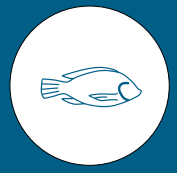
Salmon

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



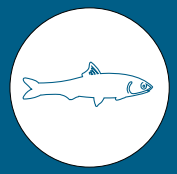
Shrimp

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.

Meeting global market needs locally

Cargill Aqua Nutrition is a world leader in aquaculture feed and nutrition. To deliver on our promise of healthy seafood for future generations, we commit to support the sustainable growth of the global aquaculture industry.

Cargill Aqua Nutrition operates within Cargill, a privately owned company which provides food, agriculture, financial and industrial products and services to the world. Together with farmers, customers, governments and communities, we help people thrive by applying our insights and 150 years of experience. Cargill has 150,000 employees in 70 countries who are committed to feeding the world in a responsible way, reducing environmental impact and improving the communities where we live and work.

Cargill Aqua Nutrition aims to support the required growth of global seafood consumption through sustainable aquaculture and to create new opportunities for customers, suppliers and employees. We do this through our global coverage, building on our nutritional core to be closer to the farmers' needs. This delivers performance, well-being and sustainability for the farmer and the consumer.

Starting with young animal nutrition to give a good start to life, we support thriving growth through health technologies and the use of big data to drive more efficient use of our feeds. By being close to the farmers in every locality we serve, we deliver the nutrition they need for their success.

Our Product Brands

We offer a wide portfolio of solutions for aquaculture. You may know us by some of the these brands.

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®

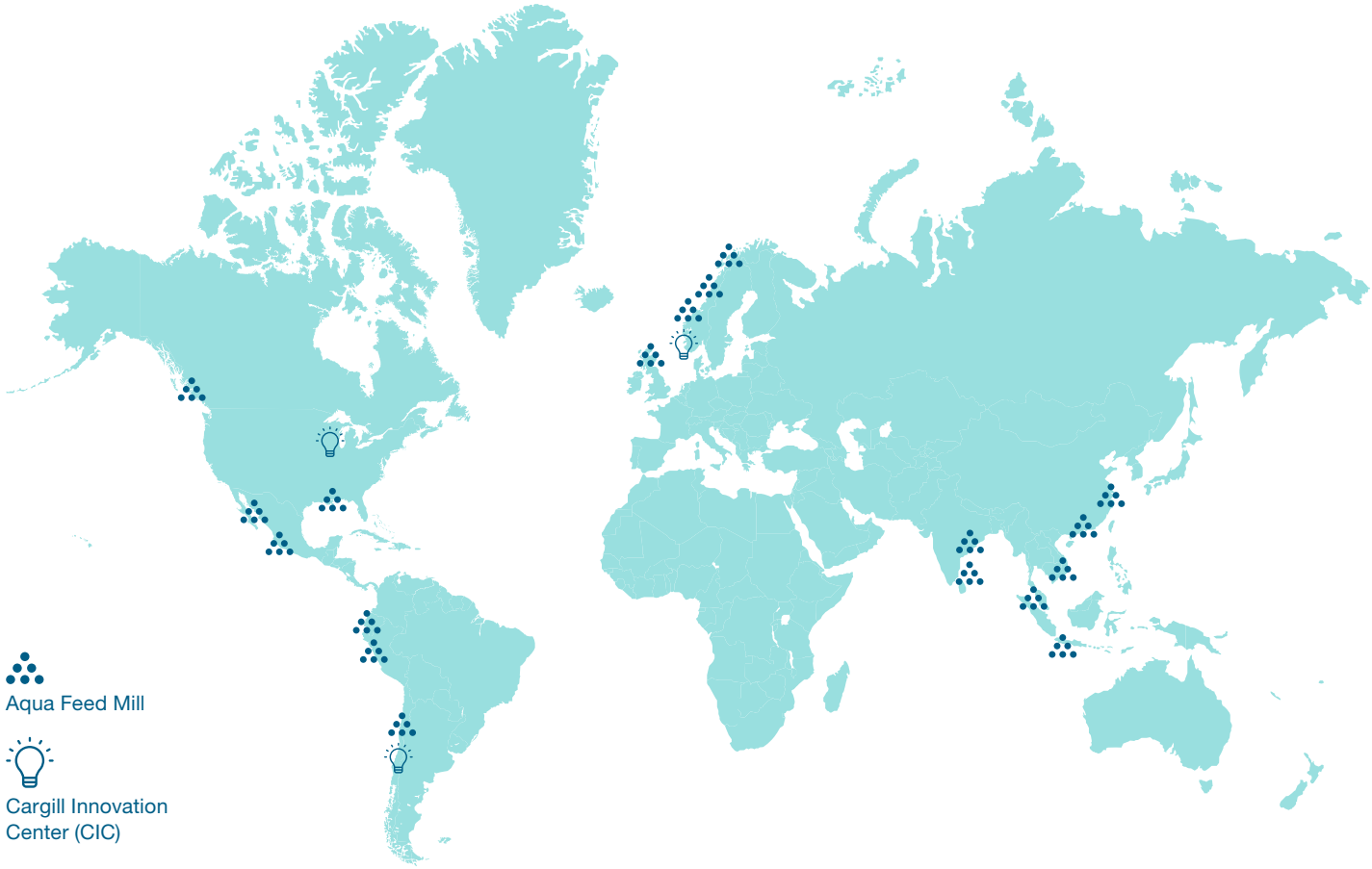
The Purina® brand calls on more than 100 years of experience to provide a full program of easily digestible, high energy nutrition for shrimp and fish.

AQUAXCEL™

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

Where we are

We have a global reach, with a total of 40 facilities in 20 countries – and 20 of our facilities are dedicated to aqua feed production. We operate regional businesses in Chile, North Sea, North America, northern Latin America and Asia.



Aqua Feed Mill

Cargill Innovation Center (CIC)

WHERE WE PLACE THE BAR

We support best practices in aquaculture through certification to three main seafood producers' programs, according to local market needs.

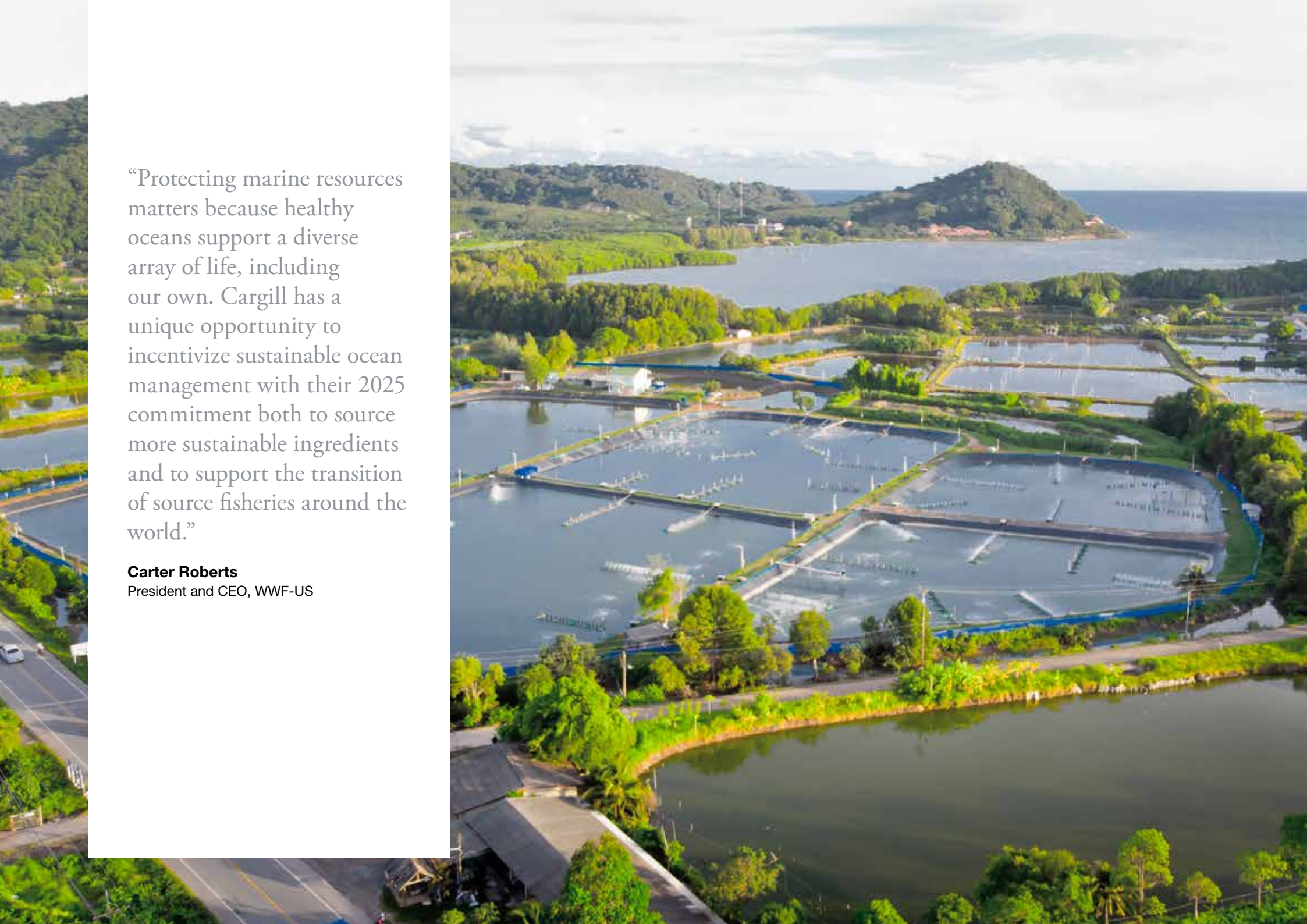
GLOBALG.A.P (Good Agricultural Practice)
We apply the GLOBALG.A.P. Compound Feed Manufacturing Standard (CFM) to meet needs of GLOBALG.A.P.-certified producers.

