EWOS®

HEALTHY SEAFOOD FOR FUTURE GENERATIONS

Enabling the supply of healthy and delicious fish, forever.

SUSTAINABILITY REPORT 2015

Cargill®

EWOS is a trusted supplier of feed and nutrition for the international aquaculture industry. For more than eight decades, we have been developing solutions and creating value for our customers, and continuously improving business efficiency and sustainability.

Cargill Aqua Nutrition (CQN) was formed in October 2015, following the acquisition of EWOS by Cargill. CQN brings together legacy EWOS and legacy Cargill aqua businesses into a focused group that aims to become the global leader in aquafeed and nutrition.

As this report is retrospective, EWOS is still being referred to as the company in the report.

About this report
The EWOS Sustainability Report 2015 constitutes our sustainability performance for the fiscal year 2015. As EWOS is now part of Cargill, a privately held company, financial performance will not be part of the report.

See http://www.cargill.com/company/financial/ for more information.

See http://www.reporting.ewos.com for EWOS' previous sustainability reports.

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For in-depth discussions on topical issues relating to fish feed, please refer to our occasional, international publicaton EWOS Spotlight. Issues are available at our web site: www.ewos.com.

CONTENTS

80 YEARS OF EWOS

1931 EWOS is established as a general partnership ('handelsbolag') in Sweden.

1935 EWOS AB is acquired by the pharmaceutical group AB Astra.

1949 Norsk Landbrukskjemi AS, sister company of EWOS in Söder-tälje, is established in Norway.

1974 Agreement concluded between EWOS and Felleskjøpet. The fish feed is marketed under the brand 'FK-EWOS'.

1979 Alfa Laval AB buys EWOS from Astra AB.

1987 Norsk Landbrukskjemi AS changes name to EWOS AS. Cultor buys EWOS from Alfa Laval.

1988 EWOS and FK part company and EWOS establishes itself on its own in Norway.

1996 FK Aqua (FKT) and Stormøllen Havbruk (Statkorn Holding) create a new fish feed company: NorAqua.

1997 NorAqua and fish feed development company FKF merge.

1999 The Danish company Danisco AS buys Cultor OY from Finland.

2000 Statkorn Holding (later Cermaq) buys EWOS from Danisco, and EWOS and NorAqua are merged.

2013 CERMAQ sells EWOS to the investment funds Altor and Bain Capital.

2015 US-based company Cargill acquires EWOS for 1.35 billion euros.

EWOS in brief

Healthy seafood for future generations

EWOS, now owned by Cargill, is one of the world's largest suppliers of salmon feed and nutrition for the aquaculture industry. We have produced fish feed since 1935 and operate in all four of the world's major salmon farming regions: Norway, Chile, Canada, and Scotland. Our operations in Vietnam produce feed for warm water species.

Aquaculture feed, in the form of extruded pellets, is marketed under the EWOS brand for both coldwater and warmwater fish species. In coldwater, this mainly includes Atlantic salmon, coho salmon and rainbow trout. Approximately 93 per cent of the feed volume we produce consists of salmonid feed, with the rest of the feed targeting other warm water fish species; EWOS Vietnam produces feed for snakehead, tilapia and pangasius.

We maintain a strong reputation as the leader in our field, based on the service we provide as well as the quality of our feed. With state-of-the-art research centres in Norway and Chile, we invest continuously in developing efficient and sustainable feed solutions, supporting fish health, and improving production processes.

Cargill Aqua Nutrition is headquartered in Bergen, Norway; Cargill in Minneapolis, Minnesota, USA.

OUR OPERATIONS

EWOS INNOVATION

RESEARCH STATIONS
Dirdal (Norway), Colaco (Chile), Vinh Long and Can Tho (Vietnam)

HEAD OFFICE
Dirdal, Norway

BRANCH OFFICE
Sandnes

EMPLOYEES
66 (Norway), 23 (Chile), 3 (Vietnam)

CHILE

OPERATIONS
Coronel Conception, Colaco (IE), Puerto Montt

HEAD OFFICE
Puerto Montt

EMPLOYEES
368

FACTORY
Coronel Conception

CANADA

OPERATIONS
Surrey, New Brunswick

HEAD OFFICE
Surrey

EMPLOYEES
81

FACTORY
Surrey

DISTRIBUTION
New Brunswick warehouse

NORWAY

OPERATIONS
Finnsnes, Halsa, Trondheim, Florø, Bergen

HEAD OFFICE
Bergen

EMPLOYEES / APPRENTICES
261 / 22

FACTORIES
Florø, Halsa and Bergneset

SCOTLAND

OPERATIONS
Westfield

HEAD OFFICE
Westfield, West Lothian

EMPLOYEES
71

FACTORY
Westfield

VIETNAM

OPERATIONS
Long An, Can Tho (EI), Ho Chi Minh City, Vinh Long (EI)

HEAD OFFICE
Long An

EMPLOYEES
176

FACTORY
Long An

KEY FIGURES 2015

for our EWOS brand

1,049

EMPLOYEES

1.13

MILLION TONNES OF FEED SOLD

1 in 3

MARKET SHARE

EWOS feeds 1 of every 3 farmed salmon in the world

9.5 USD million

ANNUAL INVESTMENT IN R&D*

* Norway and Chile. Excluding any investment and running costs for the Cargill Aqua Innovation Center.

HEALTHY SEAFOOD
for future generations

Consumers want to know where their food comes from, what it is made of and how it is produced.

Listening to consumers and providing them with transparent information, so they know their food is produced safely and sustainably, will become increasingly important both in the future and across the globe. Whether we are developing new technologies, sourcing new raw materials or innovating new feeds, the need for transparency in everything we do is fundamental. Consumers want to have confidence in the choices we make as a business. This transparency needs to cover the entire value chain.

WHAT SUSTAINABILITY MEANS

As a producer of feed for aquaculture, we often meet the misconception that sustainability equates to footprints. However, sustainability is far more than that.

It is about meeting the needs and aspirations of the present, without compromising the ability of future generations to meet their own needs. Sustainability has three dimensions – economic, environmental and social. These three dimensions are mutually dependent and need to be balanced.

It is our responsibility to operate sustainably, and also to continuously strive to reduce our footprint. The details on how we do that are described in this report.

GROWING NEED FOR PROTEIN

The global need for food is growing, and the need for protein is expected to increase by 70 per cent worldwide by 2050. We believe that farmed seafood offers one crucial solution to meeting this demand. Fish is the most resource-efficient animal protein available to humans, aside from insects.

We are committed to feeding the world's seafood in a responsible way; reducing our environmental impact; and improving the communities where we live and work.

SAFETY FIRST

Safety, both in terms of food safety and safety for people, is fundamental for Cargill. Safety in the working environment means that everyone returns safely to their loved ones. In Cargill, we live by the expression 'people over profit'. Key safety metrics are included in this report.

In the report, you will read not only about our efforts to create a more sustainable supply chain, but our actions to increase food security – more on that in the section about new ingredients. They are part of the same equation and we are honoured to have a role in addressing how to feed the world and at the same time, protect the planet.

In short, our commitment is to provide healthy seafood for future generations.

Sincerely,
Einar Wathne

"
It is our responsibility to operate sustainably, and also to continuously strive to reduce our footprint.

The details on how we do this, are described in this report. "

Einar Wathne

"We are fortunate to have EWOS' advanced leadership in sustainability practices inside the house of Cargill now "

JOE STONE
Cargill corporate vice president

IN THE VALUE CHAIN FOR HEALTHY FISH

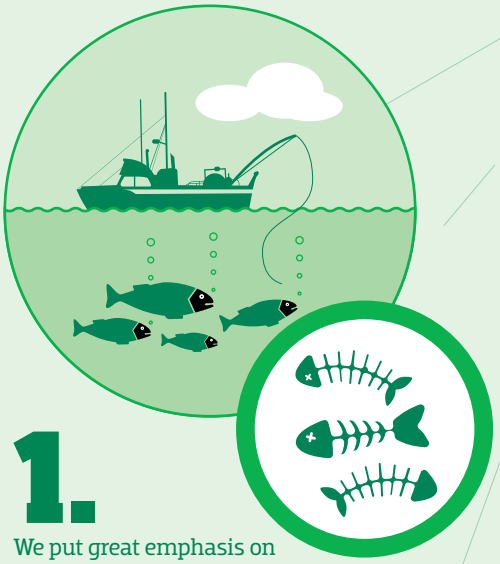
EWOS' core business is the production of fish feed. Our important role in the value chain for healthy and nutritious fish, means we must pay great attention to the impact we make both upstream and downstream.

This includes using only ingredients that we judge to be responsibly produced, and working closely with our customers to improve their productivity and support the welfare of the fish. From raw materials to the plate, we follow EWOS integrated management systems to help ensure nutritious and safe food. The "creating value" figure opposite describes our supply chain.

CREATING VALUE

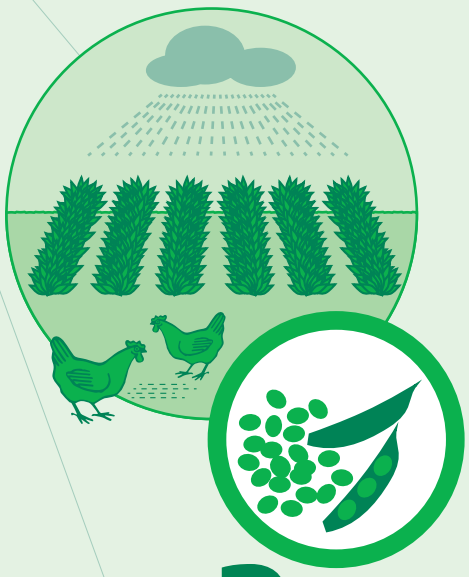
INNOVATION

We bring innovative solutions to the feed industry and food value chain.



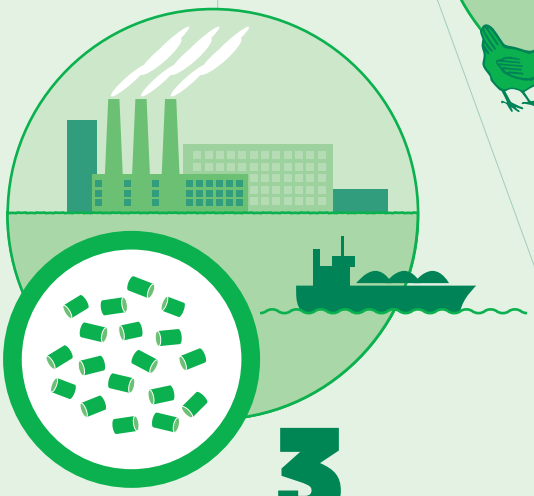
1.

We put great emphasis on responsible sourcing and efficient use of marine resources.



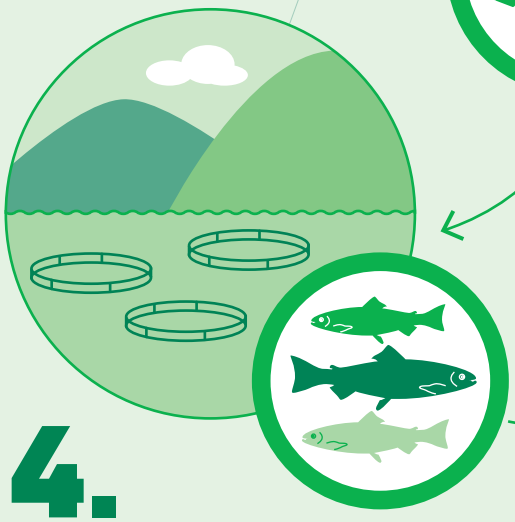
2.

We have increasingly replaced marine raw materials with responsibly produced plant proteins and oils.



3.

We carefully manage the impacts of our feed production, close to major fish farming markets.



4.

Our feeds provide the right nutrition and support the health and welfare of farmed fish.

5.

We are proud to enable efficient farming of delicious and healthy food.

KEY TRENDS
impacting our business

Resource depletion

Demand for marine resources is high, putting pressure on a finite supply of fish oil and driving our innovation to include other protein sources. Agriculture is a large supplier of alternative raw materials, but the sector is challenged by water scarcity, soil depletion and a looming shortage of phosphate.

What it means to us

We need to continue efforts to expand our ingredients portfolio and to use only raw materials that are sustainable and responsibly produced.

35%

Globally FAO reports that more than one-third of the raw materials used for fishmeal are by-products and trimmings. These are resources that would have otherwise be discarded.

(SOURCE: FAO SOFIA)

Climate change

Agriculture is vulnerable to climate change. Driven in part by deforestation, global warming also limits farm expansion on new land. In the Pacific, the 2016 El Nino has hit the salmon farming industry with a deadly algae bloom and is forecast to deeply affect catches of anchovy for fish meal and fish oil.

What it means to us

While farmed salmon has a favourable carbon footprint compared to land-based animals, we need to continue efforts to reduce it and add flexibility to our raw material use.

1:10

The carbon footprint of farmed Atlantic salmon is about one tenth that of beef.

(SOURCE: TORRISSEN ET AL (2011): "ATLANTIC SALMON (SALMO SALAR): THE "SUPER-CHICKEN" OF THE SEA?")

Fish health challenges

Diseases and sea lice currently present the biggest challenge to productivity in the salmon farming industry, driving mortality and significant economic loss. Medicinal responses are both costly and increasingly controversial.

What it means to us

We need to support the industry by developing functional feeds that can be used as part of an integrated pest management for sea lice and support fish health in challenging situations.

≈ 400

USD MILLION

A conservative estimate for costs inflicted by sea lice on Norwegian salmon farmers in 2014.

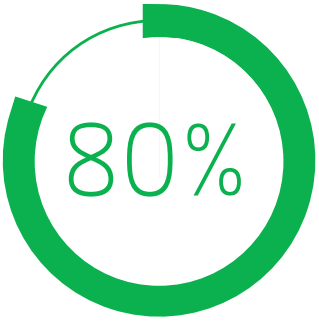
(SOURCE: KONTALI ANALYSE)

Consumer concern

Consumers worldwide increasingly care about the sustainability and nutritional value of the food they eat. The international interchange of materials and products is countered by a pull for more transparency and responsible corporate behaviour.

What it means to us

Traceability of raw materials and transparency in reporting will only grow in importance. Our opportunity is to help educate consumers about the favourable carbon footprint of farmed fish. Transparency in reporting up to date information on the industry will also help to support the public image.



Aquaculture accounts for roughly 80 per cent of global fish oil use, of which 70 per cent is used in salmonid feed. The fish oil is a valuable source of omega-3 fatty acids – beneficial to human health.

Demand for protein

Along with population growth, increasing affluence in many regions is driving a change to more protein-rich diets. Consumers are also more health conscious and the market for dietary supplements has driven demand for omega-3.

What it means to us

Salmon farming is a highly efficient way of producing protein and the essential omega-3 fatty acids (EPA + DHA), meaning we play a critical role in feeding a growing and hungry planet.

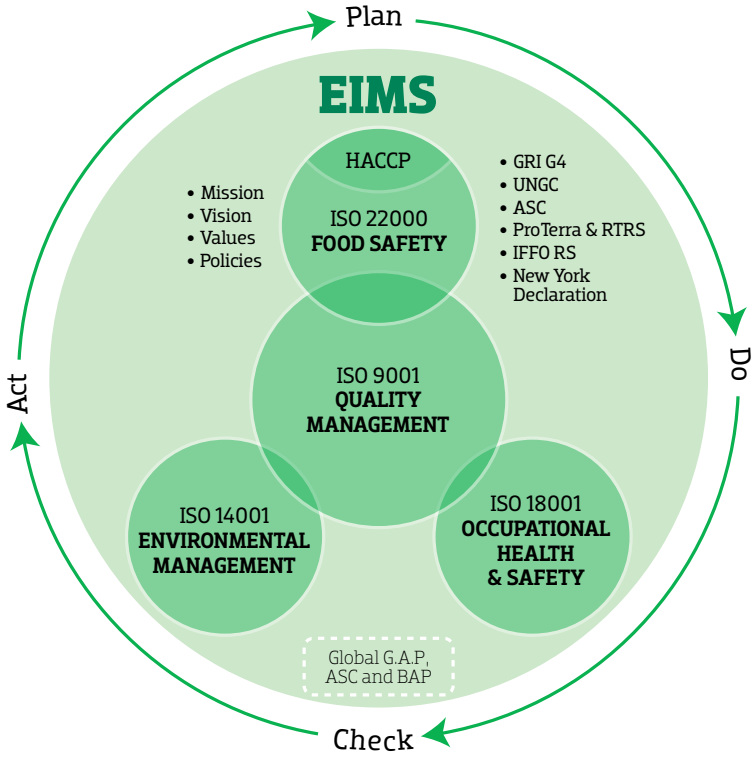
+98%

By 2030, the consumption of fish from aquaculture is forecast to reach 93.6 million tonnes, close to doubling the amount consumed in 2006.

(SOURCE: THE WORLD BANK, FISH TO 2030)

EIMS:

(EWOS Integrated Management System)



We have a strong track record with regard to sustainability, quality, food safety and occupational health & safety.

Our commitment to continuous improvement is evidenced in the EWOS Integrated Management System (EIMS), which has become pivotal to the way we do business. It represents a systematic way of managing social and environmental risk in our business, in compliance with recognised international standards and our corporate commitments and endorsements.

All EWOS salmon feed plants are independently certified to four international management standards for quality (ISO 9001); food safety (ISO 22000); environment (ISO 14001); and health & safety (OHSAS 18001) management. In addition, individual plants can be accredited to different standards, like GlobalGAP, for example, to meet local market needs.

READ MORE:
For details on accreditations, see p. 64

HIGHLIGHTS 2015

from our sustainability efforts

Functional feeds and EWOS

EWOS sales of functional feed supporting fish health in 2015 was 22.5 per cent of total sales. Functional feeds are here to stay and the USD 10.5 million investment in the Cargill Aqua Innovation Center in Chile is testament to the importance of functional feeds in our product portfolio today and going forward.

> More on page 42

Heads or tails? We go for both

In 2015, 30 per cent of the marine ingredients EWOS purchased for use in salmon feeds were from fish trimmings. That is an increase of almost 10 per cent in five years. This raw material has become available as a result of supplier development programmes and screening from EWOS Innovation. > More on page 16

Reducing our marine dependence

Over the last 10 years EWOS has reduced the marine index dramatically from 55% in 2005 to 27% in 2015. In 2015, EWOS group was for the first time able to provide feed that give customers the opportunity to be net producers of marine protein.

> More on page 24

Licence and certification, please!

Soy protein concentrate represented 15 per cent of EWOS' raw materials in 2015. That same year, we made a commitment to source soy products from Brazil certified to ProTerra or RTRS (or equivalent). We expect certified soy to reach 100 per cent for EWOS Norway and Scotland in 2016. Where certificates are not available, there are supplier development programmes in place. > More on page 19

Cooler production

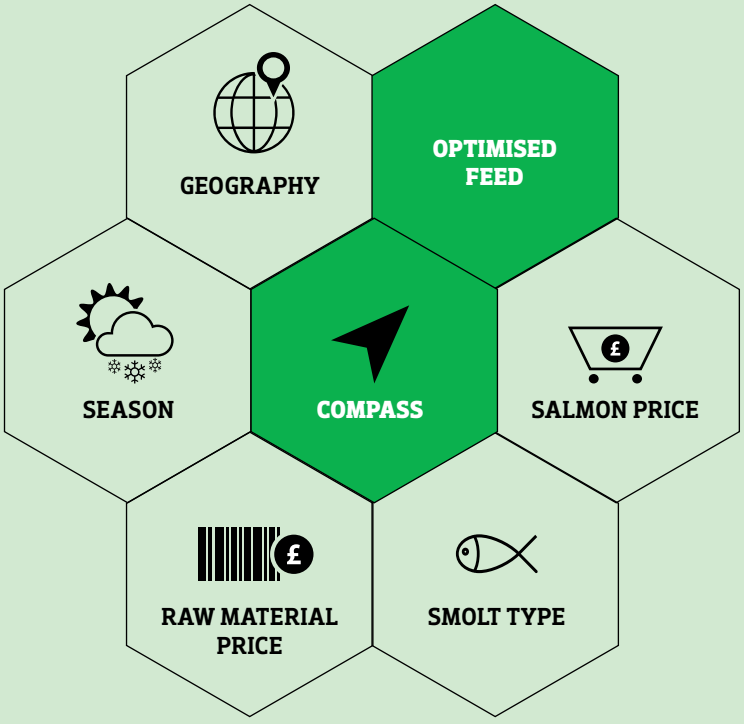
EWOS has successfully reduced its greenhouse gas emissions per tonne feed produced by more than 11 per cent since 2013. This has been achieved through a number of investments in renewable energy and more efficient technologies. > More on page 36

OUR PRODUCTS

The portfolio described in two dimensions

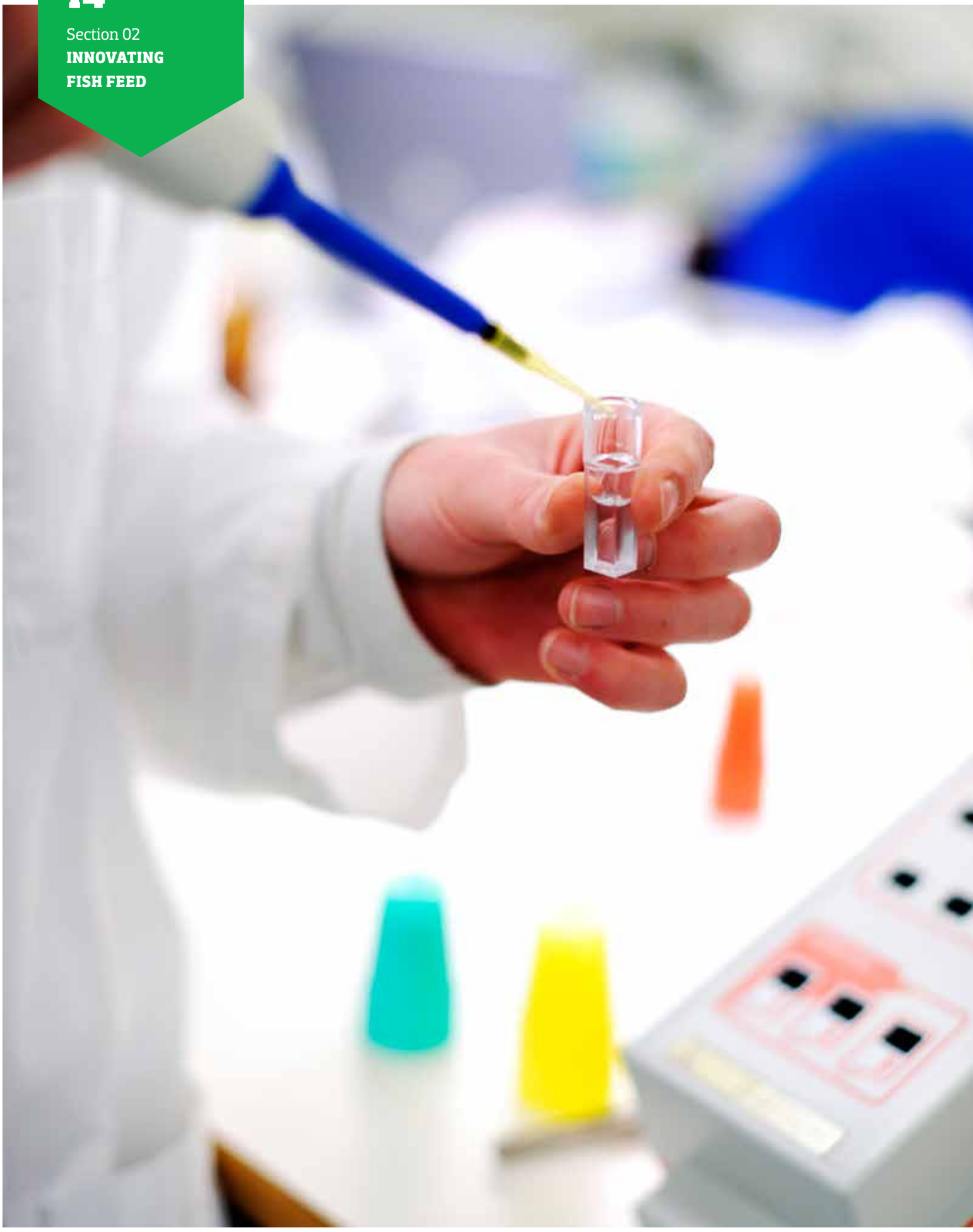
CATEGORIES	LIFECYCLE		
	JUVENILE Feed given to juvenile salmonids in freshwater, from start feeding up to the point of transfer to sea water	**TRANSFER** Feed given during the critical trans-fer phase, when the fish are moved from freshwater to seawater	**GROWER** Feed given in the seawater production phase, post transfer and until harvest
STANDARD Conventional feed products delivering balanced nutrition	START MICRO	TRANSFER	SOLID OMEGA DYNAMIC
PERFORMANCE Feed supplemented to optimise the weight gain of fish during the seawater production phase	RAS	ADAPT BOOST	EXTRA OMEGA HP RAPID
HEALTH Feed supplemented or nutritionally adapted to support fish against health and stress related challenges or during disease outbreak and recovery	BOOST	ADAPT BOOST	BOOST ROBUST ALPHA

PREFERRED BY ONE BILLION SALMON



Our latest feed concept EWOS COMPASS is based on our own research and performance data as well as data from our customers' production compiled from more than 1 billion salmon. Based on this wealth of data, EWOS COMPASS gives us the necessary tools to develop and adapt feed for any production scenario, anywhere in the world, based on the local environment and conditions, the market value of salmon, and the cost of feed materials. It is the epitome of sustainability, providing value to our customers, improving resource efficiency and reducing environmental impacts.

> See compass.ewos.com



INNOVATING FISH FEED

THE CHALLENGE

Demand for marine ingredients challenges traditional supply chains

OUR RESPONSE

Sourcing of marine ingredients responsibly and finding sustainable alternatives while protecting fish health and performance, and upholding consumer satisfaction

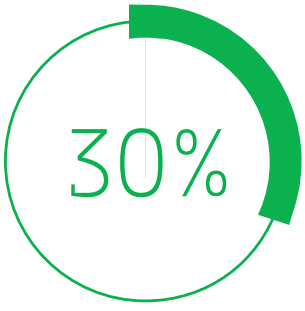
EXPANDING our raw materials basket

As global salmon production increases – a trend set to continue going forwards – ideas for future ingredients in salmon feed are plentiful.

DOMINIC NANTON
Researcher

MAY HELEN HOLME
Researcher

PROPORTION OF TRIMMINGS* USED IN SALMON FEED IN 2015



*** TOTAL MARINE USE**

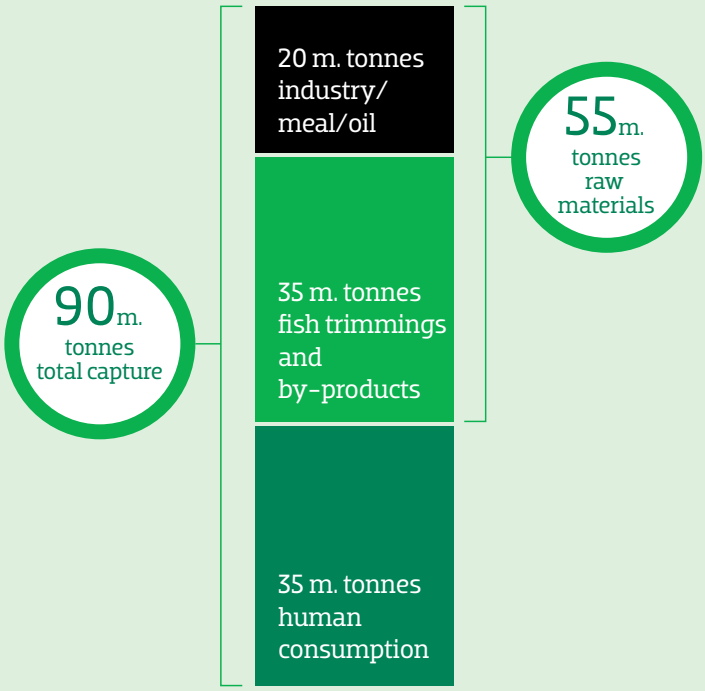
Supplies of fish oils are finite, and alternatives to fish protein are also needed to further reduce dependency on marine resources. A number of ingredients from agriculture and the food processing industry have already made their way into the feed, and other alternatives, such as algae, insects and outputs from novel ocean farms, are being evaluated.

Not one for speculating, senior scientist Dominic Nanton with EWOS Innovation, says that fish oil will remain an essential ingredient for salmon feed, at least in the near future. "We track, develop and evaluate alternative products and byproducts in salmon feed for replacing fish oil as the major source of EPA and DHA, the two valued omega-3 fatty acids. Algae and genetically modified plant oils are two candidates with future potential. Algae volumes have been too small and too expensive but there is movement in the right direction with fermented algae in particular. Genetically modified plant oil can initially be a solution in the Americas where there is general acceptance for using such products. In the EU it will require a relatively long and expensive registration process and consumer acceptance before commercial use in salmon feed," says Nanton.

REPLACE OR RETAIN

Working with different ways of dealing with fish oil shortages, Nanton explains that using alternative sources of EPA and DHA is just one strategy. "Another important strategy under development is to increase retention of these fatty acids in the salmon fillet. This strategy is essentially about making the most of the available omega-3 during the production cycle," he continues. It has also become increasingly important to determine the minimum fish oil (EPA+DHA) level needed by the salmon during a shortage situation. About one per cent EPA+DHA of diet from fish oil is enough for optimal growth of salmon in sea water based on EWOS and other research, but the level needed for optimal health and robustness is less well defined.

THE PERFECT RAW MATERIAL IS OUT THERE!



Source: IFFO, FAO

Globally there is roughly 90 million tonnes of fish harvested from the sea. Of this 90 million tonnes, there is 70 million tonnes of fish caught for human consumption. Only 50 per cent of this 70 million tonnes is yield for human consumption – therefore 35 million tonnes of the fish trimmings are available as raw material for fish meal and fish oil production for aquaculture. Along with 20 million tonnes of raw material from reduction fisheries; this gives a potential availability of 55 million tonnes of raw materials available for fish meal and fish oil production in the aquaculture industry.

ONE MAN'S TRASH ...

According to the Norwegian research organisation SINTEF as much as 280 000 tonnes of marine raw materials were wasted in 2013 – in Norway alone. And globally, huge quantities of bycatch from other fisheries never reach the shore, but are dumped at sea – in line with international agreements.

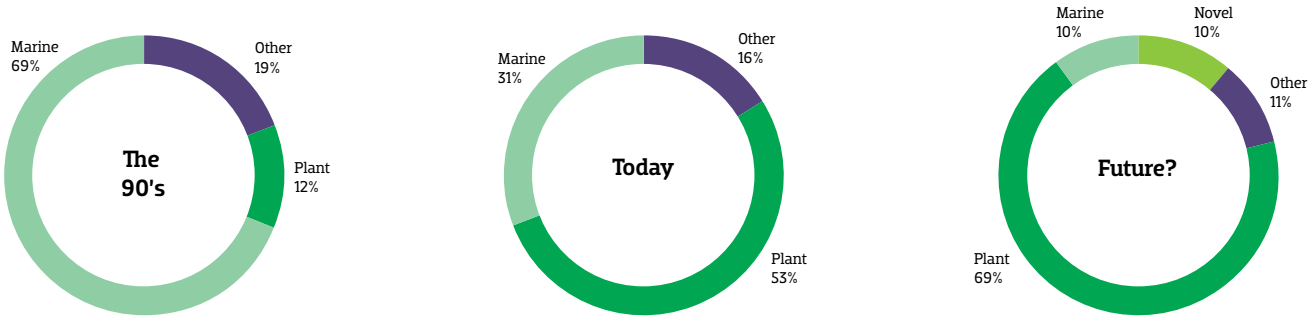
... ANOTHER MAN'S TREASURE

Trimmings and by-products from fish are an ideal raw material for fish feed: It is the natural food for fish, it can often be sourced locally and it upcycles materials that would otherwise go to waste into healthy and delicious food.

PERFECT PARTNERS

EWOS works to increase the proportion of upcycled protein and oil in our feed. Since 2012, we have successfully partnered with Hordafôr, a Norwegian company specialising in this field to produce fish protein concentrate (FPC) and fish oil from trimmings and by-products for use in our feed. Hordafôr's method for ensiling and preserving trimmings has great potential to increase recovery of marine ingredients that would otherwise go to waste from fishing vessels and processing facilities. Given the right incentives, it could reduce our dependency on raw materials produced from forage fish even further.