Best Aquaculture Practices (BAP)
We supply BAP-certified feed and participate in the feed standard development proces

Aquaculture Stewardship Council (ASC)
We supply feed to ASC-certified producers on request and participate in the development of the ASC feed standards.

“Protecting marine resources matters because healthy oceans support a diverse array of life, including our own. Cargill has a unique opportunity to incentivize sustainable ocean management with their 2025 commitment both to source more sustainable ingredients and to support the transition of source fisheries around the world.”

Carter Roberts
President and CEO, WWF-US



Enabling healthy seafood

Our aim to is support the aquaculture industry in the transformation towards more sustainable seafood production. We do so by providing innovative solutions that meet changing consumer values and help to protect the planet.

Aquaculture is a highly efficient way of producing nutritious food. Naturally high conversion rates of feed to seafood have been improved over the last two decades. Nevertheless, industry has an opportunity to meet consumer demands for more information about the food that they eat. As a major feed producer, we are mindful that our decisions affect the sustainability of the value chain and take steps to reduce the footprint even further.

This all starts with the feed raw materials and their origins. We work continuously with our suppliers to develop more sustainable sources of marine and plant-based raw materials, and we engage in projects and research to add novel ingredients into the mix. In 2018, we continued collaborations with our suppliers to achieve IFFO RS certifications for factories and MSC certifications for fishery sustainability. We also engaged in fishery improvement projects in Peru and worked with WWF on a major project to assess our sourcing of marine ingredients and identify areas for improvement (see sidebar).

The project with WWF also includes a transparency dimension, as we investigate ways to capture and track data to better assess the sustainability status of the marine raw materials we use. We are committed to transparency in our value chain and engaged with our suppliers and customers throughout 2018 to explore opportunities for real-time transparency through Blockchain and similar technologies. Through this work and our support for industry-wide voluntary standards emerging from the Global Dialogue on Seafood Traceability (GDST) we will better empower progress towards full traceability and transparency of aquaculture nutrition products.[1] We aim to ensure our aquaculture products provide the sustainability insights necessary to earn the trust of consumers globally.

2018 SALMON PERFORMANCE

27.6%

MARINE INGREDIENTS

In 2018, 27.6% of the ingredients in the salmon feeds we sold were from marine ingredients, down from 30.7% in 2017.

89.6%

IFFO RS CERTIFIED

In 2018, 89.6% of the total marine ingredients we sourced came from IFFO RS certified factories. Our goal was 100%, but in 2018 we also used some materials from improvers' programs to IFFO RS.

32.3%

TRIMMINGS

Trimmings and fishery waste provided 32.3% of the marine meal and oil we used across our salmon feeds in 2018, similar to 2017.

[1] https://keystonedialogues.earth/wp-content/uploads/2017/07/Statement_2_10signatures.pdf - page 2, paragraph 2

Working with the WWF

CHALLENGE

To some, using fishmeal and oil sourced from wild fish to feed seafood is a paradox. However, by ensuring the stocks of the wild species we use in feed are carefully managed, we can help to preserve these excellent sources of protein, fatty acids and other nutrients.

SOLUTION

In June 2018, we started a global initiative with WWF to learn more about the sustainability of the wild fish stocks we source from and how they are managed. The initiative includes a review of our global 2017 sourcing of fishmeal and oil against our public commitment to sourcing more sustainable marine ingredients.

RESULTS

The initiative showed that in Scotland and Norway combined, we are already sourcing 65% of our total marine ingredients from MSC-certified fisheries, according to figures from 2017 and 2018. Globally, we are at 43%. Our 2025 goal is that all marine ingredients should come from MSC-certified fisheries, and we hope to continue our collaboration with WWF in pursuit of this goal.

Fjord friendly distribution

CHALLENGE
In Norway, different vessels carrying feed from competing feed companies are sailing alongside each other, often underutilizing cargo capacity and sacrificing efficiency and emitting more GHG gases.

SOLUTION
Competitors Cargill and Skretting have joined forces to ship feed from both companies by the same vessels in Norway. The collaboration is named Fjordfrende – meaning 'fjord friend' in Norwegian – and will create a more efficient distribution system by avoiding parallel sailing and increasing the utilization rate of cargo capacity.

RESULTS
The Fjordfrende project will reduce emissions of greenhouse gases per tonne of fish feed transported by 20 percent, equivalent to removing 7,500 cars from the road each year. Over time, the project will increase service levels for salmon farmers and form a better basis for innovation and development.

Certified soy

Many consumers express concerns regarding the land use and forest protection practices in the soy industry. In 2018, our operations in Norway and Scotland were fully supplied with soy ingredients from ProTerra-certified suppliers: soy grown on farms in Brazil which underwent land conversion before 2004. We are committed to sourcing all soy products from responsible supply chains audited to ProTerra or other schemes benchmarked to the FEFAC soy sourcing guidelines.
To learn more about Cargill's commitment to ending deforestation, see *cargill.com/sustainability/deforestation*

Policy for plastic

Ocean microplastics are rightly a growing concern. We are developing policies on marine plastic with our suppliers. The forage fisheries we source from are mainly based on purse seining or trawling, which respectively involve low and low to medium risk of ghost gear. Ghost gear can be a major source of marine plastics, so we are engaging our supply chain to improve their practices, despite the low risk, helping to keep the oceans clean. We are also looking at solutions for packaging our feeds, which remains our major use of plastic internally.

RECAPTURING NUTRIENTS

31.8%

BY-PRODUCTS IN SALMON FEED

Production of food creates many by-products which are full of nutrients, but may get lost from the food chain. Recapturing these is a core part of SDG12.3.
In 2018, 31.8% of the materials used in our salmon feeds globally were from by-products such as these. Focus has been on trimmings from fish for direct human consumption and plant by-products. In Chile and Canada the well controlled use of animal by-products utilises more by-products than poor consumer perception enables in Europe.

Partnerships and certifications

Progressing together

We want to raise the bar for performance and forge new paths to sustainability by collaborating with others across and outside the aquaculture industry.

Everyone in aquaculture wants to nourish the world in a sustainable way, but no one can do it on their own. The industry faces a number of challenges that only collaborative efforts can solve. To this end, we work with a diverse range of stakeholders and engage in several initiatives to sustainably transform the industry and food systems.

Within the industry we have worked with our customers to promote sustainable feeds, particularly through the Global Salmon Initiative as well as through direct discussions and sharing data with customers. We have also worked precompetitively with our competitors to develop sustainable feed standards through ASC and BAP, as well as on projects such as the feed logistics solution in Norway and the Fishery Improvement Program (FIP) in Peru. Examples of broader stakeholder engagements are shown to the right.

Feed trade associations

By working with associations, such as FEFAC and IFIF, we are able to hear about concerns and potential solutions sooner, so we can apply that knowledge internally.
fefac.eu
ifif.org

IFFO – The Marine Ingredients Organisation

We are a member of IFFO, which encourages members to engage in more sustainable fisheries and has developed a set of standards to demonstrate this.
iffo.net

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
oceandisclosureproject.org

NGOs

Cargill has a top to top level relationship with leading NGOs, such as the World Wildlife Fund and The Nature Conservancy. Through such relations, we achieve greater transparency and better prioritization of change in our value chains.
wwf.panda.org
nature.org

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

Food Reform for Sustainability and Health (FReSH)

Cargill has participated actively, showing our developments and bringing information back to our own operations.
wbcsd.org/Projects/FReSH

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

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

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

"The importance of feed to our success is abundantly manifest in our brand attributes: sustainability, healthfulness and taste. We are pleased to collaborate with Cargill to demonstrate the benefits of offshore aquaculture."

Neil Sims
Co-founder and CSO of the Kampachi Company and a Cargill customer

The Kampachi Company is an offshore producer of the marine fish Seriola rivoliana, also known as Kampachi or Almaco jack. Based in La Paz in Baja California Sur, Mexico the Kampachi Company aims to to become the world's most consistent, highest-quality producer of this fish.

www.kingkampachi.mx

Helping farmers succeed

We work alongside farmers, bringing nutritional excellence to power their performance and help them succeed. Balanced nutrition and resource efficiency, fish health and welfare, and food safety are always priorities.

Cargill focuses on helping farmers succeed, and this starts with nutrition. Optimal nutrition is key for fish welfare and helps the fish deliver thriving growth and fight off diseases. Thanks to our nutritional expertise and innovative technologies, we can tailor formulations to individual species and local conditions and adapt to using local raw materials where possible. Our nutrition team works closely with local teams to support farmers and bring forward knowledge and best practices.

Cargill is constantly researching the balance of nutrients needed at different life stages for mainstream and developing species. These activities are centered around our Cargill Innovation Centers, and new solutions are tested in local Technical Application Centers to ensure that they perform in the field. Our focus on nutritional requirements is closely tied to our constant pursuit of sustainable raw materials. We have successfully reduced our dependence on marine raw materials – fishmeal and oil – in recent years but are mindful to ensure that key nutrients found in marine raw materials are delivered through other sources.

In addition to core nutrition, every pellet a fish eats is a chance for the farmer to administer additives that can help the fish cope with stress or disease – without resorting to medication. Our wide range of health feeds reflects our commitment to working alongside customers to understand the issues they face and help to solve them. One such solution is EWOS Dermic (see right), which we launched in 2018. Our health feeds, as part of integrated health management programs, have already played a major part in almost eliminating the use of antibiotics in salmon farming in Norway and Scotland.

2018 PERFORMANCE

1.33

FEED CONVERSION RATIO

The average economic feed conversion ratio (eFCR) for salmon was 1.33, up from 1.23 in 2017, based on results from selected customers over the year.

1.1%

ANTI-PARASITIC FEEDS

Sales of anti-parasitc feeds decreased from 1.7% in 2017 to 1.1% in 2018. This was mainly driven by the switch to physical treatments for sealice removal.

97.8%

FEED ANTIBIOTIC FREE

Just 2.2% of total salmon feeds sold in 2018 contained antibiotics, down from 6.4% in 2017. All such feeds were made only on receipt of veterinary prescriptions. Norway was free from antibiotics again and Scotland almost free, reflecting the success of integrated health management, including health feeds. Chile, which faces more bacterial diseases for salmon, showed a drop of antibiotic sales of almost one third, reflecting better fish health for our customers.

EWOS® Dermic – first aid for fish welfare

CHALLENGE

Good husbandry procedures require regular handling of the fish. However, such handling can cause skin abrasions and expose fish to disease and cause loss of quality. This is a growing concern among salmon farmers due to the increased use of mechanical treatments for sea lice.

SOLUTION

Cargill's research team drew on 15 years of trial results to develop a new dietary package that supports skin health and integrity through nutrition. The new solution is called EWOS® Dermic and enables the fish to recover quickly from skin damage.

RESULTS

Since its launch in 2018, EWOS® Dermic has already been put to use by most of our customers in Norway and Scotland. Customers are seeing rapid repair of skin damage and fewer downgraded fish at harvest. Trials indicate that the fish recover their appetites faster after handling, returning to their healthy growth patterns.

Extruded shrimp feed – a gamechanger

CHALLENGE
Shrimp farms are transitioning to more sustainable practices. As automatic feeders and higher stocking densities are becoming widespread, new feed solutions must follow to help farmers grow more shrimp, more efficiently.

SOLUTION
Cargill's innovation team is developing feed that meets the needs of new practices, based on our expertise in extruded feed. While most of the shrimp industry today uses pelleted feed, extruded feed provides better quality and nutrient availability to unlock productivity improvements.

RESULTS
Extruded feed works well with automatic feeders and better provides the nutrients shrimp need when growing in more intense stocking – resulting in higher growth and productivity. Furthermore, the use of extruded feed results in less feed waste in ponds, meaning less water pollution, higher feed efficiency and growth. In 2018, after our $70 million investment, Cargill opened the world's most modern shrimp feed plant in Ecuador, which produces AQUAXCEL™ extruded shrimp feed.

myEWOS connects farmers and big data

Accurate and available data means everything, both to our customers and to us. That's why we have developed the myEWOS platform. MyEWOS is a flexible digital platform which enables us to build and deploy data or digital services for our customers, whatever the nature of the solution. Examples of this would be new ways to assist customers in planning of their production strategy and monitor as well as compare farm performance, or fish quality.

Customer data is stored in our SeaCloud database, which allows accurate analyses and feed recommendations based on big data from the production over 1.5 bn salmon. The myEWOS platform and SeaCloud are also key in developing new green solutions such as the ongoing work to deliver feed with a lower carbon footprint due to sensor & machine based optimizations of the supply chain.

Healthy gut, healthy fish

By acquiring Diamond V and entering a partnership with Delacon, Cargill has significantly strengthened its capabilities in micro nutrition. One key research are research area is enzymes in the gut of the fish, which supports more efficient digestion of raw materials and release of key nutrients for growth. Enzymes are particularly efficient in warm water species and will help to improve the feed conversion ratio of these fish globally. A healthy gut will also help keep the fish healthier in general and reduce losses of nitrogen (N) and phosphorus (P) to water.

Better nutrient management

Nitrogen (N) and phosphorus (P) are essential nutrients in food production. However, these nutrients must be carefully managed to deliver sustainable farming, as N and P losses to water can add to eutrophication, affect the environment in and around aquaculture installations or causes issues in increasingly popular recirculating aquaculture systems (RAS). This has spurred Cargill to find solutions to better manage N and P in aquaculture, focusing on the nutritional needs of different species and helping farmers to meet legislation on N and P discharges. Our aim is to help farmers make the best possible use of the total N and P in their feeds while minimizing impacts on local river and marine environments.