What will salmonid feed be made of in the future?



This figure shows how the use of raw materials has changed in the past – and how it may look in the future.

EPA and DHA above the one per cent of diet is mainly included to cater to customer requirements for fillets high in omega-3.

EWOS is involved in a number of innovative projects to explore new sources of omega-3. One such is the innovation network CO2BIO, which aims to use CO_2 captured from the oil refinery Mongstad outside Bergen, Norway to produce omega-3 from algae. CO2BIO started construction on a pilot plant at the location in April 2016. "This pilot project fits in well with EWOS sustainability goals and has a longer term perspective evaluating the potential for industrial production of algae as a cost effective source of EPA and DHA to replace fish oil in salmon feed," comments Nanton.

EWOS also collaborates with Ocean Forest, a company owned by Lerøy Seafood Group and the Norwegian NGO Bellona. Ocean Forest is working on an integrated aquaculture system in which it hopes to produce algae, seaweed, mussels and different fish species while capturing CO_2. EWOS Innovation will in 2016 finalise an investigation of the use of mussel meal in salmon feed.

PROTEIN PLETHORA

While alternatives to fish oil are currently few and far between, new protein sources come by the dozen. "At least before screening," says May Helen Holme, "but few pass our tests". A research scientist, Holme is part of EWOS Innovation's extensive programme to add new protein sources to its basket of raw materials. With this programme EWOS aims to be at the forefront in discovering new protein raw materials and to foresee opportunities emerging from new processes and industries.

"We screen more materials now than ever before, about 100 each year. Some are sent to us from suppliers worldwide. Others come from our own searches in different industries or from academic literature searches," says Holme, adding that EWOS is looking for raw materials with a high level of protein and characteristics that will support fish health and growth – and not affect feed quality. Commercial considerations like price and availability are of course important parameters, too.

FIT FOR FEED

"We apply different steps in the assessment process to evaluate new materials. One is a chemical assessment, in which we look at the chemical properties and compare it to our extensive library of materials. Also, we evaluate the biological properties and digestibility for the salmon. As part of this process we will also set up trials for promising materials," says Holme, moving on to explain another process, which is to investigate the technical properties. "It has become increasingly important that the raw material works well in the meal mix. Otherwise, we risk possible negative effects on feed quality which can cause losses either in our own production processes, during shipping or in the customers' feeding systems."

In addition EWOS will assess risk related to food safety and sustainability. Based on a well-established system for supplier approval, EWOS applies increasingly stringent standards to raw materials (see opposite page). "Food safety and sustainability form the very foundation for our work to find new raw materials and are non-negotiable," Holme points out. "Finding protein sources to complement fishmeal is key to securing future growth for salmon farming."

According to Holme, one of the most important developments in the quest for new ingredients is the focus on an increased protein level of several alternatives. And while the search for alternatives is still on, the testing and inclusion of fishmeal has become highly sophisticated. "We have developed a very

SOURCING RESPONSIBLY

EWOS maintains a sharp focus on the supply chain, striving to source raw materials that are responsibly produced.

EWOS' system for supply chain risk analysis and supplier approval regulates how we select, approve, audit and control raw material suppliers. We expect all our suppliers to uphold our Code of Conduct for Suppliers and that they request similar standards for their suppliers and subcontractors.

Both the code and our sourcing policy are available online at www.ewos.com.

We will only use ingredients that we judge to be responsibly produced based upon the best available information. All raw material suppliers must be approved before we order their products; a process that involves reviewing risk related to food safety, commercial aspects and product quality as well as sustainability issues.

› *For more on sourcing and supplier audits in 2015, see pp. 24–27*

MARINE SOURCES

EWOS only sources marine raw materials that come from fisheries adhering to FAO's Code of Conduct for Responsible Fisheries, which excludes illegal unreported and unregulated fishing (IUU). We prioritise marine ingredients that are certified to the IFFO RS. Furthermore, we are working to enable our customers to comply with the evolving ASC Responsible Feed Standard, which will include sourcing MSC approved marine ingredients. Our suppliers comply to regulations for bycatch.

IFFO RS
Certification programme for responsible supply of fishmeal and fish oil, from IFFO – The Marine Ingredients Organisation.

Marine Stewardship Council Fisheries Standard
Certification programme to assess if a fishery is well managed and sustainable, from the MSC.

FishSource
Online resource for sharing information on the status of fish stocks and fisheries, created by the NGO Sustainable Fisheries Partnership.

TERRESTRIAL INGREDIENTS

EWOS is committed to using deforestation free raw materials and to the New York Declaration on Forests. We will source soy products from Brazil, our main supplier, that are certified to ProTerra, RTRS or equivalent. Use of soy products from other countries can be approved given evidence that they are responsibly sourced or that the suppliers have development programmes in place to achieve credible third-party certification.

ProTerra Standard
Certification scheme to ensure sustainable and fully traceable agricultural commodities, including non-GMO soy, from the ProTerra Foundation.

RTRS Standard for Responsible Soy Production
Certification programme to promote responsible production, processing and trading of soy, from the Round Table for Responsible Soy (RTRS)

New York Declaration on Forests
Cargill has endorsed the timeline to cut natural forest loss in half by 2020, and strive to end it by 2030.

TURNING GREENHOUSE GAS TO FEED

Too good to be true? It is becoming reality, according to the California-based company Calysta. The technology in question is based on a bacterium that can be placed in fermentation tanks, fed methane and turned into an alternative protein product. Together with five other investors, Cargill in February 2016 announced a USD 30 million investment to further develop Calysta and its protein product.

ROYAL FEED

EWOS Scotland makes bespoke feed for the Scottish fish farmer Loch Duart based exclusively on fish meal from Icelandic capelin, which are IFFO RS responsibly sourced.

While the roe of the capelin is extracted and marketed to discerning consumers, primarily in Japan, the rest of the fish is used to produce a high quality fish meal called Royal, ideal for salmon feed. The end result is Loch Duart's own label feed, which meets Loch Duart and EWOS common objectives of making feed that is as close to the salmon's natural diets as possible and made from sustainable ingredients.

efficient method for analysing fishmeal. It enables us to buy better products and to direct different qualities to different feed types. Furthermore, it means we can optimise our production processes to suit each batch of fishmeal, which is important to our efficiency," explains Holme.

TIME TO RETHINK

The quest for sustainability in feed production also presents challenges to the consumers of farmed salmon. Oil expert Dominic Nanton would encourage consumers to rethink their omega-3 requirements. "Currently, we are tailoring levels of EPA and DHA to customers' requirements. In terms of sustainability, it can be better to lower the EPA+DHA content in the salmon while still delivering the EPA+DHA dose needed to meet human health recommendations. The recommended EPA+DHA dose in the fillet is dependent on serving size, number of servings per week and which health authority recommendation is used. However, the decision rests with our customers and of course the consumers," he says.

Similarly, a number of available raw materials are textbook examples of sustainable sourcing, yet hard to accept for consumers. Animal by-products made from parts that do not go to human consumption, such as poultry meal and feather meal, is just one example. They are accepted by consumers as feed ingredients in many regions, unacceptable in others.

What about insects? Can insect meal gain consumer acceptance? Participating in the ambitious research project *Aquafly* with the National Institute of Nutrition and Seafood Research (NIFES), May Helen Holme certainly hopes it can. "It is an important project. Aquafly will investigate if insects can be safe and healthy ingredients in future feeds. Insect meal and fat have not yet been approved for use in feed in the EU due to lack of documentation, but we hope that the regulations will soon change in our favour," she says, noting that EWOS at no point will use feed ingredients that make the salmon anything less than a highly nutritious, tasty and delicious meal.

"Salmon farming is a great way of turning lower-grade protein into healthy food, rich in omega-3. If consumers are willing to accept new but tested and approved ingredients in the feed, we can take the sustainability of the industry to a new level. And after all, no one would hesitate to eat a wild trout, and what is their primary food? Insects!"

SALMON TWICE A WEEK

Two servings of salmon a week is enough! The European Food Safety Authority (EFSA) recommends 1.75 g EPA + DHA per week for human health. Even if there is a lower content of omega 3 in the salmon feed these recommendations are still met by two servings of salmon a week.

HIGHER CONTENT OMEGA-3

7.5% EPA + DHA of fat in feed

1.3% EPA + DHA of fillet

3.3g EPA + DHA in 2 servings of 125g fillet per week

LOWER CONTENT OMEGA-3

5% EPA + DHA of fat in feed

1.0% EPA + DHA of fillet

2.4g EPA + DHA in 2 servings of 125g fillet per week

1.75g EPA + DHA= EFSA weekly requirements

INNOVATING FISH FEED: **OUR PERFORMANCE**

WHY IS IT MATERIAL?

Intensive aquaculture is a very new science, compared to livestock and poultry production, for example. Different farmed species have different nutritional requirements, but one of the principles of animal welfare for farmed animals is *freedom to access to nutritious feed*. Innovation in fish feed has helped to define the nutritional requirements of the fish species and how to supply them efficiently and responsibly.

For many years the salmon feed industry was strongly challenged by eNGOs over its use of forage fish for fishmeal and fish oil. It was not seen as an efficient use of a finite marine resource to use a high proportion of fish to feed other fish. Fish in fish out (FIFO) ratios were out of date, misinterpreted and highly publicised. As consumers show more interest in their food value chains and are moving one step back along the supply chain, they increasingly want more information on where their food comes from and what it has been fed. Traceability of raw materials and sustainability issues pertaining to them are increasingly important to the aquaculture industry, as well as the need to communicate timely, accurately and transparently.

EWOS is committed to contribute to sustainable aquaculture by supplying high quality feeds, so providing essential protein and fatty acids for a growing world population. Seafood is an important part of a healthy diet, providing not just protein, but the long chain omega-3 fatty acids essential to human health. Choosing the right raw materials for our feeds and using them to create efficient, healthy feeds for aquaculture is one of our most important contributions to producing more seafood in a sustainable manner.

WHAT EWOS DOES

Aquaculture feeds are made from a mixture of fish and plant based raw materials, providing proteins, oils, vitamins and minerals in a balance which should support this. More than 20 years ago the feeds for salmon relied heavily on fish based materials to provide highly digestible protein and essential fatty acids. However, even then EWOS Innovation saw the requirement to reduce the dependency on marine raw materials and has led initiatives which continue today.

In response to the FIFO ratios, EWOS developed the marine dependency ratios for oil and protein. In addition we refer to the forage fish dependency ratios which are routinely presented for customers as part of the ASC standard.

Marine raw materials are still used in feeds, but at a much lower inclusion than before. Responsible sourcing of these materials is key and various requirements have been set for suppliers – the first and most obvious being following the FAO Code of Conduct for Responsible Fisheries and avoiding IUU fish. While EWOS does not monitor data on wildlife interactions, we promote responsible fishing standards which maintain biodiversity by adhering to this standard. We also work closely with a number of organisations supporting responsible fisheries, also supporting initiatives on fisheries improvement programmes and certifications, such as the Sustainable Fisheries Partnership, IFFO RS and MSC. Preference for marine raw materials is given to material produced according to the IFFO RS or MSC standards and from suppliers giving FishSource Score data. Fishmeal and oil extracted from what was previously waste from the direct human supply chain of fish (trimmings and by-products) are increasingly used, prepared to standards set to our suppliers.

Focus has also been applied on developing alternative sources of highly digestible protein, meeting the requirements of the fish for healthy, vigorous growth. The raw material basket has been greatly expanded from fish based products to predominantly arable crop products. These bring new supply lines and potentially new challenges for responsible sourcing. Soy protein concentrate is now an important ingredient in salmon feeds for EWOS Norway and to address historical concerns regarding the production of soy in certain countries, EWOS has joined several initiatives for responsible sourcing of this material. EWOS is member of RTRS and ProTerra, working particularly, but not exclusively, in Brazil to assure the supply of responsibly produced soy products. In 2016 EWOS expects to have 100 per cent certification of soy protein concentrate (SPC) purchases from Brazil, supported by open engagement with stakeholders in Brazil. EWOS also committed to the 2015 FEFAC initiative to develop responsible guidelines for sourcing soy products. According to customer requirements, EWOS can supply feed to various eco-certification schemes. For example, EWOS Scotland has an organic product line (Soil Association and Debio).

GOVERNANCE

Most projects in EWOS Innovation are also related to sustainability. In terms of finding new sources of raw materials, better raw materials, waste management (more use of by products) and looking for alternative sources of omega-3 for example. The CEO of EWOS has been a driving force in innovating fish feed – a key player in many of the sustainability initiatives in the salmon feed industry today.

ASSESSING PERFORMANCE

EWOS acts on its commitments to responsible sourcing of raw materials by having traceability through its supply chain and ensuring a high level of transparency in raw material sourcing.

We monitor and report on the following aspects on a routine basis. Numbers in brackets refer to EWOS and GRI indicators.

> More on p. 67

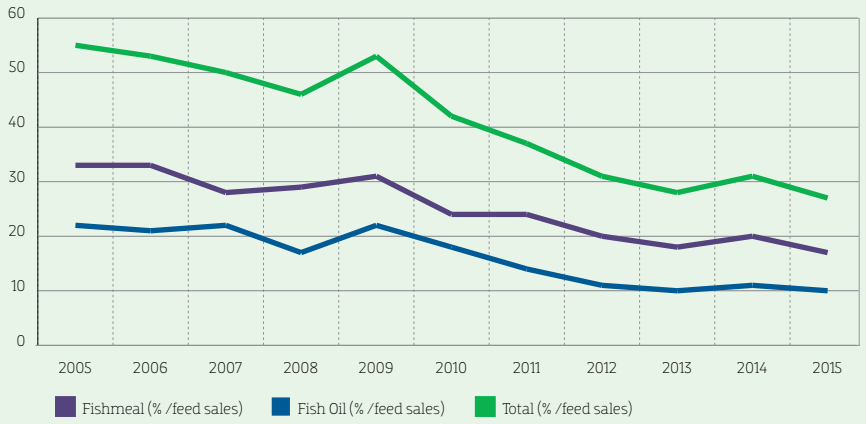
Aspects

Marine index [EWOS 8]
Traceability of supply chain [EWOS 10]
Transparency of raw materials [EWOS 8, EN1, EN2]
Procurement practices [FP2]

Notes:
Figures exclude Vietnam

EWOS Marine Index in Salmon feeds

Per cent (marine ingredients/ feed sales)



Compared to 2005, EWOS has decreased its marine raw materials (sum of fish meal and fish oil) by half, from 55 per cent in 2005 compared to 27 per cent in 2015. The use of fish meal and fish oil was slightly lower than 2014.

Note:
Figures include EWOS Vietnam

EWOS RAW MATERIAL USE 2015

Raw materials used for salmonid feeds and feeds for other species like pangasius and tilapia

	Inclusion (as % of raw materials)	Origin
Carbohydrates & binders incl beans & peas	19.0%	Australia, Canada, Chile, Germany, UK, USA, Vietnam.
Fishmeal	16.6%	Chile, China, Denmark, Iceland, Ireland, Norway, Panama, Peru, UK, USA.
Soy protein concentrate	15.3%	Brazil
Vegetable oil	14.5%	Argentina, Baltics, Canada, Chile, Germany, Netherlands, Russia, UK
Fish oil	9.8%	Chile, China, Denmark, Iceland, Ireland, Norway, Panama, Peru, UK, USA.
Animal by-products	6.7%	Argentina, Belgium, Brazil, Canada, France, Germany, Italy, Spain, USA.
Wheat gluten	5.5%	Argentina, Belgium, Canada, China, France, Germany, Lithuania, Russia, UK, USA
Other vegetable proteins	3.5%	Argentina, Dubai, Philippines, Vietnam, USA
Sunflower meal	3.1 %	Argentina, Lithuania, Russia, Ukraine
Maize gluten	2.6%	Belgium, France, USA
Soy HiPro & soy extracted	1.9%	Argentina, China
Pea protein concentrates	0.7%	Canada, China, Germany
Oil seeds	0.7%	Canada, UK
SUM	**100%**	

Microingredients such as vitamins, minerals and pigments are not included in this summary.