Going Home Safely Every Day

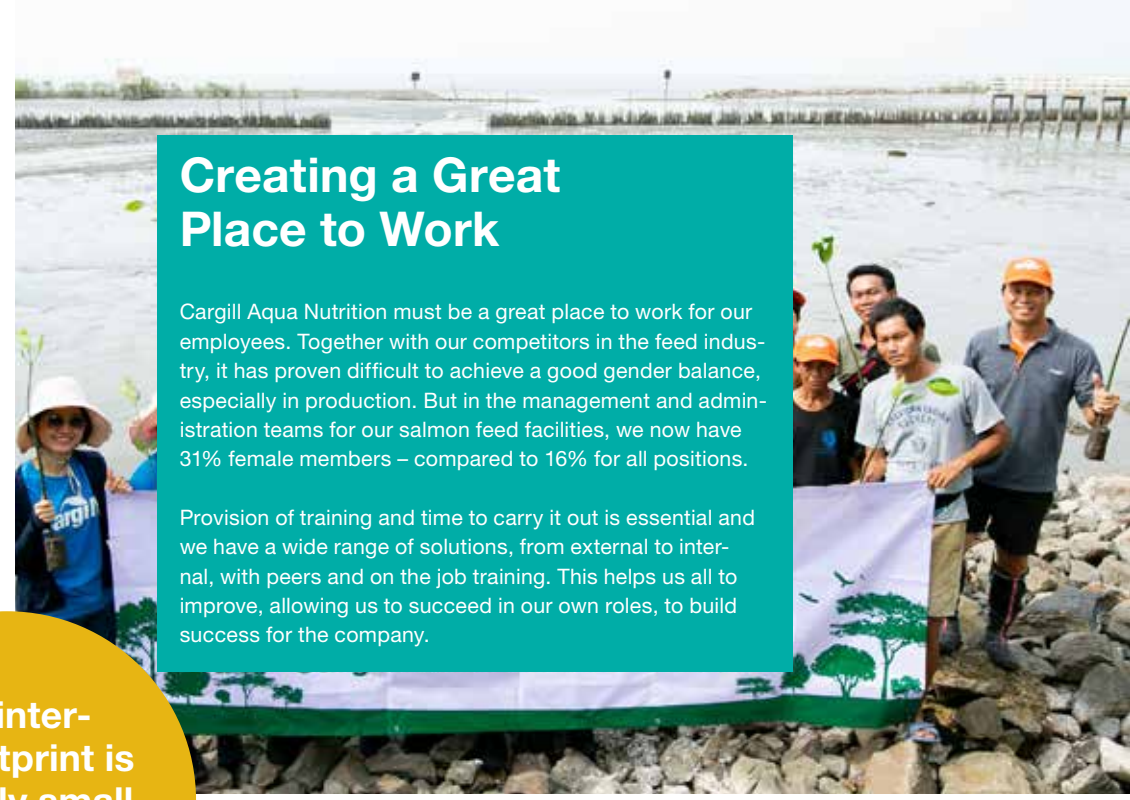
Safety remains Cargill's priority. Every Day we work to ensure that everyone goes home safely. Actions to reduce incidents in 2018 enabled us to show injury rates of 0.33 RIFR and 0.13 SIFR across the whole of CQN–1.00 and 0.17 respectively for our salmon facilities. Our Guayaquil plant in Ecuador was completed with no serious injuries, following close collaboration between Cargill and our suppliers to implement our safety focus throughout construction.

We can always do more to improve safety in the production and office environments and especially during travel, as road safety poses an increasing threat. Regular meetings and training is held for all employees, with a focus on identifying and reducing hazards.

Creating a Great Place to Work

Cargill Aqua Nutrition must be a great place to work for our employees. Together with our competitors in the feed industry, it has proven difficult to achieve a good gender balance, especially in production. But in the management and administration teams for our salmon feed facilities, we now have 31% female members – compared to 16% for all positions.

Provision of training and time to carry it out is essential and we have a wide range of solutions, from external to internal, with peers and on the job training. This helps us all to improve, allowing us to succeed in our own roles, to build success for the company.



Our internal footprint is relatively small, but we work hard to reduce it

Improving Factory Performance

Our factory environmental footprint is relatively small compared to that of our raw materials, but it is completely within our control. We have a continuous focus to reduce energy and water use as well as waste output. In 2018, we actually saw a slight increase in total energy, but due to changes in the energy types used, we demonstrated a reduction of greenhouse gases emitted per tonne of feed made of 5.6% (a total reduction of 0.34%) compared to 2017.

At the same time we reduced our total factory freshwater consumption by nearly 11% compared to 2017, or 14.8% less water per tonne of feed produced.

Being a Good Neighbour

Having the support of local communities for our activities and aquaculture in general is an essential part of maintaining a sustainable industry. Our operations can have an impact on our neighbours, but we work to minimise that and resolve complaints. Beyond that, we work in several countries with local schools, to build new facilities or repair existing ones. As an example, in 2018 we worked with 5 schools in Honduras with FUNDESUR, a foundation for the development of southern Honduras based on shrimp industry revenues. Chile has also launched their first Community Enrichment Report, focusing on education, economic development, and environment and the community.

thrive™

Cargill Aqua Nutrition Performance GRI Data Report

2018

Cargill® Helping the world thrive

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 2018 is focussed on our salmon feed production units from January to December 2018. These facilities focus on supporting our customers in Canada, Chile, Norway and Scotland, but also have some export sales.

Cargill Aqua Nutrition operations are carried out across 40 facilities in 20 countries, however, only 20 of these facilities are dedicated to aquafeed production: the remainder are primarily livestock feed or premix production sites, which make some aqua feed to serve local customers. As the resources for the latter sites are mixed, it is not possible to separate out the required reporting for the aquafeed. Therefore, reporting is focused on the dedicated facilities. Of these 20, Guayaquil in Ecuador was under construction and only commenced commercial operation in late 2018. This meant that production data for 19 factories was collected for the calendar year of 2018.

It had been hoped to build on last year's report across all of Cargill Aqua Nutrition, but it was not possible to get sufficient data to make a comprehensive report. Data is still building for many of the facilities and it made no sense to report incomplete data sets.

This is the tenth annual report for the salmon feed operations (previously as Cermaq and EWOS). As such, historical trends are shown and discussed in more detail for the salmon feed operations.

Reporting facilities in each country after their classifications

Classification	Country	Facility
Salmon	Canada	Surrey
	Chile	Coronel
	Norway	Bergneset
		Florø
		Halsa
	Scotland	Westfield

How we manage sustainability

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 Group 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 Manager 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.

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

We believe strongly in engaging employees and promoting responsible behaviour from each and every one. Cargill's Guiding Principles bring sustainability into everyday business. In 2019 we see 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 co-ordinate 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 co-ordination and knowledge sharing across the group. These teams operate in areas such as raw material sourcing; factory operations; formulation; human resources; sales and marketing; and technology implementation. This structure allows global and local goals to be set where appropriate, as well as monitoring performance for the broader set of topics. More details on how individual topics are managed and where topic boundaries are set are provided in the report.

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

The performance of Cargill Aqua Nutrition on sustainability issues is reported through its leadership team to Cargill Animal Nutrition and from there to the leadership team for Cargill. The corporate leadership team created a corporate Sustainability 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, who sits in the corporate leadership team. This creates a double line of reporting to corporate leadership – through the Sustainability Hub and through businesses themselves.

Material Topics

Cargill corporately increased its open engagement in sustainability in 2017. A central sustainability hub was established to drive key themes and enable information sharing across the corporation. Six key corporate themes are now highlighted: climate change, water, land used, farmer livelihoods, food security and nutrition. But the hub engages with other topics as well, whilst further into the organisation, businesses work 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 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.

Monitoring and Reporting

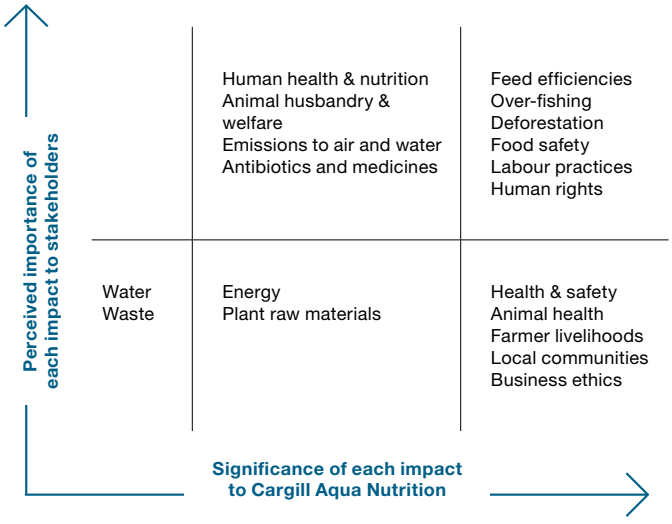
Sustainability reporting against our material topics is currently carried out internally on a monthly, quarterly or annual basis, depending on the topic and data types, across all our operational facilities. External reporting is annual, through our Sustainability Report, based on these data.

In 2019, we will shut our Chiclayo facility in Peru and will therefore aim to report on our 19 dedicated aquaculture facilities in full. However, for 2018 we only report on our salmon facilities as explained previously.

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

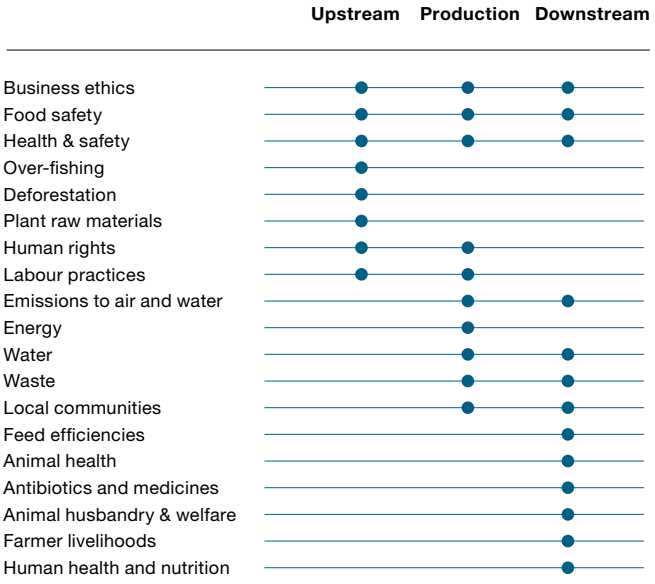
CARGILL AQUA NUTRITION MATERIALITY MATRIX 2018

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. The topics arise at various points in our value chain, which can make them challenging to manage directly.



WHERE OUR MAIN IMPACTS OCCUR

The matrix below indicates where the main impacts from our material sustainability topics occur in our value chain, from supplies of raw materials (Upstream), through our mills and operations (Production) and to end use at farming facilities through the fish to the ultimate consumer (Downstream).

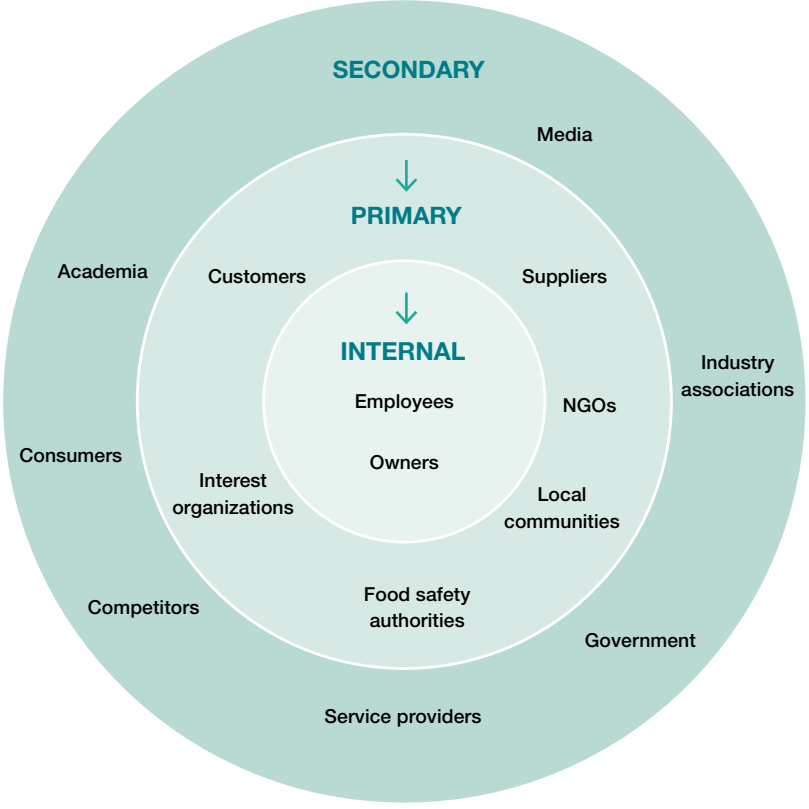


How we work with our stakeholders

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: https://www.cargill.com/sustainability/aquaculture/our-stakeholders

Some examples of the range of key stakeholder engagements carried out in 2018 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. 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.

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. 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. We look forward to continuing this in 2019, working with our suppliers to communicate more information to help with the transparency of what we purchase and to develop more sustainable fishing practices where applicable. 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.

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 if 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.

Food industries in general came under a lot of scrutiny in 2018, around the raw materials used and the environmental and social footprints. Soy and deforestation rose in prominence and later in the year there was an increased interest in carbon footprint of food, in expectation of the EAT Lancet report which was eventually released in January 2019. In advance of the EAT Lancet report, we worked with business peers and competitors through the Food Reform for Sustainability and Health (FReSH) program set up by the World Business Council for Sustainable Development (WBCSD). This gave us a broad ranging view across many food supply chains and allowed us to communicate on the work that the feed industry has done to support more sustainable farming on land and in water. This in part influenced the Eat Lancet Commission to include aquaculture in their report, where it was presented as a potentially sustainable and healthy option.

Reports on soy and deforestation concerns pushed this issue up the agenda and we worked with our customers throughout 2018 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 suppliers, 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.

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

Concerns about contaminants in food continue and have focused on microplastics during 2018. 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. 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.

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.

Our Goals

In our annual Sustainability Report for 2017, we laid out our core goals for Cargill Aqua Nutrition:

- By 2020 reduce relative GHG Scope 1 and 2 emissions by 20% against a 2015 baseline
- By 2020 source all soy products from supply chains meeting FEFAC benchmarked certifications
- By 2020 source palm oil products only from suppliers certified to RSPO or equivalent
- By 2020 source all marine ingredients from IFFO RS certified factories
- By 2025 only source marine ingredients from MSC certified fisheries

This report will show how we are moving towards those goals. However, since that time Cargill has also corporately made a commitment to reduce absolute GHG emissions in our operations by a minimum of 10 percent by 2025 against a 2017. This will be done using GHG factors based on the residual mix for electricity consumption, since our electricity consumption is not supported by a Guarantee of Origin from our suppliers. The residual mix takes into account where electricity is produced and how, reflecting the international trade in power. This has a huge impact on our production facilities in Norway, where the national production mix is 11gCO_2/kWh but the residual mix is 499gCO2/kWh in 2018 (https://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. We will therefore align our emissions goals with the Cargill corporate approach, whilst also demonstrating our overall energy use reduction.

External Assurance

Cargill Aqua Nutrition has chosen not to seek external assurance for the Sustainability Report 2018.

Our performance on material topics

Key to topic flags:

General disclosures

Economic disclosures

Environmental disclosures

Social disclosures

Codes relate to GRI Standard numbers and our customized indicators.

GENERAL DISCLOSURES

SIZE OF THE OPERATION

Cargill Aqua Nutrition operations are carried out across 40 facilities in 20 countries. However, only 20 of these facilities were dedicated to aquafeed production and functional in 2018 as explained in Reporting Entities (page 2).

GRI 102-7

Size of the operation

		Salmon Total
Feed produced (t)	**2013**	1,113,579
	2016	930,774
	2017	984,638
	2018	– *
Feed sold (t)	**2013**	1,096,356
	2016	911,104
	2017	968,210
	2018	– *

** Numbers not disclosed due to competitive considerations.*

The salmon business for CQN steadily sold more feed again in 2018, despite difficult markets due to over capacity of production in most countries of operation.

WORKFORCE

GRI 102-8

The workforce data for our salmon feed facilities is complete. Compared to 2017, we have seen an increase in the number of employees for salmon, but this was disproportionately males, leading to a drop in the percent females.

	Salmon Total
Total employees	802
Female employees	128
Male employees	674
Employees – female proportion (%)	16.0%

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 (13.5% females).

	Salmon Total
Employee Category:	
Total number of management and administration female employees	96
Total number of management and administration male employees	210
– Management and admin employees proportion female (%)	31.3%
Senior Management Teams*:	
Senior management	26
Number of female senior management hires	4
Senior managers – proportion of females (%)	15.3%
Senior managers – proportion of males (%)	84.7%
Global Leadership Team:**	
Membership	7
Number of females	0
Proportion of females	0

** 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, 31.3% of employees were female. This has been stable for the salmon facilities and Cargill Aqua Nutrition is working to encourage greater diversity across all employment sectors and especially in senior management.

COLLECTIVE BARGAINING

GRI 102-41

Collective bargaining agreements have been made in 3 of the 4 countries, covering 60.0% of the work-force. Agreements vary between countries. The right to collective bargaining is available in all countries, but has not been taken up everywhere.

Employees covered by collective bargaining agreement

% of employees	2013	2016	2017	2018
Canada	73	69	65	59
Chile	57	54	87	71
Norway	51	46	54	55
Scotland	0	0	0	0

MANAGEMENT STANDARDS

CQN 1-80

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; Canada, Norway and Chile Global Gap certified and Scotland has 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.