OVERVIEW OF FISH SPECIES USED TO MAKE FISHMEAL AND FISH OIL FOR EWOS FEED 2015 (INCLUDING EWOS VIETNAM)

Category	Species	Category %	% Total marine ingredients
Fish trimmings & byproducts	Herring trimmings	50,8	16.3
	White fish offal	24.1	7.8
	Hake trimmings	3.0	1.0
	Atlantic mackerel trimmings	7.9	2.5
	Capelin	3.5	1.1
	Various species	10.8	3.5
Fish trimmings & byproducts Total		**100**	**32.2**
Forage Fish	Anchovy	41.6	28.2
	Blue whiting	18.9	12.8
	Capelin	10.1	6.8
	Menhaden	4.9	3.3
	Sardine	10.6	7.2
	Sprat	6.6	4.4
	Various species	7.3	5.0
Forage Fish Total		**100**	**67.7**
Other Marine Ingredients	Krill		0.08
Other Marine Ingredients Total			**0.08**
			100%

Notes:
Species that individually make up less than 2 per cent of the mix have been grouped together under 'various species'. Countries making up less than 2 per cent of the total fish meal and fish oil are not listed. Figures include EWOS Vietnam

For the marine ingredients an overview is given on sourcing by either *fish trimmings and by products* or *forage fish*. Roughly 68 per cent of the marine ingredients were sourced from forage fish, the main species being anchovy but also volumes of Blue whiting, capelin and sardine were also significant. The fish trimmings and byproducts category was 32 per cent of the marine ingredients, with herring trimmings being a major species in this category. EWOS uses a very small amount of krill meal in its feeds.

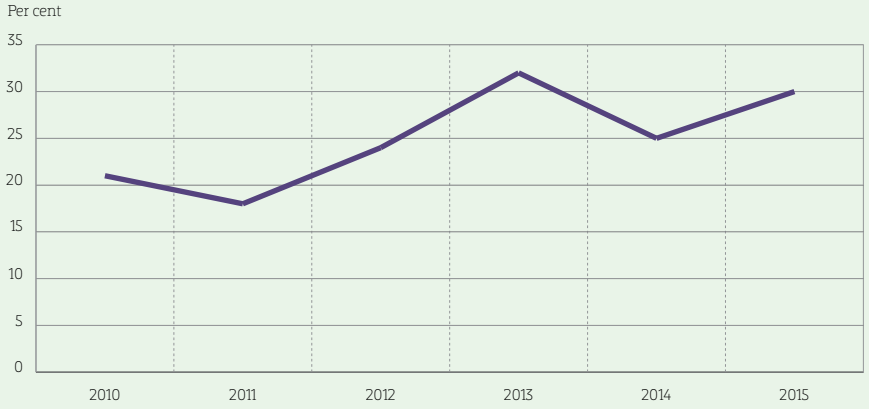
COUNTRIES OF ORIGIN OF CAPTURE FISH

Overview of countries of origin for many of the species used in fishmeal and fish oil purchased by EWOS for salmon feed (Canada, Chile, Norway, Scotland). EWOS Vietnam are excluded because the main feed volume is for warm water species that have a low requirement for fish meal and fish oil.

Fish species	Country
Anchovy	Peru, Chile, China
Blue whiting	Denmark, Iceland, Ireland, Norway, UK
Capelin	Norway, Iceland
Sprat	Denmark, Norway, Ireland
Menhaden	USA
Herring	Norway, Denmark, Iceland
Jack mackerel	Chile
Norway pout	Norway, Denmark
Sand eel	Norway, Denmark
Sardine	Chile, Panama

Notes:
Figures are excluding EWOS Vietnam

Share of trimmings and byproducts in fish meal and fish oil in salmon feeds



The use of trimmings and by products for EWOS salmon feeds as a source of marine ingredients has increased from 21 per cent in 2010 to 30 per cent in 2015. EWOS UK has the highest use of by-products and trimmings at 48 per cent of the marine ingredient use in 2015.

Notes:
Figures are ex. EWOS Vietnam
Reference eFCRs were taken from EWOS customers globally (eFCR used was 1.3)

MARINE NUTRIENT RATIOS

	2015
Marine Protein Dependency Ratio (MPDR)	0.83
Marine Oil Dependency Ratio (MODR)	0.74

Marine protein and oil dependency ratios are shown. These ratios were developed by EWOS (Crampton et al. 2010) and demonstrate how much of the nutrient value from marine ingredients is transformed into farmed salmon. The values for 2015 demonstrate that for the first time EWOS group were providers of feed that gave our fish farmers the possibility to be net producers of marine protein. EWOS have for several years been net producers of marine oil. There are be country to country variations.

MPDR = ((fishmeal% * 68%) * average eFCR) / 17.5%
MODR = (fishoil% + (fishmeal% * 8%) * average eFCR) / 19.7%

FORAGE FISH DEPENDENCY RATIO

	2015
Forage Fish Dependency Ratio for Fish Meal (FFDRm)	0.6
Forage Fish Dependency Ratio for Fish Oil (FFDRo)	1.7

As well as the marine dependency ratios that EWOS developed, there are also the forage fish dependency ratios for fish meal (FFDRm) and fish oil (FFDRo) that the ASC adopted as their reference for marine ingredient reliance. The equation for the forage fish dependency ratio is given on next page, and – as the name suggests – includes only the ingredients coming from forage fish and not the byproducts or trimmings. These are reported for EWOS for full year 2015. Both the fish oil and fish meal forage fish ratios for all the EWOS companies meet the criteria for ASC which is <1.35 for FFDRm and < 2.95 for FFDRo. It is also important to note that the forage fish dependency ratios vary between countries due to customer preferences regarding marine ingredient composition of the feed, and also the sourcing capabilities for byproducts and trimmings.

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

$$FFDRo = \frac{(\%\ \text{fishoil in feed from forage fisheries}) * (eFCR)}{5.0 \text{ or } 7.0, \text{ depending on source of fish}}$$

NUMBER OF SUPPLIER AUDITS PLANNED AND CARRIED OUT

	EWOS Norway	EWOS Chile	EWOS Canada	EWOS Scotland	EWOS Vietnam	Total
Target	10	9	6	4	15	44
Actual	10	10	6	3	15	44
%	100%	111%	100%	75%	100%	100%

Audits of EWOS raw material suppliers are planned based upon the results of a risk analysis that considers quality and food safety risks as well as sustainability requirements, in addition to commitment to UN Global Compact Principles. This indicator is used to measure "actual" compared to planned supplier audits. In 2015 a total of 44 supplier audits were planned for EWOS and 100 per cent of these audits were acheived. It is not possible to report the findings of these audits due to supplier confidentiality, however any deviations observed in the audits are followed up and processed according to EIMS. Opportunities for improvements identified are also the basis for supplier development and long-term relationshoips between EWOS and their suppliers.

MARINE INGREDIENTS

EWOS gives preferential supply to IFFO RS certified fish meal and fish oil products. In addition, we support the development of Marine Stewardship Council (MSC) for reduction fisheries. In 2015, 93 per cent of the fish meal purchased by EWOS was IFFO RS, with EWOS Scotland having 100 per cent IFFO RS purchases for example.

SOY

Today, EWOS is a member of the current standard bodies for soy (for example RTRS and ProTerra) and also supports the FEFAC guidelines for responsible soy. EWOS Norway is the largest user of soy protein concentrate in EWOS and in 2015 73 per cent of the soy product was purchased as certificates. For EWOS Norway, this value is expected to be 100 per cent within 2016.

GMO POLICY

EU regulations require a food producer to apply to the National authorities if a specific GMO ingredient should be used. If approved GMO ingredients are used in feed, the feed must be labelled accordingly, but the final product (e.g. fish, meat or cheese) is not subject to the same labelling requirements.

In Norway and UK, EWOS' customers do not want GMO raw materials used in EWOS feeds. To meet the requirements of our customers, EWOS has not been using any GMO ingredients in the feed in UK and Norway to date. This has also been the situation in 2015.

Outside the EU, the use of GMO ingredients is common and there are no specific labelling requirements. Both EWOS Canada and EWOS Chile have no requirement for non-GMO ingredients, and would thus use GMO ingredients in their feeds when applicable.

REDUCING OUR FOOTPRINT

THE CHALLENGE

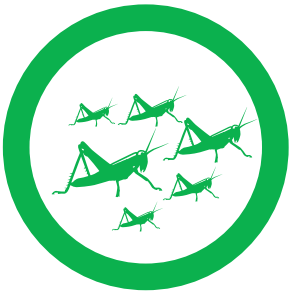
Climate change and resource depletion challenges food production

OUR RESPONSE

Research and operational improvements to minimise the footprint of our own operations as well as that of fish farming

WHAT'S ON tomorrow's menu?

Food comes with a footprint. Are you willing to change what you eat in the name of climate change?



INSECTS

Rich in proteins, vitamins and amino acids.

RAW MATERIALS MATTER

Raw materials account for roughly 95 per cent of the carbon footprint of salmon feed.

Have you ever seen a swarm of crickets on the move? Crickets by millions almost turning day to dark on their mission to mate and find a place to lay their eggs? Crickets in cascades invading gardens, crawling all over buildings and threatening farmland? If not personally, then you are sure to have seen the phenomenon on TV.

Now, think about those endless cricket swarms again, and then think food. As unappetising as the thought may be, the practice of eating insects is being hailed as an important element of a new global diet. Meat consumption is growing globally, driven by economic growth and a consequent switch towards more protein-rich diets in many regions. However, there are environmental challenges associated with meat production, not least related to freshwater consumption and greenhouse gas (GHG) emission from livestock rearing. We need to secure other and more environmentally friendly sources of protein. Such as crickets.

But fear not, there are alternatives. Both plants and fish are good – and assumingly more palatable – options. This includes legumes such as peas, beans and lentils, as well as salmon and other farmed fish species. In fact, substituting meat with proteins from farmed fish is a very efficient way of reducing your carbon and water footprints.

FUTURE-FRIENDLY FOOD

Here is why, using farmed salmon as an example: Cold-blooded and equipped only with fins, not feet, salmon uses no energy on regulating body temperature and less energy on swimming than livestock do on standing and walking. Furthermore, about two-thirds of the salmon is edible fillet, far more than for any land-

SUPERIOR SALMON

Salmon is an efficient animal to farm. It has a low feed conversion ratio and yields a high share of fillet, placing it second to only chicken in terms of carbon footprint.

	Farmed Atlantic Salmon	Chicken	Pork	Beef
				
CARBON FOOTPRINT (kg CO_2 equivalents / kg edible part)	2.9	2.7	5.9	30.0
FEED CONVERSION RATIO (kg feed consumed / kg biomass gained)	1.3	1.9	2.8	6–9
ENERGY RETENTION (energy in edible parts/ gross energy fed)	23%	10%	14%	–
PROTEIN RETENTION (protein in edible parts / gross protein fed)	31%	21%	18%	–
EDIBLE YIELD (edible parts/ total bodyweight)	68%	46%	52%	–

Source
Welch et al. (2010) From Fishing to the Sustainable Farming of Carnivorous Marine Finfish, Reviews in Fisheries Science, 18:3, 235–247 Torrissen et al. (2011) Atlantic Salmon (Salmo salar): The "Super-Chicken" of the Sea?, Reviews in Fisheries Science, 19:3, 257–278

THE FOOTPRINT OF FEED

EWOS is supporting an EU project to establish a method to measure the environmental footprint of animal feed and seafood.

The European Commission has initiated a project to set up category rules for making claims on the environmental footprint (EF) of food products. As feeds have an integral role on the footprints of farmed animals, there is a separate sub-project on feeds organised through FEFAC For this, EWOS is carrying out a pilot study on salmon feeds in parallel with other studies on pig, broiler and cattle feeds. This will determine methods and rules for Product Environmental Footprints (PEFs) of feeds which can be declared as B2B or to the consumer as required. The PEF will not only cover the traditional carbon footprint, but another 14 impact categories required by the European Commission. The PEF of a feed can be used by farmers as part of the calculation of the PEF of their fish at harvest. The previous experience of EWOS in ecological footprinting (see main story, this page) is assisting with the process, which should be completed within 2016.

based animal. These intrinsic properties make salmon highly efficient in converting feed to muscle. It retains large shares of the protein and fat it eats compared to livestock, yielding a smaller 'farm gate' carbon footprint than most other animal protein sources. Feed conversion is also key – having a low FCR is important as this is indicative of the feed footprint in the fish. Low FCR also reduces waste into the water, so reducing environmental impact.

By delivering feed that reduces feed conversion ratios EWOS also contributes to reducing the footprint of feed, i.e. less feed waste. EWOS Rapid is a seasonally adapted, high performance grower feed based on EWOS COMPASS. Launched in Norway in 2014 it is our most exciting yet and offers salmon farmers a number of benefits, including shorter production times, increased weight gain compared with other feed, lower FCRs, improved profitability and less environmental impact. In a trial where three cages of fish (350,000 fish) were fed EWOS Rapid, FCRs were 1.05, compared to 1.11 per cage for fish fed the commercial EWOS Norway feed (EWOS Opal 120): a 6 per cent point better FCR. This trial was performed in the summer of 2014 at Cermaq site Anevika where fish were grown from 1kg to 4.7kg.

According to a life cycle assessment (LCA) conducted by SINTEF, Scandinavia's largest independent research organisation, feed accounts for 95 per cent of the carbon footprint or GHG emissions of salmon at the farm gate (SINTEF, 2012). Large shares of the emissions are associated with the production, harvesting, processing and transportation of raw materials, but even the feed production processes have room for improvements. While EWOS has limited control over the raw materials link of the value chain, detailed knowledge about emission hotspots can serve to find solutions and alternatives that will reduce the footprint of farmed salmon.

CALCULATING FOOTPRINTS

To this end, EWOS Innovation developed many years ago an ecological footprint (EF) model in cooperation with Canadian researchers (University of Dalhousie, Pelletier and Tyedmers). The ecological footprint is a measure that describes the amount of productive ecosystem a human population requires to provide all resources consumed as well as absorb the resultant wastes, given existing technologies. It is measured in hectares.

We have used the EF model for several years to measure the ecological footprint and carbon footprint of our feed production in the five regions where we operate. It is a sophisticated tool that allows us to quantify the ecological footprint and the GHG emissions from the entire value chain for each raw material, from the production, processing and transport of different raw materials, to the feed production itself. The EF model is used today to support our customers in their ASC certification.

Applying the model to different feeds reveals significant differences in ecological footprints. Marine ingredients have a high impact on the ecological footprint and species at high trophic levels – typically predators high in the food chain – will result in larger footprints. For terrestrial raw materials the model takes into account regional differences in energy sources, transport models and farming techniques.

However, calculating footprints is a complex undertaking. As with all models there are assumptions – and debates around the assumptions. The ideal scenario is an external standard that everyone can refer to, and this is exactly why EWOS is supporting an EU initiative on product environmental footprint (see opposite page).

EFFICIENT PRODUCTION

Monitoring the feed footprint through careful selection of raw materials is one aspect of our work to improve resource and energy efficiency in our operations. In recent years, we have also installed different measures and new technologies in our factories to save energy and switch our consumption to renewables such as biomass. Furthermore, we pay much attention to water, which is an important parameter in our work to improve production processes. Added to the feed mix to regulate viscosity, too much water will drive energy use at the final drying stage of our production process. On the other hand, too little water could hamper production. See p. 36 for more on energy use and efficiency.

We undertake considerable efforts to improve our production processes and feed technologies. With most of our deliveries now being in bulk, less plastic is used for packaging, and the feed pellets must be able to withstand high pressure and rough treatment to avoid caking, breakage or excessive dust. New screening methods for analysing raw materials is one key to achieving optimum quality on the pellets. Knowing the exact composition and quality of each batch of raw materials allows us to fine-tune our processes and machinery accordingly. It is important for both our efficiency and the quality of our end product.

FISH BEFORE MEAT

It is estimated that food production is responsible for about a third of global GHG emission. Needless to say, the human diet is pivotal to forestall global warming. Right now, it is driving emissions, but a dietary switch favouring pulses, cereals, vegetables and fish over meat could potentially slow climate change and have added health benefits.

And crickets? The Food and Agriculture Organization of the United Nations (FAO) have been working on topics related to edible insects since 2003. Rich in protein, vitamins and amino acids – and with low GHG emissions – insects are viewed as a great means of fighting malnutrition and hunger in many regions. And as described on page 20, they also have great potential for reducing the footprint of fish feed.

REDUCING OUR FOOTPRINT: **OUR PERFORMANCE**

WHY IS IT MATERIAL?

The UN 2030 Agenda for Sustainable Development states that "we are determined to protect the planet from degradation, including through sustainable consumption and production, sustainable managing its natural resources and taking urgent action on climate change, so that it can support the needs of the present and future generations". All activities have a footprint and those at EWOS are not only defined by the production facilities but also the sourcing of the raw materials, and the impacts of these activities. The production of large tonnages of aquaculture feeds will always have an impact on the global environment. EWOS takes very seriously its responsibility to minimise that impact, whilst producing healthy, nutritious feed for global aquaculture activities which, in turn, help to provide essential nutrients to the growing human population.

WHAT EWOS DOES

EWOS bases its activities of environmental compliance initially on local legislation and on its own commitments to environmental sustainability. These are managed and monitored primarily through EIMS (see p. 10), applying ISO 14001 in particular with respect to environmental management procedures. This ensures that all environmental impacts on the areas in which EWOS operates should be monitored and if needed corrective actions are put in place.

The most material environmental impacts from our production facilities are related to energy consumption, GHG emissions and water use. Goals for the management of energy use per unit of production are set locally by each operating company. All operating companies in EWOS have material initiatives in place to improve energy usage per unit of production. EWOS acknowledges the need for reducing global greenhouse gas (GHG) emissions and has been measuring ecological footprint (EF) and carbon footprint on EWOS feeds using an EWOS model developed by external experts in the field. The EWOS EF model output shows that the choice of raw materials has a significant impact on the CO_2e/tonne feed produced whereas the contribution from the feed production and distribution is modest.

Additionally, our production facilities also generate waste and involve the use of packaging materials. Waste management was considered in the materiality assessment, but EWOS produce a modest amount of waste and any hazardous waste products are handled according to strict procedures. The amount and type of packaging used is monitored for each feed operation plant, and there are good procedures in place to handle the recycling of packaging materials. In connection with the acquisition of EWOS by Cargill, a thorough audit of the

potential contamination of land facilities at our sites was done by a 3rd party auditor (Golder Associates) and adequate remedial action was taken.

As part of its Code of Conduct for Suppliers, EWOS expects its suppliers to take their own measures to manage the environmental impacts of their operations, such as discharge, resource usage and waste. As an example of this, EWOS worked with stakeholders of the fishmeal and oil production industry in Peru to develop waste management and treatment facilities for their factories, cleaning up major environmental damage.

Environmental footprint is measured through the life-cycle of products – from cradle to grave. This can be done simply by carbon footprinting, or using more complex techniques such as LCA. EWOS has joined an initiative of the European Commission (EC), organised by FEFAC, to develop rules for quantifying and communicating Product Environmental Footprints (PEF) using the LCA approach. For more on the PEF project, see p. 32. This will enable EWOS to internally monitor the footprint of its own feeds and potentially to communicate these to its customers so that they can determine the footprint of their products. This project will report within 2016 to the EC to setup rules for formalising this process.

The COP21 meeting in Paris in December 2015 was a focal point for global warming discussions. The resulting 32 page document reports that world leaders are resolved to keep global warming "well below" 2 degrees Celsius above pre-industrial levels and "pursue efforts" to limit it to 1.5 degrees. They also agreed to set national targets and plans for reducing greenhouse gas emissions every five years from 2020 onwards.

Cargill supported a strong outcome in Paris and has an ongoing commitment to reduce greenhouse gas emissions, increase low-carbon investments, deploy more clean energy, and take other actions to build a more sustainable enterprise and tackle climate change.

GOVERNANCE

As discussed, EWOS strives to reduce the footprint of its activities and products in a number of ways. Sustainable and responsible sourcing, better resource utilisation such as improved FCR but also the operational use of energy, water and production of GHG emissions per tonne of feed produced. In EWOS, these activities are governed by the leadership team in each operating company: Purchasing, Operation and also the Marketing directors.

ASSESSING PERFORMANCE

EWOS acts on its commitments to reducing the footprint of operations and fish farming by investing in research and operational improvements.

We monitor and report on the following aspects on a routine basis. Numbers in brackets refer to EWOS and GRI indicators.

> More on p. 67

Aspects

Emissions [EN15, EN16, EN18]
Energy [EN3, EN5, EN6]
Water [EN8]
Compliance [EWOS 11, EN29]
Biodiversity [EWOS 7, EN12]
Economic performance [EC4]

Notes:
2010 to 2014 Emission factors; DEFRA 2014 with the exception of non UK eletricity (Vietnam, Norway, Canada and Chile) which use the IEA 2014 factors.
2015 Emission factors: DEFRA 2015 with the exception of electricity in Vietnam, Chile which is IEA 2015.

GREENHOUSE GAS EMISSIONS

EWOS total gross emissions for 2015 was 61,389 tonnes CO_2e, compared to 63,485 tonnes CO_2e in 2014. The intensity of GHG emission per tonne feed produced was 52.9 kg CO_2 e/ tonne feed compared to a slightly higher value of 53.5 kg of CO_2e per tonne feed in 2014.

SCOPE 1 – 2 GHG EMISSIONS

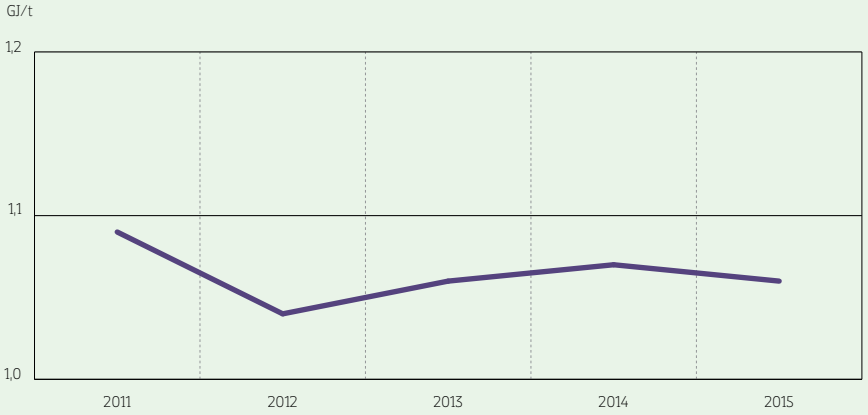
Global tonnes of CO_2e	2013	2014	2015
Biofuel	0	0	36
Biomass (from rice husk)	0	0	828
Butane	0	0	0
Crude oil	0	0	0
Diesel	100	97	191
Fuel oil	18,635	15,746	13,883
Gasoline/ petrol	0	0	0
LPG	15,400	4,537	6,447
Natural gas	13,263	20,036	16,844
Propane	61	62	70
Scope 1 (direct emissions)	**47,459**	**40,478**	**38,299**
Purchased electricity	21, 370	23,007	23,090
Scope 2 (energy indirect)	**21, 370**	**23,007**	**23,090**
Total gross emissions	**68,828**	**63,485**	**61,389**
Intensity: kg of CO_2e per tonne of output	59.6	53.5	52.9

ENERGY USE

PURCHASED ENERGY CONSUMPTION BY TYPE (GJ)

Energy Type	Energy Source	2013	2014	2015
Indirect	Electricity	444,384	505,043	474,333
Direct	Biofuel	0	41,510	59,914
Direct	Biomass (from rice husk)	75,340	104,290	119,486
Direct	Diesel	1, 349	1,307	2,644
Direct	Fuel oil	233,992	197,720	175,309
Direct	Gasoline/ petrol	0	0	0
Direct	LPG	240,741	70,925	100,680
Direct	Natural gas	232,312	350,957	295,878
Direct	Propane	1,097	1,111	1,266
Total direct + indirect		1,229,214	1,272,863	1,229,511
Change year on year		4%	1%	5%

ENERGY INTENSITY
Energy use/tonne product sold



Total energy consumption was 1,229, 511 GJ for 2015, compared to a higher vlaue of 1,272,863 GJ in 2014. The main energy source was electricity, natural gas and fuel oil. Biofuel was used in EWOS Scotland. The use of biomass (from rice husk) has increased with time for EWOS Vietnam. Per tonne feed produced the energy use decreased slightly from 1.07 GJ/ tonne in 2014 to 1.06 GJ/tonne in 2015.

EWOS Chile has made annual energy savings in the range of 9,000 GJ by improving the efficiency in the drying process. EWOS Vietnam made changes to the extruder set up and adaptions to the burning programme to save energy. EWOS Innovation also made a number of updates to machinery in the fish operations site in Dirdal. For example, a new heat pump was installed, a heat exchange on the hatchery was installed and new controls on the oxygenation system were implemented. All installations contributed to better energy efficiency.

In 2014, EWOS UK invested in and installed a biomass boiler for energy production. In 2015, the biomass boiler was fully operational and this was evidenced by a reduction in GHG emissions for EWOS UK. In 2013 GHG emissions for EWOS UK were 8,493 tonnes CO_2e compared to 4,261 tonnes CO_2e in 2015 – a massive reduction despite an increase in feed production in the same period.

WATER USE

2015 is the first year EWOS have reported water use externally. The water used per kilo of feed sold was 0.47 litres/kg. There are differences between each operating company in water use. We are conscious of the importance of water usage and potential negative impact of water discharge and will refine our methods for monitoring and follow up. Water in the salmon feed factories is sourced either from the water utilities (Scotland, Norway, Canada) or from ground water (Chile).

Total water withdrawal by source for EWOS salmon feed

FY 2015			
	Water use (litre)	Total feed sold (tonnes)	Liter per kg produced
Total	**502,832,345**	**1,069,541**	**0.47**

Notes:
Figures are ex. EWOS Innovation
All factors are Energy Net calorific value (NCV), then converted to tonnes/GJ (conversion from kWh= 0.0036)
We have not calculated the corresponding primary energy consumed in the production of indirect energy.
Base year was 2011 (1,215,108 GJ). Intensity was 1.09 in 2011 /energy use/ tonne feed produced).

PROTECTING BIODIVERSITY

EWOS recognises the potential for fish farming operations to impact biodiversity, either directly or indirectly. However, in 2015, for the feed production operations EWOS has not identified any specific significant impacts of its activities or its products on biodiversity in the areas where the company are operating. However, EWOS recognises that the production of the raw materials used in the diets may potentially impact biodiversity negatively and has thus procedures in place to mitigate such risks.

In his 2009 BioScience paper (Aquaculture Production and Biodiversity Conservation), Professor James S. Diana examined the status and trends in seafood production and the positive and negative impacts of aquaculture on biodiversity conservation. Diana's ranking of negative aquaculture impacts included the following top five in order of decreasing importance as threats to biodiversity:

1. Escapement of aquatic crops and their potential hazard as invasive species
2. The relationships among effluents, eutrophication of water bodies, and changes in the fauna of receiving waters
3. Conversion of sensitive land areas such as mangroves and wetlands, as well as water use
4. Other resource use, such as fish meal and its concomitant overexploitation of fish stocks
5. Disease or parasite transfer from captive to wild stocks

Other impacts of aquaculture on biodiversity conservation, were considered by Diana to be of much lesser importance compared to the above, including: genetic alteration of existing stocks from escaped hatchery products; predator mortality caused by, for example, killing birds near aquaculture facilities; and antibiotic and hormone use, which may influence aquatic species near aquaculture facilities.

As part of its R & D operations EWOS Innovation has two cage sites in Rogaland, Norway (Oltesvik and Gråttnes) which together have an MTB of 780 tonnes salmon. For the third year running, EWOS Innovation had zero fish escapes in 2015.

COMPLAINTS

Number of complaints	EWOS Innovation	EWOS Norway	EWOS Chile	EWOS Canada	EWOS Scotland	EWOS Vietnam	Total
2015		5			2	1	8
2014		5		4			9
2013		5			2		7

EWOS shows a consistent number of complaints regarding environmental issues. 2015 complaints are detailed below:

EWOS Norway
Emission to water: One incident of feed pellet to sea at Halsa. The source was identified and the problem solved.
Dust: Four incidents of dust in Florø. The sources were identified. Precautions have been taken regarding discharge in certain weather conditions.

EWOS Scotland
Smell: Two complaints regarding odour. In both cases, the odour abatement system was checked and found to be working correctly.

EWOS Vietnam
Noise: One complaint about noise from a neighbour.

ENVIRONMENTAL COMPLIANCE

INCIDENTS OF NON-COMPLIANCE WITH ENVIRONMENTAL REGULATIONS

Reporting unit	Incidents	Fines (USD)
EWOS Norway	2	0
EWOS Chile	0	0
EWOS Canada	0	0
EWOS Scotland	0	0
EWOS Vietnam	0	0
EWOS Innovation	0	0
2015 Total	**2**	**0**
2014 Total	0	0
2013 Total	0	0
2012 Total	2	48,567
2011 Total	0	0

In 2015 there were two environmental non-compliances, both of them in Norway:

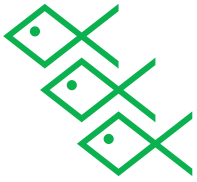
- The fat analysis of process water after the fat separator exceeded the discharge permit maximum level. The case is still open, as more analysis is needed over a period of time to get a broader picture of the issue.
- Flooding of a canola oil tank due to faulty valve. Corrective actions in place.

SIGNIFICANT FINANCIAL ASSISTANCE RECEIVED FROM GOVERNMENT

Category NOK thousand	2013	2014	2015
Investment grants, research and development grants, and other relevant types of grants	4,765	11,688	5,999
Subsidies	493	477	674
Tax relief/credits	5,360	2,990	5,506
Financial assistance from Export Credit Agencies (ECAs)	161		
Other financial benefits received or receivable from any government for any operation			
Grand Total	10,779	15,155	12,179

In 2015 EWOS received NOK 12.2 million in financial assistance from government. A large part was related to investment grants, research and development grants.

SUPPORTING FISH HEALTH



THE CHALLENGE

Enabling good fish husbandry and farm productivity

OUR RESPONSE

Delivering feed that supports fish health and welfare in periods of disease and sea lice challenge

RAGNA HEGGEBØ
Senior scientist

JAVIER GONZALEZ
R&D Manager

LEVERAGING
the feed connection

Sea lice and diseases are major challenges to salmon farming. With fish feed being part of the solution, EWOS invests heavily in research and innovation on fish health – from the high North to the deep South.

"Feed is our best connection with the fish," says Ragna Heggebø, senior scientist at EWOS Innovation. "It is an efficient vehicle for accessing the fish during production. Not only can we feed it well-balanced feed, we can also administer compounds to strengthen the immune system and enhance the health of the fish. And, we can do it without handling and causing stress to the fish," she adds enthusiastically.

In a time when the salmon industry regularly goes through patches of disease outbreaks and sea lice infestation, Heggebø believes that healthy and functional nutrition is more important than ever. "Well-balanced nutrition is part of what defines good fish husbandry, along with factors such as choice of location, water quality and density in the pens," she explains.

The senior scientist thinks more emphasis should be put on the smolt stage of salmon and the critical transfer from land-based facilities to the sea. "This is an extreme change for the fish," Heggebø says. "We have learned that strong and healthy smolt will handle the transfer better and be less susceptible to disease later. And we know that the right feed will support them in making the change," she adds.

AHEAD OF THE GAME

Heggebø also stresses the importance of vigilance. "Staying alert and intervening before the situation escalates is paramount to uphold productivity," explains the scientist and points to the three-layered approach of EWOS' health programme. It comprises three categories of functional feed solutions. The Support category is used to promote fish health and welfare in preparation of health or stress related

FISH HEALTH CHALLENGES

EWOS invests continuously in research and development aiming to promote fish health and optimise immune response in fish. Here are the main health challenges for salmon currently affecting our agenda.

GLOSSARY

SRS: Salmonid Rickettsial Septicaemia

ISA: Infectious Salmon Anemina

SEA LICE: Lepeophtheirus salmonis (Norway, and UK), Caligus rogercresseyi (Chile)

PD: Pancreas Disease

GILL DISEASE: Amoebic Gill Disease (AGD)

CMS: Cardiomyopathy Syndrome

HSMI: Heart and Skeletal Muscle Inflammation

CANADA	CHILE	SCOTLAND	NORWAY
MOUTH ROT	SRS	SEA LICE	SEA LICE
SRS	SEA LICE	GILL DISEASE	GILL DISEASE
ISA	HSMI	PD	PD
		HSMI	HSMI
		WINTER ULCER	WINTER ULCER
		CMS	CMS

challenges. Next, the Clinical category diets are designed to strengthen and optimise immune response in fish during specific health challenges. The third category, called Synergy, is products developed to strengthen the delivery of medicines.

"Avoiding corrective actions and medicines is obviously best," says Heggebø. "We encourage farmers to apply a supportive approach and the principles of Integrated Pest Management." While these principles are more widely used in the combat against sea lice, Heggebø sees great relevance for them in the overall efforts to support fish health. "None of our non-medical measures against disease or sea lice are 100 per cent efficient, but by applying a range of different tactics we can improve fish health during periods of increased risk of sea lice settlement and disease."