Factory level certifications currently held

	Canada	Chile	Norway	Scotland
ISO 9001	✔	✔	✔	✔
ISO 14001	✔	✔	✔	✔
ISO 22000	✔	✔	✔	✔
OHSAS 18001	✔	✔	✔	✔
Global GAP	✔	✔	✔	✔*
BAP	✔	✔		✔
ASC**	n/a	n/a	n/a	n/a

** Scotland is certified by UFAS, which is recognised as equivalent to Global GAP*
*** ASC does not yet have a feed standard, but the Cargill Aqua Nutrition facilities make feed to order for our customers that is compliant to ASC requirements for the farming standards to order for our customers.*

SUPPLY CHAIN AUDITING

CQN 1-81

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.

	Salmon Total
Planned	19
Performed	14
Performance (% of planned)	74

ECONOMIC DISCLOSURES

PRODUCTION AND SALES DATA

As a part of a private company, Cargill Aqua Nutrition is not able to disclose financial details on production and sales beyond Cargill's annual report. Tonnages produced and sold are disclosed in GRI 102-7.

ECONOMIC VALUE

GRI 201-1

Community projects are particularly important to Cargill and all operations are encouraged to donate to relevant projects. In 2018 at total of US$95,046 was given to local community projects by Cargill Aqua Nutrition salmon feed operations. This does not include voluntary activities by employees to these and other projects.

FINANCIAL ASSISTANCE RECEIVED FROM GOVERNMENT

GRI 201-4

Financial assistance from governments in 2018 was received in Norway and Scotland, but not in Canada or Chile. This came in the form of tax relief and credits, subsidies and financial incentives, total $1,082,340. The financial incentives were related to the use of renewable energy sources in Scotland.

MINIMUM WAGES

GRI 202-1

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.

Minimum legal wage and entry level wages in Cargill Aqua Nutrition 2018

** Hourly wages*

	Minimum Legal (USD)	Female (USD)	Male (USD)
Canada*	9.76	18.57	23.27
Chile*	2.41	4.08	2.99
Norway*	22.70	22.70	22.70
Scotland*	8.73	8.98	8.73

PROPORTION OF LOCAL HIRES

GRI 202-2

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.

	Salmon Total
Total size of senior management group	27
Number of local hires for the senior management group	24
Percent of senior management hired from local community	88.9

ANTI-CORRUPTION TRAINING

GRI 205-2

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 focussed on employees most exposed to this, such as management and administration teams, especially purchasing and commercial.

	Cargill Code of Conduct	Anti-bribery Training Policy
Global Leadership Team Trained (number)	7	7
Global Leadership Team Trained (per cent)	100	100
Workforce Trained (number)	197	54
Workforce Trained (per cent of total)	24.6	6.7

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. 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 – SALMON

Relatively little change was seen between 2017 and 2018, although there was a decrease in fishmeal use and a reduction in the use of soy proteins. The data shown is based on purchases as percent of feed made in the year, so does not add up to 100%. Data on vitamins, minerals and additives are not shown. Where contributions are less than 2% of the total, countries are listed as "other".

Ingredient Category*	Group Average Purchase (% of total feed made) 2017	2018	Countries of Origin 2018
Fishmeal	20.1%	16.5%	see below
of which Trimmings Meals	6.8%	5.6%	
Fish oil	10.6%	10.0%	see below
of which Trimmings Oils	*3.3%*	*3.0%*	
Vegetable Proteins	27.2%	29.4%	Argentina, Bolivia, Brazil, Canada, Chile, China, India, Lithuania, Netherlands, Russia, Ukraine, UK, USA
of which Soy Proteins	*12.9%*	*11.4%*	Brazil (Argentina, Bolivia, China)
Vegetable Oils	15.8%	15.0%	Canada, Germany, UK, USA, others
of which Soy Oil	*1.0%*	*0.2%*	(Argentina, Brazil)
of which Palm Oil	*0.0%*	*0.07%*	(Indonesia, Malaysia)
of which Algal Oil	-	*0.12%*	(other)
Animal by-Products	7.2%	8.8%	Argentina, Brazil, Canada, Chile, France, Germany, Spain, UK, USA
Carbohydrates and Binders	15.5%	21.3%	Canada, Chile, UK, USA, others
Total by-products	29.8%	25.6%	-
Total novel ingredients	1.4%	3.9%	-

FORAGE FISH MEALS AND OILS – SALMON

Whole fish caught for the purpose of making fishmeal and oil, forage fisheries were the main source of marine ingredients. This table shows 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 year, the number of smaller species contributing rose, partly reflecting more accurate reporting by suppliers of small contributions and partly reflecting a broader purchasing strategy for fishmeal and oil.

Species	Country of Origin	% of Forage Fish Total
Blue whiting	Denmark, Faroe Islands, Iceland, Norway, others	27.4%
Anchovy	Chile, Peru	20.8%
Gulf menhaden	USA	11.4%
Sand eel	Denmark, Norway	6.0%
European sprat	Denmark, Norway	5.4%
Capelin	Iceland, Norway	5.1%
Araucanian herring	Chile	4.8%
Sardine	Chile, Mexico	4.0%
Misc. species	N/A	15.1%

TRIMMINGS MEALS AND OILS – SALMON

Waste material from 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.

Species	Country of Origin	% of Trimmings Total
Atlantic herring trimmings	Denmark, Iceland, Norway	37.3
White fish offal	Denmark, Iceland, Ireland, Norway, UK	36.5
Capelin	Iceland, Norway	5.2
Alaskan pollock	USA	4.9
Atlantic mackerel trimmings	Iceland	4.0
North Pacific hake	USA	3.2
Jack mackerel trimmings	Chile	3.2
Sardine (South American pilchard)	Mexico	2.4
Misc. species	N/A	3.3

CERTIFICATION OF MARINE INGREDIENTS – SALMON

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*.

** https://www.cargill.com/sustainability/aquaculture/aquaculture-sourcing-standards).*

We also support fisheries in the improvers' program or transitioning to these certifications. This disclosure shows the quantity of marine ingredients for salmon feed that were purchased from IFFO RS certified factories. The results are similar to 2017, 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.

The proportion of marine ingredients for salmon feeds sourced from IFFO RS certified factories in 2018

	Fishmeal	Fish Oil	Fishmeal and Oil
Forage fish	98.2%	78.9%	90.7%
Trimmings	90.5%	81.2%	87.2%
Total	95.6%	79.6%	89.6%

MARINE INDEX – SALMON

CQN 3-80

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 2018, the global use of marine ingredients by Cargill Aqua Nutrition was 27.6% as a percentage of feed sold (down from 30.7% in 2017). Whilst this is relatively stable since 2012, the inclusion of marine ingredients from forage fish has fallen from almost 24% to 18.7% of the feed sold. Trimmings meals and oils now represent 32.3% of the marine ingredients used globally in our salmon feeds.

MARINE NUTRIENT RATIOS – SALMON

This calculation focussed 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 relatively high eFCR calculated for 2018 would have driven up the MPDR and MODR, but the overall reduction in marine ingredients in the diets has provided a slight drop for the protein dependency calculation.

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

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

	2015	2016	2017	2018
Global eFCR	1.24	1.27	1.23	1.36
Marine Protein Dependency Ratio (MPDR)	0.82	0.96	0.96	0.87
Marine Oil Dependency Ratio (MODR)	0.73	0.79	0.76	0.78

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 < 1.35 and FFDRo < 2.95 (ASC Salmon Standards 2012 which are currently under review). 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 (FFIR), which can be used to calculate the Fish In Fish Out (FIFO) ratio by using the eFCR on farm.

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

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

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

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

	2015	2016	2017	2018
Global eFCR	1.24	1.27	1.23	1.36
Forage Fish Dependency Ratio protein (FFDRp)	0.60	0.69	0.68	0.62
Forage Fish Dependency Ratio oil (FFDRo)	1.83	1.83	1.79	1.90
Feed Fish Inclusion Factor (FFIF)	0.69	0.73	0.75	0.65
Fish In Fish Out ratio (FIFO)	0.86	0.93	0.92	0.88

PLANT INDEX – SALMON

CQN 3-90

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 down on 2017, but Chile has greatly increased its sourcing of certified soy according (from 8.7% certified in 2016). With Canada not using soy products, in 2018 97.4% 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	Salmon total
Soy products	Total (t)*	–	–	–	–	–
	Certifications	n/a	Cargill Triple S, ProTerra, RTRS	ProTerra	ProTerra, Organic	
	% certified	n/a	81.6%	100%	100%	97.4%
	Origins	n/a	Argentina, Bolivia, Brazil, USA	Brazil	Brazil, China	
Palm oil	Total (t)*	–	–	–	–	–
	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	

** Numbers not disclosed due to competitive considerations.*

ENERGY USE – SALMON

GRI 302-1/302-3

Data for energy use in salmon feed is available since 2013 and is shown below in detail breakdown. Last year's report shows complete data since 2013.