INVESTING IN THE SOUTH

Heggebø receives full support from fellow scientist and R&D manager Javier Gonzalez in EWOS Innovation Chile. Suffering periodic setbacks from diseases and sea lice, the Chilean salmon farming industry needs solutions to help it regain momentum as a leading salmon producing region.

"Expectations are running high," says Gonzalez, pointing to his employers' investment in the new Cargill Aqua Innovation Center, "we are being approached by customers, other industry players and research institutions with ideas for collaborative research projects."

NEED FOR SPEED

Situated in the Los Lagos region of Chile, the Cargill Aqua Innovation Center will open in June 2016. Gonzalez explains that the initial idea for the centre was rooted in the earlier pressing health situation in the country's salmon industry, a situation that is still extremely challenging today. EWOS saw potential for supporting the health situation with new functional feeds. However, with few places to research and lead times of up to five years, the development of new solutions went too slowly. The new centre will enable EWOS to do four or five times more studies each year.

"We intend to speed up the development of new health feed products and respond faster in the event of new fish health challenges," says Gonzalez, assuring particular attention to the bacterial disease SRS from the get-go. Piscirickettsia salmonis, also known as Salmon Rickettsial Septicemia (SRS), is currently the main disease culprit and the largest driver of antibiotics use in Chile. Gonzalez reveals that early in 2017 EWOS will launch a clinical diet that has shown promising effects against SRS in large-scale trials. "Finding solutions to SRS is pivotal to the Chilean salmon industry. We have high expectations for our new diet."

CONTROLLING SEA LICE

Back in the Atlantic, other culprits lurk, not least sea lice. Through joint industry efforts at the Sea Lice Research Centre (SLRC) in Bergen, Norway, EWOS has developed and proved the efficacy of several functional feed components that could

FUTURE LICE CONTROL

Our understanding of sea lice – how it finds its hosts, settles and affects the fish – is increasing, thanks to significant investments in research and collaborative efforts across the industry. It is shaping our development of strategies and options for better control of sea lice:

WHAT WE KNOW ABOUT SEA LICE

- They detect host salmon by smell
- They protect themselves by suppressing the immune system of salmon
- They make salmon more susceptible to diseases
- They can be defeated if the immune system is strong enough
- They can be killed if they settle on other species

WHAT IT MEANS FOR LICE CONTROL

- We can serve salmon compounds that mask it from lice
- We can serve salmon compounds that make it smell like other fish
- We can stimulate the immune system through the feed
- We can provide building blocks for the immune system through the feed

CARGILL AQUA INNOVATION CENTER

The new research centre expands global capacity for fish health research by about 30 per cent.

- Operating from June 2016
- Located in Los Lagos region, Chile
- USD 10.5 million investment
- 28 employees from start-up
- 3000 square metres of state-of-the-art research facilities
- Flexibility to simulate most environmental and water conditions
- Close cooperation with fish health experts VESO

SEA LICE RESEARCH CENTRE (SLRC)

SLRC aims to become world leading on research on salmon louse and related parasites

- Established in 2011
- Appointed Centre for Research-based Innovation by the Research Council of Norway
- Funding from Research Council of Norway 2011–2019
- Hosted by the University of Bergen, Norway
- Research partners: University of Bergen, Institute of Marine Research, Norwegian University of Life Sciences
- Industrial partners: EWOS Innovation, Lerøy Seafood Group, Marine Harvest, Elanco Animal Health, PatoGen Analyse

potentially support salmon when infected with sea lice. Running since 2011, this centre has been decisive in developing better knowledge about the biology of the parasite. SLRC currently comprises six work packages covering the entire life cycle of the salmon louse. EWOS chairs one of the work packages focusing on anti-attachment strategies and host-parasite interactions and co-chairs another aiming to develop a commercially available immune diet.

Ragna Heggebø is excited about the developments in sea lice control strategies: "We have very promising results from use of our EWOS ROBUST feed. During trials, we have achieved reductions in the number of attached sea lice by as high as 50 per cent using a combination of masking and dietary compounds. The first mask the smell of the salmon and confuses the sea lice; the second stimulate the fish's immune system," explains Heggebø, adding also that it is important to use the feed strategically and before periods of high infection intensity.

In addition, EWOS ROBUST has also been used in Chile to support customers' certification to the ASC Salmon Standard, which encourage the use of alternatives to chemical treatments for health and pest management. EWOS ROBUST was fed to three commercial sites for a period of 90 days and a reduction of sea lice in all three sites was observed.

BEYOND THE ARCTIC CIRCLE

EWOS is also in charge of research activities at the Arctic Salmon Research Centre (ASRC), a project of great significance to salmon farming in the northernmost region of Norway. Here, sea lice are causing less problems and environmental conditions are favourable. Nevertheless, there are challenges to overcome, according to Heggebø: "This region has low sea temperatures, long periods of little daylight and certain health challenges specific to the region – all factors that affect productivity. Through ASRC we aim to develop the knowledge needed to succeed with salmon farming in the Arctic."

And so the investments in R&D continue – to promote and enhance fish health, and ultimately to contribute to shape the future of salmon farming. As they say in EWOS, knowledge makes the difference.

SEA LICE SPECIES

The world's oceans host a variety of sea lice. These are the species of most concern to the salmon industry:

Lepeophtheirus salmonis
Atlantic and Pacific oceans
Preys only on salmon

Caligus rogercresseyi
South Pacific Ocean
Preys on various species

ARCTIC SALMON RESEARCH CENTRE (ASRC)

ASRC will investigate effects of health feed on salmon farmed in the Arctic region.

- Established in 2015
- Located in Kvalsund, Norway
- Partners: EWOS, Cermaq, Nofima, University of Nordland, Norwegian University of Life Sciences
- Research permits granted for 2015–2020
- NOK 3 million in funding from Research Council of Norway

INNOVATION CENTRE – FISH HEALTH CHILE

1. A glimpse into the future: How the new fish health centre will look when it is completed.

2. The Cargill Aqua Innovation Center is being built where the EWOS Innovation Facilities were located in Colaco, Chile.

3. Bird's eye view of the Cargill Aqua Innovation Center under construction.

SUPPORTING FISH HEALTH: **OUR PERFORMANCE**

WHY IS IT MATERIAL?

Healthy fish are critical to achieving success in fish farming. One of the pillars of animal welfare is *efficient disease management* and providing nutritious feeds to the fish is part of achieving this. Poor nutrition leads to diseases, but good nutrition will support fish in times of disease challenge. The strong link between health and nutrition is critical to successful aquaculture. Costs to the salmon farming industry of sea lice and other disease treatments are growing and represent a significant portion of the cost of production. New diseases are emerging as aquaculture spreads and intensifies, which impact on the potential sustainability of the industry into the future. As part of integrated health management programs and supporting fish health at times of disease, EWOS' functional feed solutions are a valuable and well respected tool for farmers.

WHAT EWOS DOES

Fish health and particularly health feeds have always been a priority for EWOS and we are leaders in the development of functional feeds in salmon. Through investments in R & D in both Chile and Norway we increase our understanding in disease and parasites pertinent to the salmon industry. We work in an open innovation culture along with academics and other industrial partners to increase our knowledge but also to contribute to the long-term sustainability of the industry. The Sea Lice Research Centre in Bergen, Norway is a fine example. A world leader on research of salmon louse and related parasites, the centre focus is on the development of novel tools for parasite control in the aquaculture sector. Simon Wadsworth, Fish health manager for EWOS leads the work package on anti-attachment – focusing on the documentation of host specific compounds and assessing techniques to mask these compounds. Simon recognises that several tools, as part of an integrated pest management program, are needed to beat sea lice. Functional feeds is one of these tools.

EWOS is conscious of the issue of antibiotic use in the Chilean industry. Our contribution to this issue is to work on the functional feed portfolio to support the industry – and the percentage of functional feeds supporting fish health is reported on a group level.

Our company has a long tradition with bold investments in research and development. Through decades EWOS Innovation has built up leading competency on research and innovation in this area, and our units in Norway and Chile cooperate and complement each other. 2015 marked a new milestone and brings this tradition further, as EWOS invested USD 10.5 million in a new research centre named Cargill Aqua Innovation Center which will start operat-

ing in June 2016. In this way, EWOS is continuously working on improving our competence on fish health, and this investment means that we now increase our competence and research capacity significantly.

EWOS bases its activities of food safety compliance initially with local legislation. Risks are managed through EIMS (see also p. 10), applying ISO 22000 in particular with respect to food safety management procedures. The EWOS feed operations also rely upon various industry standards for good practice, such as the Universal Feed Assurance Scheme in UK and the Global GAP Compound Feed Manufacturing (CFM) Standard.

GOVERNANCE

For EWOS, Sustainability and fish health is driven by the development of products to support fish health at times of challenge. Strategies for product development are executed by the leadership teams at both a global and local level. Activities in EWOS Innovation are aligned to these strategies.

For compliance to local regulations on food safety the local Food Safety Managers are responsible in each local organisation. In addition, going forward as part of Cargill there will be an annual audit for Food Safety, Quality and Regulatory issues in each business unit.

FOOD SAFETY REGULATIONS

Reporting unit	Incidents	Fines (USD)
EWOS Norway	0	0
EWOS Chile	0	0
EWOS Canada	0	0
EWOS Scotland	0	0
EWOS Vietnam	0	0
EWOS Innovation	1	0
2015 Total	**1**	**0**
2014 Total	3	0
2013 Total	0	0
2012 Total	0	0
2011 Total	0	0

In 2015 there was one incident of non-compliance with food safety regulations. The incident happened in EWOS Innovation Norway, where the importation of raw materials for R & D purposes did not follow the correct procedure. The correct procedures are now in place and this case was closed in October 2015. The incident did not result in any monetary fine.

EWOS did not have any incidents of non-compliance with laws and regulation concerning the provision and use of products and services during 2015.

ASSESSING PERFORMANCE

EWOS acts on its commitments to supporting fish health and welfare by investing heavily in research and participating in collaborations and open innovation with academics and industrial partners.

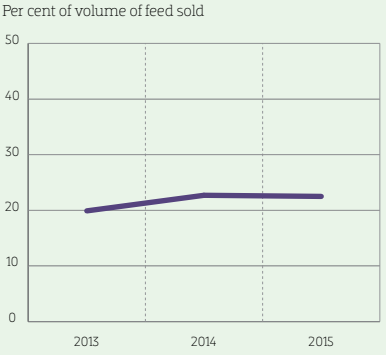
We monitor and report on the following aspects on a routine basis. Numbers in brackets refer to EWOS and GRI indicators.

> More on p. 67

Aspects

Functional feed sales [EWOS 9]
Customer health and safety [PR2]
Compliance [PR9]

Functional feed sales (supporting fish health) in EWOS




ENOS

RESPECTING PEOPLE

THE CHALLENGE

Living up to our principles and high standards for business conduct

OUR RESPONSE

Being a responsible employer and reliable partner in local communities

Great companies need great people. EWOS strives to provide its employees with work-places where they can excel

UNLIMITED AMBITIONS

We want our people to be as ambitious as we are as a company, working towards fulfilling their personal potential and development goals.

By realising their own ambitions, employees help to realise the ambitions of the company. EWOS is committed to attracting, developing and retaining the best people. In this way we foster a culture where our colleagues, all across the world, share a unifying vision, trust, pride, and enjoyment of their workplace, and one another.

It is our goal to provide an environment where employees feel they are supported, but also stimulated – matching their skills with the organisation's needs, allowing them to thrive undertaking meaningful, rewarding tasks.

This is our goal in every business division, with every team, in every country where we operate.

EWOS cares for its people and they care for us. That's the key to a great place to work, just ask EWOS Chile.

ACHIEVEMENT

Chile receives Great Place to Work prize

In December 2015 EWOS Chile was ranked as one of the country's best companies to work for, achieving 11th place in the national 'Great Place to Work' survey.

The initiative, undertaken by the Great Place to Work organisation in conjunction with El Mercurio, one of Chile's leading newspapers, surveyed more than 300,000 employees across 208 companies. The results saw EWOS climbing the ranking for the fourth consecutive year. This achievement was made all the more noteworthy by the fact it is one of the few regional and industrial companies to make the listing.

EWOS Chile Managing Director Hugo Contreras Mayagoitia says the business, like the whole of EWOS, is driven by innovation, enthusiasm and a desire to match personal development with corporate performance. "People are the engine for success," he says, but also a daily inspiration – working together to build a culture defined by the EWOS values of integrity, cooperation, change and impact.

Human Resources Manager Florencia Fernandez agrees, pointing to the bond that unites the team. She explains that EWOS Chile is more than a place of work, but rather "a family" where each member works for, and supports, one another.

Both have pride in the 'Great Place to Work' accolade, and in EWOS Chile.

EVERYDAY EXCELLENCE

"A great place to work is one in which you trust the people you work for, have pride in what you do, and enjoy the people you work with." Robert Levering, Co-Founder, Great Place to Work

Great Place to Work surveys 8 million employees, from thousands of organisations, every year. Its findings suggest that the factor that unites all the best companies is trust.

Through trust and respect employees feel empowered to achieve personal and organisational goals, working together, and enjoying doing so.

NATIONAL PRIDE

Over the past 20 years EWOS Chile has grown into both a leader in its field and gained recognition as one of the country's best places to work. This is its story:

1995
EWOS Chile launches with the acquisition of Alimentos Mainstream S.A by EWOS Group

1999
EWOS Chile becomes number one in the Chilean salmon feed market

2008
EWOS Innovation constructs research centre in Colaco

2012
Participates in Great Place to Work (GPTW) initiative for first time, ranking as 32nd best place to work in Chile

2014
EWOS acquires Nova Austral

2015
EWOS Chile takes 11th place in GPTW

Building work begins on Cargill Aqua Innovation Center in Colaco

NEXT GENERATION commitment

EWOS recognises that education is a pillar of development, enriching individual lives while elevating and enabling entire communities to achieve positive change. Knowledge is power, and EWOS Chile is committed to empowering the local communities where it operates.

80

CHILEAN PUPILS

and their teachers from Puerto Montt and Terao on Chiloe Island went to the musical show Matilda

2015

EWOS CHILE

donated classroom and toilet facilities to the Liceo Bicentenario project in Coronel

The company has conducted a series of activities over the course of the last year to support educational development and deliver long-term personal, social and economic gains for students.

A key part of this commitment is providing in-house support for the children of our factory workers in Coronel. This aims to help them achieve success in university or further education college entrance examinations. Initiated in 2014, the programme benefits around 20 students each year, more than half of which have been successful in their applications.

Cultural experiences are an essential element of education. In 2015, EWOS Chile ran an initiative taking 80 pupils and their teachers from Puerto Montt y Terao on Chiloé Island to the Teatro del Lago in Frutillar to see the musical show Matilda. This was hailed as a unique experience for the children, many of whom had never been off the island, or had the opportunity to enjoy such a high quality cultural event.

EWOS Chile also donated classroom and toilet facilities to the Liceo Bicentenario project in Coronel in 2015, a move that will directly benefit some 500 students each year.

For EWOS Group the financial contribution to local beneficiaries totalled 2,204,436 NOK in 2015.

CHANGING lives in Vietnam

EWOS and Cargill want success and sustainability that permeates through the business and into the very hearts of the communities where it operates. Developments in Vietnam provide an insight into an approach defined by integrity, accountability and responsibility.

CARING FOR THE COMMUNITY

Through Cargill Cares, an employee-led volunteering initiative, Cargill has built 78 schools throughout Vietnam transforming educational facilities for more than 13,000 children. EWOS was heavily involved in the latest project, Thanh An Primary School in Long An province, a four classroom facility that required a 1,271,000,000 VND investment. The initiative, which aims to complete its 100th school by 2020, was recognised with the 2015 U.S. Secretary of State's Award for Corporate Excellence.

THE NATURAL CHOICE

By caring for our natural resources today, we can provide the nutrition our industry needs tomorrow. EWOS Vietnam is committed to sustainable sourcing of materials, with local suppliers required to provide documentation relating to fish species and fishing areas, while marine fish meal consumption is reduced through innovation (by, for example, using frozen processing by-products). When it comes to sustainability in Vietnam, we mean business.

CARGILL'S GUIDING PRINCIPLES

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

THE BOOK OF GROWTH

The Cargill Animal Nutrition GreenBook is a living entity – evolving over the years to incorporate the combined experiences, expertise and wisdom of our growing family of global employees.

The GreenBook embodies the principles and philosophies of Cargill, expressing the values that lie at its heart and underpinning the high performance culture that drives our worldwide activities.

It helps us understand and appreciate one another, respecting the individual while supporting the team – steering us on the road ahead with common goals, expectations and dedication.

Cargill's acquisition of EWOS will see it evolve further, marking a new chapter for a company that does everything 'by the book'.

CODE OF HONOUR

EWOS is defined not only by its products and culture, but also by its conduct. We have built our business on a foundation of strong, positive values and stringent ethical guidelines.

Our Code of Conduct informs everything we do and everything we are – providing uniform standards that unite our global workforce, regardless of position and location.

Our guidelines are comprehensive and diverse, embracing everything from anti-corruption and anti-trust, to ethics, whistle-blowing, and a supplier code of conduct. This ensures the companies we work with are as focused on their own business behaviour as we are on ours.

By following the code we ensure high standards not only for ourselves, but for all our global stakeholders.

RESPECTING PEOPLE:
OUR PERFORMANCE

WHY IS IT MATERIAL?

EWOS had in 2015 over 1000 employees, now as part of Cargill we are a much larger organisation (around 150,000 employees globally). The activities of EWOS and Cargill have a potentially large impact on all our people and stakeholders. Feed production contributes to activity and employment in local, often rural, communities.

EWOS has been producing fish feed for almost 80 years, and EWOS feed products are trusted by our customers. Accordingly, an important part of our business is building partnerships with our customers and suppliers. We value long-standing relationships.

EWOS is committed to bringing sustainable socio-economic benefits to the regions in which it operates. EWOS's objective is to create value for its owners, employees and society in general through sustainable aquaculture. EWOS has set out its strategy for creating value through sustainable aquaculture. EWOS's Core Values constitute guidelines for desired attitudes as individuals, companies and group, to achieve long term value creation. The company's ethical and corporate responsibility guidelines further ensure that any person acting on behalf of EWOS acts in an ethically sound way.

WHAT EWOS DOES

EWOS has a responsibility to ensure high standards related to the social impact of our business and also how we treat our employees. EWOS bases its activities of social compliance initially with local legislation, and further applies the GRI framework indicators for monitoring and reporting on social aspects. These are managed and monitored primarily through EIMS (see also p. 10), applying ISO 18001 in particular with respect to occupational, health and safety management procedures. This ensures that all social impacts on the areas in which EWOS operates should be monitored and if needed corrective actions are put in place.

EWOS respects the four fundamental principles and associated rights that are considered fundamental to social justice by the International Labour Organisation (ILO). Furthermore EWOS adheres to the OECD Guidelines for Multinational Enterprises. EWOS will not accept child labour or young workers exposure to hazardous work in any of the regions in which the company operates or in its business partners.

The Cargill acquisition in August 2015 initiated an integration stream with a high focus on safety in the work place with Cargill HSE audits being actioned

in every EWOS feed plant. Already implemented EWOS policies such as the *Ethical and corporate guidelines*, and *Whistle-blowing guidelines* were further strengthened through implementation of Cargills guiding priciples as well as Cargill Animal Nutritions (CAN) values and five big goals.

These refined set set of values, goals and guiding principles all emphasize respecting people. We are also measured routinely on Cargill's five big goals which cover the topics safety, community enrichment and sustainable growth:

1 Complete Safety
Everyone returns safely to their loved ones
2 Full Engagement
Everyone understands how they fit and believes they matter
3 Customer Focus
Everyone knows how their actions support our customer success
4 Community Enrichment
Everyone improves the communities in which they live and work for a better tomorrow
5 Sustainable Growth
Everyone sees a future of opportunity for themselves and their loved ones

For suppliers, EWOS expects them to follow the "Code of conduct for suppliers" which includes a section on human rights and employee health and safety management.

As part of the Cargill/EWOS integration there is a long-term plan for employer health and safety alignment. Within this plan there are several essential trainings to make sure we keep all employers safe. The topics covered include many issues from vehicle safety to electrical safety. In addition to training, there is the implementation of several procedures and practices.

GOVERNANCE

Our leadership teams on both a global and local level have a responsibility for management of health and safety for all employees. Going forward there will be annual audits on OHS procedures and also an extensive training programme. For community engagement projects the initiatives come from the local organisation.

ASSESSING PERFORMANCE

EWOS acts on its commitments to respecting people by being a responsible employer and enriching the communities in which we operate with activity, employment and local value creation.

We monitor and report on the following aspects on a routine basis. Numbers in brackets refer to EWOS and GRI indicators.

> More on p. 67

Aspects
Occupational health and safety [LA6]
Training and education [LA9]
Market presence > Local hiring [EC6]
Anti-corruption [SO4]
Compliance [SO8]
Child labour [HR5]
Entry-level wage (Vietnam) [EC5]

Additionally, we report on workforce composition (G4-10) and share of employees covered by collective bargaining agreements (G4-11).

WORKFORCE

TOTAL WORKFORCE 2015

	Canada	Norway	Chile	Scotland	Vietnam
Total – workforce	84	334	635	76	179
Total employees	81	327	391	71	179
Total supervised workers	3	7	244	5	0
Total indefinite or permanent employees	73	257	391	70	179
Total temporary or fixed term employees	8	70	0	1	0
Total full-time employees	78	305	391	65	179
Total part-time employees	3	22	0	6	0
Management and administration employees permanent	15	45	109	29	21
Other employees permanent	58	212	282	41	158
Female employees	13	78	53	13	31
Male employees	68	249	338	58	148

The table gives the workforce for EWOS separated by country of operations. The highest number in the workforce is in Chile (635) of which 391 are employees and 244 are supervised workers. Data for Chile and Norway also includes the EWOS Innovation staff. Canada and Scotland have relatively small operations. Roughly 17 per cent of all EWOS employees are female.

TRAINING

Employees shall receive systematic training. EWOS shall facilitate personal and professional development of each employee.

PROPORTION OF TRAINING PER EMPLOYEE BY GENDER AND EMPLOYEE CATEGORY

Per cent of working hours	2011	2012	2013	2014	2015
Average training hours as % of working hours (male and female)	1.51	1.72	2.05	1.45	1.51
Average female training hours as % of female working hours	10.52	3.19	3.98	1.98	1.75
Average male training hours as % of male working hours	4.42	1.43	1.68	1.36	1.46
Training management and administrative positions	0.54	0.51	0.54	0.28	0.45
Training other positions	0.76	0.90	1.15	0.96	0.82
Training permanent employees	1.29	1.41	1.67	1.21	1.25
Training temporary or fixed time employees	0.01	0.01	0.02	0.02	0.01

The training hours as a percentage of working hours (for male and female) was 1.5 per cent, the proportion was very slightly higher for female employees.

Notes:
The group figures includes both EWOS and EWOS Innovation

OCCUPATIONAL HEALTH AND SAFETY

EWOS has chosen to report OHS data using units that are consistent with previous reporting practices, rather than adopting the indicators of the GRI G4 reporting framework. The injury rate was slightly higher at 10 injuries per million hours worked, although in line with previous years (as for lost time injury rate). Lost time frequency rate was lower than in previous years. Absence rate was the same as 2014 at 2 per cent.

RATES OF INJURY, OCCUPATIONAL DISEASES, LOST DAYS, AND ABSENTEEISM, AND TOTAL NUMBER OF WORK-RELATED FATALITIES BY REGION

Indicator	Unit	2013	2014	2015
Fatalities	Number	0	0	0
Injury rate (H2-value)	Injuries per million hours worked	10	7	10
Lost-time injury rate (H1-value/TRI)	Lost-time injuries per million hours worked	9	4	8
Lost time frequency rate (F-value)	Lost time (days) per million working hours	163	203	65
Absence rate	% of total work days	3%	2%	2%
Occupational disease cases	Number	2	0	0

LOCAL HIRING

SHARE OF SENIOR MANAGEMENT THAT ARE LOCAL HIRES

Per cent of management	
EWOS Canada	100
EWOS Chile	100
EWOS Norway	100
EWOS Scotland	100
EWOS Vietnam	83
EWOS Innovation Chile	100
EWOS Innovation Norway	60

At year-end 2015, 86 per cent of the senior management group in EWOS were local hires. Senior management, executive management, or management team is generally a team of individuals at the highest level of organisational management who have the day-to-day responsibilities of managing the company.

Notes:

- The group figures includes both EWOS and EWOS Innovation
- The data relates only to our workforce, including employees and supervised workers. Contractors who work on our premises and of which EWOS is responsible for occupational health and safety are not included in the overview.
- Lost day calculation includes lost days from injuries (not occupational disease cases) and scheduled workdays start the day after the accident.
- National laws on practices for recording and reporting accident statistics follows the 'ILO Code of Practice on Recording and Notification of Occupational Accidents and Diseases' in the regions where EWOS operates

COLLECTIVE BARGAINING

EMPLOYEES COVERED BY COLLECTIVE BARGAINING AGREEMENT

	2013	2014	2015
EWOS Innovation	53%	57%	46%
EWOS Norway	51%	49%	49%
EWOS Chile	57%	58%	57%
EWOS Canada	73%	67%	71%
EWOS Scotland	0%	0%	0%
EWOS Vietnam	100%	99%	100%
EWOS total	59%	59%	58%

Employees covered by collective bargaining is calculated as a percentage of all employees, both temporary and permanent employees. The percentage of employees covered by collective bargaining agreements is variable by country. Overall for 2015, the percentage of employees covered by collective bargaining agreements was 58 per cent.

MINIMUM WAGES

ENTRY LEVEL WAGES

PERMANENT EMPLOYEES – OPERATIONAL LEVEL ONLY

EWOS Vietnam

	(vnd/ month)		Female		Male	
Salary band	Min	Max	% of female employees	% of all employees	% of male employees	% of all employees
1	3,000,000	3,999,999	12.9	2.2	31.8	26.3
2	4,000,000	5,999,999	16.1	2.8	41.2	34.1
3	6,000,000		71.0	12.3	27.0	22.4

Entry-level wage is given for EWOS Vietnam employees, compared to the legal minimum wage. There is no difference in the wages shown by gender. In 2015, the legal minimum wage in Vietnam was 2 750 000 VND per month. Minimum entry wage paid by EWOS Vietnam was 3,000,000 VND in 2015, and no employee earned less than 3,000,000 VND/month. A number of EWOS Vietnam staff receive allowances in addition to the monthly base salary.

RISK OF CHILD LABOUR

EWOS respects the four fundamental principles and associated rights that are considered fundamental to social justice by the International Labour Organisation (ILO). Furthermore EWOS also adheres to the OECD's Guidelines for Multinational Enterprises.

EWOS has defined policies and standards that apply for the entire group, including: ethical and corporate responsibility guidelines, whistle blowing guidelines and sustainability principles directly related to social aspects. EWOS's ethical and corporate responsibility guidelines state equal work opportunities, just treatment and a working environment free of discrimination.

EWOS does not see any risk for incidents of child labour or for incidents of young workers being exposed to hazardous work. In Vietnam, records of all employees' government ID cards are kept, which list the date of birth. Vietnam fully complies with Vietnamese law on the age of employment.

ANTI-CORRUPTION

2015	EWOS Canada	EWOS Chile	EWOS Norway	EWOS Scotland	EWOS Vietnam	EWOS Innovation	Total
Number of employees who have received anti-corruption training in the period	17	18	80	7	34	71	227
Proportion of employees who have received anti-corruption training in the period (copy)	23.3%	4.9%	41.0%	9.9%	19.0%	79.8%	22.5%
Proportion of management and admin employees who have received anti-corruption training	86.7%	17.5%	100%	24.1%	100%	58.8%	46.0%
Proportion of other employees who have received anti-corruption training	6.9%	0%	28.1%	0%	8.2%	84.7%	15.7%

EWOS's policies and standards apply for the entire group, including: ethical and corporate responsibility guidelines and sustainability principles directly related to society and local communities stating that;
• EWOS trains key employees to avoid corruption in its business.

EWOS has a zero-tolerance policy for corruption and has defined ethical guidelines on corruption and procedures for whistle-blowing.

Cargill's Guiding principles cover anti-corruption and all employees receive training on these principles each year. In 2015, 46 per cent of all managers and administrative employees in EWOS received anti-corruption training. 16 per cent of other employees received training.

In July 2015, EWOS accepted a NOK 9,950,000 fine from Økokrim for tax evasion. Through a customs audit in 2013, EWOS was made aware of mistakes the company had made in connection with an application for refund of customs duty on diesel. From 2004 to 2012 the company unrightfully received ca. NOK 20 million in refunds for basic tax and the CO_2 tax on mineral oils. Immediately after the mistake was discovered, EWOS put in place new procedures to ensure proper handling of charges in cooperation with customs authorities. EWOS made provisions of 33 MNOK for repayment of the tax and possible penalties in the financial statements related to this matter. Accordingly, the fine did not have any direct impact on the company's results in 2015.

SUSTAINABILITY governance

We are in pole position to meet our vision of *Healthy seafood for future generations* going forward.

EWOS applies the precautionary principle in decision making processes to ensure avoidance of serious or irreversible damage to the environment. This is particularly focused in the selection of raw materials used in the feed.

The operational responsibility for ensuring sustainable business practices lies with the Managing Director for each of the EWOS operations. However, the CEO ultimately has responsibility for driving sustainability practices throughout the global organisation. EWOS also recognises the importance of responsible behavior from each and every employee. This is integrated in the company's guidelines for ethical and corporate responsibility. The Sustainability and Quality Director for EWOS reports to the CEO. There will be a new structure for sustainabilty reporting within Cargill and this is currently being defined.

EWOS has the following principles and guidelines:

Sustainability principles
– Environmental principles
– Social principles and product responsibility

Ethical and corporate responsibility guidelines
Guidelines for corporate governance
Guideline for whistle-blowing

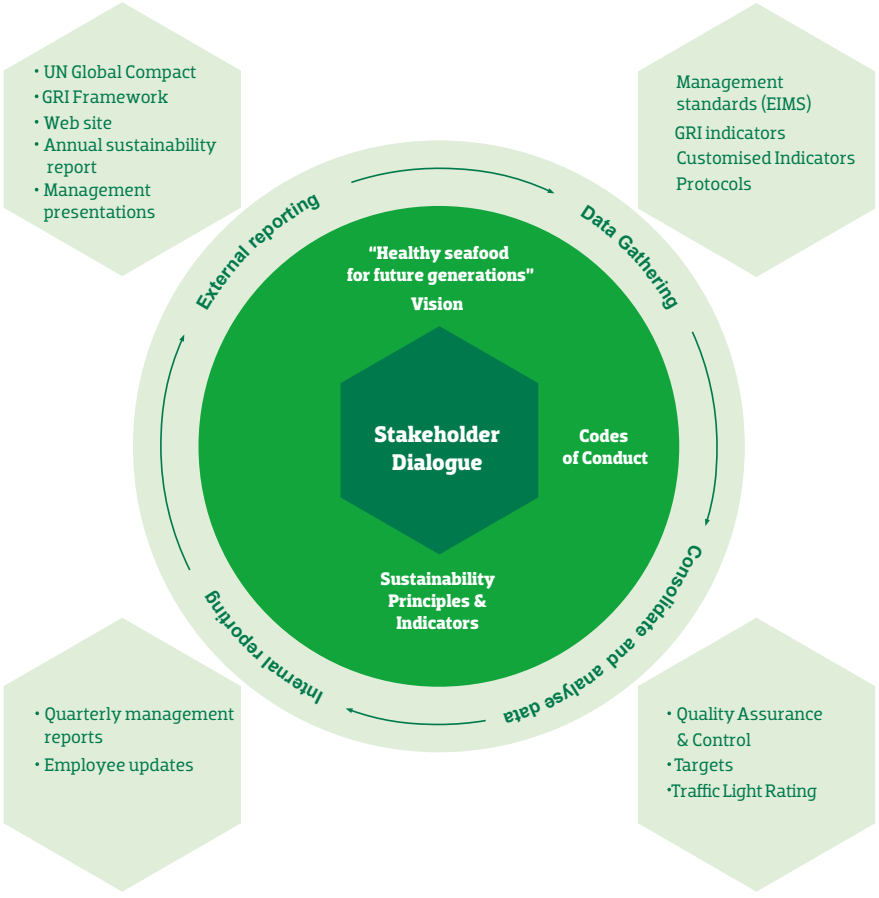
MANAGEMENT STANDARDS STATUS

EWOS has adopted a systematic approach of managing social and environmental risks in our operations. This approach is manifested in the EWOS Integrated Management System (EIMS), which is based on recognised international standards. At year-end 2015, all EWOS feed plants were certified to our preferred management standards, with the exception of EWOS Vietnam, which sells feed for warm water species. The ISO 22000 management standard was no longer applicable to EWOS Innovation in Chile, as this operation has no cage site.