Energy is used to drive the factories making the feed. Direct energy sources used on site include renewables (wood chip based biofuels) and non-renewables (crude oil, diesel, fuel oil, LPG, natural gas and propane). Electricity was the only indirect energy source, taken from the local grid in all reporting facilities.

The total amount of energy used to produce salmon feeds has slowly reduced over time since 2013, with some fluctuations, as shown in 2018 when overall energy use was the same as 2013 again. Only Scotland is using renewable direct energy, which is 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).

Energy Type	Energy Source	2013	2017	2018
Direct Energy (GJ)	Renewable	0	36,620	54,475
Direct Energy (GJ)	Non-renewable	709,491	578,620	543,736
Indirect Energy (GJ)	Electricity	430,282	364,783	450,586
Total Energy Use (GJ)		1,139,773	980,023	1,048,798
Change relative to 2013 (%)		-	*-14.0*	*-8.0*
Energy per tonne feed made(GJ/t)		1.02	0.99	1.02
Change relative to 2013 (%)		-	*-2.8*	*0*

REDUCTION OF ENERGY CONSUMPTION

GRI 302-4

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 2018 the team has moved 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. As shown in GRI 302-1 and 302-3 above, the savings have delivered particularly in direct energy use, with a slight increase in indirect energy consumption. However, overall this delivers a reduction in total Scope 1+2 greenhouse gas emissions as reported in GRI 305 below.

WATER USAGE

GRI 303-1

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 salmon since 2015, but it is possible to see good reductions in total consumption, despite growing feed production.

The water used in the facilities can come from mains, by tanker or from abstraction from wells or rivers. This depends on the resources available at the facility. The source and the use is controlled by the Operations team at each facility. Across the salmon group in 2018, groundwater provided 39.2% of total water use, 0.5% came from waste water and the remainder came from municipal supplies.

Water use in salmon feed production

		Total Water Use (litres)	Water Use (litres per tonne feed made)
Water use in fish feed production (litres)	**2015**	502,832,345	460
	2016	471,247,096	506
	2017	493,850,277	503
	2018	444,549,848	431

IMPACT ON BIODIVERSITY AT THE FACILITY

GRI 304-2

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.

GHG EMISSIONS (SCOPE 1 AND 2)

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

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. During 2018, Cargill reassessed how it seeks to report this data, so the data reported below are not as have been reported previously. Instead, Cargill is now 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_2/kWh but the residual mix is 499gCO_2/kWh in 2018 (https://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.

In 2018, Cargill Aqua Nutrition was working towards a goal to reduce our relative Scope 1 and 2 emissions by 20% against a 2015 baseline. However, Cargill corporately has since set a goal of reducing absolute 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. This has a huge impact on our production facilities in Norway, where the national production mix is 11gCO_2/kWh but the residual mix is 499gCO_2/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 very challenging, but we hope to deliver on time and certainly on the 2025 goals against the 2017 baseline.

Absolute and average per tonne of feed produced scope 1&2 GHG emissions

	2014	2015	2016	2017*	2018
Absolute Scope 1&2 GHG emissions (tCO_2e)	27,539	49,131	69,661	87,847	87,548
Absolute scope 1&2 GHG change relative to 2017 (%)	-	-	-	-	-0.34%
Average Scope 1&2 GHG intensity (tCO_2e/t feed produced)	40.82	46.97	73.78	88.93	83.99
Average Scope 1&2 GHG change relative to 2017 (%)	-	-	-	-	-5.56%

** indicates baseline year defined by Cargill*

ECOLOGICAL FOOTPRINT AND CARBON FOOTPRINT – SALMON

CQN 3-83

Ecological and carbon footprint models for salmon feeds have been used in EWOS since 2005. The models, however, have not been updated since 2015 as there are plans for a full revision within 2019. This meant that in 2018, various proxies for data were used on raw materials and sources which were not in the available databases. The disclosure still provides an interesting overview of the total environmental impact of the raw material basket used for EWOS salmon feeds and shows good reductions in carbon footprint due to raw materials since 2013.

Ecological and Carbon footprints of salmon feeds from 2013

	2013	2014	2015	2016	2017	2018
Total Feed Ecological Footprint ('000ha)	6,560	11,980	9,800	13,480	14,100	11,839
Average Feed Ecological Footprint (ha/t)	5.89	10.64	8.96	14.48	14.34	11.48
Total Feed Scope 3 GHG ('000tCO_2e)	1,870	1,930	1,750	1,510	1,546	1,608
Average Feed Scope 3 GHG (tCO_2e/t)	1.68	1.71	1.60	1.62	1.57	1.56
Total Feed Scope 1,2&3 GHG ('000tCO_2e)	1,940	1,990	1,810	1,560	1,580	1,696
Change compared to 2013 (%)	-	*2.6%*	*-6.7%*	*-19.6%*	*-18.6%*	*-12.6%*
Average Feed Scope 1,2&3 GHG (tCO_2e/t)	1.74	1.77	1.65	1.68	1.60	1.65
Change compared to 2013 (%)	-	*1.7%*	*-5.2%*	*-3.4%*	*-8.0%*	*-5.4%*

WASTE BY TYPE

GRI 306-2

This disclosure covers the total waste from each facility, whereas GRI 301-03 covers just packaging from the salmon feed facilities. The fate of the waste is reported by the Operations team. 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 second year that this full disclosure has been reported, but there was a challenge to get the data from our contractor in Norway, so the group performance for 2018 cannot be shown. As the feed bags are not included in this calculation, the total quantity of material is much lower than that in GRI 301-03. Whilst it is good to report that just under 71% 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)

	2017	2018
Recycled	4,273	n/a
Incinerated	923	n/a
Landfill	553	n/a
Hazardous	21	n/a
Total	5,770	n/a
Percent recycled (%)	74.1	n/a

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).

MITIGATION OF ENVIRONMENTAL IMPACTS

CQN 3-85

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.

FINES FOR NON-COMPLIANCE WITH ENVIRONMENTAL SAFETY LAWS

GRI 307-1

No fines or sanctions on our salmon feed facilities were applied during 2018.

FEED EFFICIENCES – SALMON

CQN 3-86

The efficiency that fish can convert the nutrients in the feed into flesh is an important indicator of how well the diet meets the needs of the fish and the farmers. The data is collected from a variety of customers in each country and gives an indication of how well the feeds are performing in the market place. The data is only available for the salmon feed facilities and has changed significantly from 2016 and 2017. Customers are tending to focus on faster growth, which helps to reduce grower fish to health risks at sea. This has led to higher eEFI (EWOS Feed Index).

Examples of feed efficiencies from 2018*

	Salmon Total	Canada	Chile	Norway	Scotland
eFCR	1.36	1.33	1.33	1.34	1.38
bFCR	1.29	1.24	1.22	1.14	1.38
eEFI	131	129	127	130	134

** Data shown is collected from a variety of customers in each country and is indicative of average performance in the market place*

HEALTH FEED SALES (PROPORTION OF SALES)

CQN 3-87

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 in salmon, the concepts have been applied to warm water feeds and are starting to gain ground. They help to improve the health and welfare of the animals and can be used as part of an integrated health management approach, thus reducing the need to resort to antibiotic treatments. Our new product EWOS® Dermic was launched late in 2018 and we expect to see sales increase in 2019.

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

	Salmon Total
2013	16.5%
2014	20.6%
2015	18.8%
2016	28.5%
2017	24.2%
2018	18.3%

ANTI-PARASITIC FEED SALES – SALMON

CQN 3-88

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 is a notable reduction in per cent sales of such medicated feeds, with increased use of physical treatments for sea lice management.

Proportion of feed sold with anti-parasite medication

	Salmon 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%

ANTIBIOTIC FEED SALES – SALMON

CQN 3-89

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. Antibiotics are used in salmon to treat diseases which would otherwise cause severe health and welfare issues, potentially killing many fish. Their use is an indicator of the disease challenges faced by the industry and the options that the farmers have to keep their fish healthy. Many countries do not allow feed companies to add antibiotics to feed by law – instead dosing is carried out at the farm. But all of Cargill 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 Canada and Chile as the farmers have more health management options.

Proportion of feed sold containing antibiotics

	Salmon 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%

SOCIAL DISCLOSURES

OCCUPATIONAL HEALTH AND SAFETY

GRI 403-2

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. Due to centralised reporting, it is now no longer possible to separate employees from contractors and male from female.

Cargill has a strong focus on safety and many safety initiatives have been run during 2018. 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 for 2019.

Summary of injury rates for Cargill Aqua Nutrition factories and offices in 2018

	Reported Injuries	Days Lost	Fatalities	RIFR	SIFR	Lost Day Rate	Accident Free Sites
Target			0	<0.30	<0.10		
2017	17	104	0	1.453	0.342	8.89	73%
2018	12	62	0	1.000	0.167	5.17	53%

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

CHILD LABOUR

GRI 408-1

Across Cargill Aqua Nutrition there were no incidences or risks of child labour reported in 2018 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 2018, 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.

NON-COMPLIANCE WITH FOOD SAFETY

GRI 416-2

There were no incidents of non-compliance with food safety across Cargill Aqua Nutrition salmon feed facilities in 2018.

WHISTLE BLOWING

CQN 4-80

There was one issue of whistle blowing across Cargill Aqua Nutrition in 2018. This was done anonymously and the issue has been successfully resolved.

LOCAL COMMUNITY COMPLAINTS

CQN 4-81

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 2018 was smell – as for 2017 – mainly from the fishmeal and oil which have pungent odours.

Overview of causes of local community complaints in 2018

	Salmon Total
Environmental	1
Noise	2
Smell	6
Traffic	0
Other	0
Total	**9**

FINES FOR NON-COMPLIANCE WITH SOCIAL AND ECONOMIC LAWS AND REGULATIONS

GRI 419-1

There were no cases of non-compliances with social or economic laws or regulations across Cargill Aqua Nutrition in 2018.

Abbreviations

ASC
Aquaculture Stewardship Council

BAP
Best Aquaculture Practices

eFCR
economic Feed Conversion Ratio

GHG
Greenhouse Gas

GSI
Global Salmon Initiative

IFFO RS
The Marine Ingredients Organization
Global Standard for Responsible Supply

MSC
Marine Stewardship Council

RIFR
Reportable Injury Frequency Rate

SDG
Sustainable Development Goal

SIFR
Severe Injury Frequency Rate

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	SR p. 1	
GRI 102	General Disclosures	102-02	Activities, brands, products, and services	Core	SR p. 6	
GRI 102	General Disclosures	102-03	Location of headquarters	Core	Cover	
GRI 102	General Disclosures	102-04	Location of operations	Core	2, SR p. 7	
GRI 102	General Disclosures	102-05	Ownership and legal form	Core	SR p. 6	
GRI 102	General Disclosures	102-06	Markets served	Core	2	
GRI 102	General Disclosures	102-07	Scale of the organization	Core	8	
GRI 102	General Disclosures	102-08	Information on employees and other workers	Core	8	6
GRI 102	General Disclosures	102-09	Supply chain	Core	11-13, SR p. 9	
GRI 102	General Disclosures	102-10	Significant changes to the organization and its supply chain	Core	2	
GRI 102	General Disclosures	102-11	Precautionary Principle or approach	Core	4	7
GRI 102	General Disclosures	102-12	External initiatives	Core	5, SR p.11	1-10
GRI 102	General Disclosures	102-13	Membership of associations	Core	SR p. 11	
GRI 102	General Disclosures	102-14	Statement from senior decision-maker	Core	SR p. 3	
GRI 102	General Disclosures	102-16	Values, principles, standards, and norms of behavior	Core	3	1-10
GRI 102	General Disclosures	102-18	Governance structure	Core	3	
GRI 102	General Disclosures	102-40	List of stakeholder groups	Core	5–7	
GRI 102	General Disclosures	102-41	Collective bargaining agreements	Core	9	3
GRI 102	General Disclosures	102-42	Identifying and selecting stakeholders	Core	5	
GRI 102	General Disclosures	102-43	Approach to stakeholder engagement	Core	5	
GRI 102	General Disclosures	102-44	Key topics and concerns raised	Core	5–7	
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	2	
GRI 102	General Disclosures	102-47	List of material topics	Core	4	
GRI 102	General Disclosures	102-48	Restatements of information	Core	2	
GRI 102	General Disclosures	102-49	Changes in reporting	Core	2	
GRI 102	General Disclosures	102-50	Reporting period	Core	2	
GRI 102	General Disclosures	102-51	Date of most recent report	Core	2	
GRI 102	General Disclosures	102-52	Reporting cycle	Core	2	
GRI 102	General Disclosures	102-53	Contact point for questions regarding the report	Core	Cover	
GRI 102	General Disclosures	102-54	Claims of reporting in accordance with the GRI Standards	Core	2	
GRI 102	General Disclosures	102-55	GRI content index	Core	21	
GRI 102	General Disclosures	102-56	External assurance	Core	7	
GRI 103	Management Approach	103-1	Explanation of the material topic and its Boundary	Core	4	
GRI 103	Management Approach	103-2	The management approach and its components	Core	3	
GRI 103	Management Approach	103-3	Evaluation of the management approach	Core	3	

* SR refers to the separately published Cargill Aqua Nutrition Sustainability Report 2018.

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	10	
GRI 201	Economic Performance	201-4	Financial assistance received from government	Internal	10	
GRI 202	Market Presence	202-1	Ratios of standard entry level wage by gender compared to local minimum wage	Local community	10	6
GRI 202	Market Presence	202-2	Proportion of senior management hired from the local community	Local community	10	6
GRI 205	Anti-Corruption	205-2	Communication and training about anti-corruption policies and procedures	Internal	10	10
GRI 301	Materials	301-1	Materials used by weight or volume	Upstream	11	7
GRI 302	Energy	302-1	Energy consumption within the organization	Internal	14	7
GRI 302	Energy	302-3	Energy intensity	Internal	14	8
GRI 302	Energy	302-4	Reduction of energy consumption	Internal	14	9
GRI 303	Water	303-1	Water withdrawal by source	Internal	14	7
GRI 304	Biodiversity	304-2	Significant impacts of activities, products, and services on biodiversity	Internal	14	8
GRI 305	Emissions	305-1	Direct (scope 1) GHG emissions	Internal	15	7
GRI 305	Emissions	305-2	Energy indirect (scope 2) GHG emissions	Upstream	15	7
GRI 305	Emissions	305-4	GHG emissions intensity	Internal	15	8
GRI 306	Effluents and waste	306-2	Waste by type and disposal method	Internal	16	7
GRI 307	Environmental Compliance	307-1	Non-compliance with environmental laws and regulations	Internal	16	8
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	17	
GRI 408	Child Labor	408-1	Operations and suppliers at significant risk for incidents of child labor	Internal	18	5
GRI 416	Customer Health and Safety	416-2	Incidents of non-compliance concerning the health and safety impacts of products and services	Internal	18	
GRI 419-1	Socioeconomic Compliance	419-1	Non-compliance with laws and regulations in the social and economic area	Internal	18	1

CUSTOMIZED DISCLOSURES

Customized	CQN 1-80		Management standards	Internal	9	7
Customized	CQN 1-81		Supply chain auditing	Internal	10	2
Customized	CQN 3-80		Marine index	Upstream	12	7
Customized	CQN 3-83		Ex-work ecological footprint	Internal	15	8
Customized	CQN 3-85		Mitigation of environmental impacts	Internal	16	8
Customized	CQN 3-86		Feed efficiencies	Downstream	16	9
Customized	CQN 3-87		Health feed sales	Downstream	16	9
Customized	CQN 3-88		Anti-parasitic feed sales	Downstream	17	9
Customized	CQN 3-89		Antibiotic feed sales	Downstream	17	9
Customized	CQN 3-90		Plant index	Upstream	13	7
Customized	CQN 4-80		Whistle blowing incidents	Internal	18	1-10
Customized	CQN 4-81		Local community complaints	Local Community	18	1

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