YEAR-END 2015

Business Area	Country	Quality Management Standard ISO 9001	Food Safety Management Standard ISO 22000	Environment Management Standard ISO 14001	Occupational Health & Safety Management Standard OHSAS 18001
EWOS	Norway	Yes	Yes	Yes	Yes
EWOS	Chile	Yes	Yes	Yes	Yes
EWOS	Canada	Yes	Yes	Yes	Yes
EWOS	Scotland	Yes	Yes	Yes	Yes
EWOS	Vietnam	Yes	No	Yes	Yes
EWOS Innovation	Norway	Yes	Yes	Yes	Yes
EWOS Innovation	Chile	Yes	Not applicable	Yes	Yes

THE EWOS REPORTING CYCLE



SUSTAINABILITY TARGETS

for 2015 and going forward

The reporting cycle is fundamentally based upon our insights from years of continuous dialogue with stakeholders. As part of our sustainability reporting cycle, EWOS sets targets for indicators that are of high importance. The indicators on which EWOS sets targets internally include the following examples: energy and GHG emissions per tonne feed produced, non-compliance with regulations, supplier audits, community complaints, absentee rate and injury rate and other health and safety indicators. Targets are set by the EWOS business each year and reviewed internally. Cargill Animal Nutrition have an integration process currently running called Sustainability 2020. This engages all Cargill Animal Nutrition businesses, EWOS included, and is reviewing the important categories and aspects for these businesses on a broader level than EWOS has done previously. Goals and target setting will likely be an important part of this process. Cargill's five big goals – complete safety; full engagement; customer focus; community enrichment; and sustainable growth – resonate with the indicators that EWOS has identified as having material importance for its stakeholders. Along with the framework that Cargill Animal Nutrition is developing and EWOS's current practices, we are well positioned to meet our objective of "Healthy Seafood for future generations" going forward.

MATERIALITY
process and conclusions

EWOS is a leading and trusted supplier of feed and nutrition for the international aquaculture industry. Our vision implies practices that do not compromise possibilities for future generations. A successful future is thus dependent on sustainable conduct from all players engaged in the aquaculture industry.

In defining material interests, EWOS identifies the aspects with highest potential impact to the sustainability of its operations and also includes additional aspects which are of high concern to external stakeholders. The materiality analysis and the sustainability indicators are reviewed annually based on input from stakeholders, scientific information, management considerations and sustainability performance. Accordingly, the material aspects are then prioritised by the significance to the organisation (internal) and the influence on stakeholder assessment (external).

EWOS uses a set of specific indicators to supplement GRI. These EWOS specific indicators have been developed to demonstrate a transparency in reporting on indicators of material importance to our stakeholders. The set of indicators have been published for several years and a level of completeness is validated.

EWOS stakeholders took part in a materiality analysis for 2015 reporting using the GRI G4 aspects in social, economic and environmental areas of focus. This acts as a review for the aspects covered in the EWOS report. In addition, the stakeholder feedback in 2015 also contributes to the review of the current indicators reported by EWOS that continue to be important in the salmon industry.

Current issues of material importance to EWOS (both internal and external) specific to the fish feed industry (EWOS salmon feed) can be summarised by the following:

Biodiversity is of high material impact to EWOS stakeholders. A major impact on biodiversity is the genetic effects of escaped farm stock on local populations. For EWOS this relates to the EWOS Innovation farming operations and the report on fish escapes.

Compliance to laws and regulations and the four ISO standards which encompass EWOS' activities is fundamental to the operations and also of key material importance for customers (Quality management, Environmental management, Food Safety, Occupational Health & Safety). Non-compliances are reported.

Marine index or the level of marine ingredient use in salmon feeds has historically been the focus externally from NGOs and continues although in recent years there is increased emphasis on the responsible sourcing of the marine ingredients, rather than just the level.

Traceability of supply chain has been in the spotlight with respect to soy products sourced from from Brazil. The purchase of soy certificates from a recognised standard (ProTerra, RTRS, or alternative) provides EWOS stakeholders assurance.

Transparency of raw materials and responsible sourcing of marine as well as terrestrial ingredients is of material importance to EWOS stakeholders.

MATERIAL ASPECTS AND BOUNDARIES

The table below provides an overview of aspects identified as material to the sustainability of our operations. The green shading shows where in our value chain each aspect is deemed material, from raw material production to finished food for human consumption. Additional aspects identified as having high concern to external stakeholders are also listed.

	Raw material prodution	Sourcing	Feed production	Marketing and sales	Farming	Consumer	EWOS indicators
EWOS specific material aspects							**EWOS indicators**
Biodiversity					■		EWOS 7
Compliance	■	■	■	■			EWOS 11, EWOS 13
Marine index	■	■	■	■	■	■	EWOS 8
Traceability of supply chain	■	■					EWOS 10
Transparency of raw materials	■	■	■				EWOS 8
Functional Feeds		■		■	■	■	EWOS 9
Material GRI G4 aspects							**GRI G4 indicators**
Economic:							
Economic performance				■	■		EC1, EC4
Market presence				■	■		EC6
Procurement practices	■	■	■				FP2
Environmental							
Materials	■	■	■				EN1, EN2
Biodiversity					■		EN12
Compliance	■	■	■	■	■		EN29
Labour practices and decent work aspects							
Occupational health and safety	■	■	■	■			LA6
Human Rights							
Child labor			■				HR5
Society Aspects							
Anti-corruption	■	■	■	■			SO4
Compliance	■	■	■	■	■		SO8
Product responsibility							
Customer health and safety			■				PR2
Compliance			■				PR9
Optional aspects							
Water			■				EN8
Energy		■	■				EN3, EN5, EN6
Emissions		■	■				EN15, EN16, EN18
Training and education			■				LA9
Entry-level wage (Vietnam)			■				EC5

Note: EWOS has a complete set of indicators that are used for internal reporting each quarter (EWOS 01–EWOS 52). These indicators include farming issues that EWOS Innovation reports on routinely and also the GRI equivalalents. The EWOS specific indicators reported in the 2015 sustainability report maintain the EWOS numbers.

LISTENING
to our stakeholders

As a global fish feed business and a critical part of the salmon food supply, we interact with a highly diverse range of stakeholders. This highlights the complexity and outreaching nature of our business.

Stakeholder engagement is key to EWOS going forward. 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 organisation's activities, products, and/or services; and whose actions can reasonably be expected to affect the ability of the organisation to successfully implement its strategies and achieve its objectives. EWOS seeks guidance from stakeholders on defining materiality and sent out a questionnaire to employees, NGOs and suppliers as part of the materiality process.

IDENTIFYING STAKEHOLDERS

Our key stakeholders are suppliers and customers and these are clearly identified on a global and local level. In addition, through review of stakeholders issues and feedback from the communities in which we operate, the stakeholder map was developed. Compared to earlier years the emergence of voluntary standards has been an important development in the salmon feed industry, which has impacts across the supply chain. Furthermore, organisations offering responsible sourcing standards such as IFFO, and those supplying certificates on soy such as RTRS and ProTerra, are key components of our supply chain for the salmon feed business today.

ENGAGING WITH STAKEHOLDERS

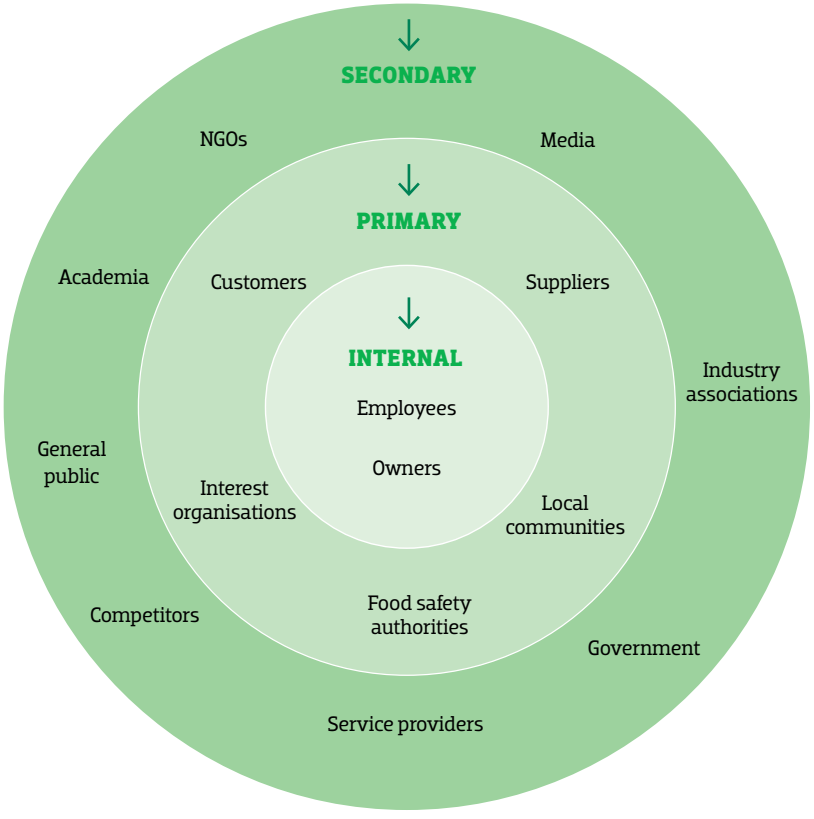
At a local level EWOS interacts with its stakeholders such as customers and suppliers on a routine, continuous basis throughout the year. Engagement may also be through scheduled meetings that occur several times per year.

Suppliers of feed raw materials are of key importance to EWOS. A particular priority has been working with suppliers of marine ingredients where quality, safety and nutrition, as well as sustainability of the fisheries stock, are addressed. For more on responsible sourcing, see p. 19

If suppliers are not compliant with material standards for ethics and corporate social responsibilities, EWOS will as a first step work with the supplier to obtain improvements based on a supplier development plan. EWOS is participating in meetings and conferences with supplier communities, e.g. fish oil and fishmeal producers, to further enhance responsible sourcing – with a special focus on efficient use of by-products.

EWOS has direct relationships with its customers, providing advice and services. EWOS also arranges local and regional customer conferences.

Dialogue with **employees** is continuous, through well-established local management structures and practices. Employee relations are comprehensively regulated



The figure provides an overview of our stakeholders, classified as internal, primary and secondary.

MEMBERSHIP OF ORGANISATIONS, STAKEHOLDER INITIATIVES, INDUSTRY ASSOCIATIONS

Aquaculture Stewardship Council (ASC) www.asc-aqua.org

Best Aquaculture Practices (BAP) www.bap.gaaalliance.org

European Feed Manufacturers Federation (FEFAC) www.fefac.eu

FEFAC Soy sourcing guidelines

Global GAP www.globalgap.org

Global GAP –Responsible Operations Standard

Global Salmon Initiative www.globalsalmoninitiative.org

IFFO-RS The Marine ingredients association responsible supply standard http://www.iffo.net/

PAQ (Label Rouge)

The ProTerra Foundation www.proterrafoundation.Org

by law and agreement in most countries. EWOS applies one set of standards and values across its operations. The competence, engagement and efforts of all employees are crucial to the success of EWOS's business.

Authorities and politicians are stakeholders at the local, regional and national levels who define the framework conditions for the industry. EWOS believes transparent dialogue is a prerequisite for arriving at good and balanced decisions. EWOS actively engages with authorities and takes part in an open dialogue or information exchange.

The **NGO community** is diverse and EWOS is selectively concentrating on those NGOs that seek constructive improvements in the industry. This includes wide groups of environmental organisations, labour organisation and NGOs dedicated to other relevant topics. EWOS works with development of industry standards based on multi-stakeholder involvement where various NGOs are represented.

EWOS sees **industry associations** necessary for ensuring sound regulatory framework for the aquaculture industry. EWOS is represented on the expert committee in working groups for the development of the ASC feed standard and participates in a number of stakeholder initiatives and industry associations. For a list of memberships, initiatives and associations, see left.

It is important that local communities support EWOS's local operations for future growth and recruitment of employees. EWOS contributes to local activity and employment and is a reliable partner for the local communities in which it operates. Dialogues with local communities are addressed mainly through the local stakeholder groups described above.

The **general public i**s important for defining the framework conditions and support for aquaculture. Dialogue and transparent reporting are key elements for EWOS's engagement with the general public.

MAJOR STAKEHOLDER CONCERNS

The sourcing of soy from Brazil

The sourcing of soy protein concentrate from Brazil continued to be an area of concern for our stakeholders in 2015. The concern is linked to the association of soy with deforestation of the Amazon and Savannah regions. EWOS worked on a Q & A for use with customers and retailers, that was also available on www.ewos.com. In addition, EWOS was in a dialogue with Sjømat Norge (The seafood association of Norway) to describe and detail the purchasing of soy from Brazil. In August 2015, EWOS had a meeting with the Rainforest Foundation Norway (www.regnskog.no) to discuss a possible partnership. Although the Rainforest foundation was positive to EWOS as a partner it felt that the certification bodies available for soy in Brazil (for example ProTerra and RTRS) were not a guarantee of sustainable production. EWOS worked actively with WWF, along with Sjømat Norge, to encourage acceptance of RTRS and ProTerra. In addition, EWOS is working on the ASC feed standard

dialogue to get acceptance for ProTerra as well as RTRS soy certificates. In 2015, EWOS updated its sourcing policy on soy:

EWOS is committed to using deforestation free raw materials and to the "New York Declaration on Forests". EWOS will source soy products from Brazil, our main supplier, that are certified to ProTerra, RTRS or equivalent. Use of soy products from other countries can be approved given evidence that they are responsibly sourced or that the suppliers have development programs in place to achieve credible 3rd party certification.

During 2015, CEO Einar Wathne gave interviews and accounts in the Norwegian press in order to raise awareness about the sourcing of soy for Norwegian salmon feed production.

Cargill has made an important commitment with the *New York Declaration on Forests* to do its part to end deforestation. Cargill also backs the extension of the soy moratorium in the Brazilian Amazon Biome indefinitely, while the Forest code is fully launched.

FISH MEAL AND OIL SOURCING FOR ASC CERTIFICATION FOR OUR CUSTOMERS

During 2015 the number of EWOS customers achieving ASC certification on farming sites increased. The sourcing of fish meal and fish oil for ASC salmon standard specifies the use of MSC or a level on the fish source score from the Sustainable Fisheries Partnership (www.fishsource.org) . EWOS worked with its suppliers to ensure availability of the right marine ingredients in feeds for its customers. Customer audits at EWOS factories and the supply of documentation on these raw materials is part of the process. EWOS representatives also took part in stakeholder meetings where ASC was represented.

GROWTH IN THE SALMON INDUSTRY IN NORWAY

During 2015 Einar Wathne supported politicians and regulators in their white paper on the "Predicatbale and environmental sustainable growth of the Aquaculture Industry": Meld St. 16 (2014–2015), Ministry of Trade and Fisheries, Oslo, Norway. Wathne joined a tour of Rogaland with the Norwegian Parliament's Committee on business and industry, and also had dialogue with politicians on this matter.

RE-AUTHORISATION OF ETHOXYQUIN

The EU authorities regularly monitor the use and safety of all feed additives to ensure safety of the feed chain. Ethoxyquin, although authorised as a feed additive in the EU since 1970, is undergoing a re-evaluation by EFSA. EWOS has communicated with customers and retailers background on the use of ethoxyquin in fish feed, the levels in the fish feed and related information. In addition, EWOS has worked with its supply chain to evaluate scenarios if the regulatory situation of ethoxyquin as an additive changes. Also, EWOS receives regular updates through its attendance at FEFAC meetings, and the bulletins received from IFFO.

RSPO Round table responsable palm oil www.rspo.org

RTRS Round table responsible soy www.responsiblesoy.org

SAG (Agriculture and Livestock Service, Chile)

Salmon chile www.salmonchile.cl

Soil association (Licencee and member of Aquaculture standards committee).

SSPO www.scottishsalmon.co.uk

Various national industry federations and trade associations
For example, AIC, UKAS, FHL

CARGILL SUPPORTS:

New York Declaration on Forests

Soy moratorium in the Brazil Amazon Biome

For these organisations EWOS may hold a position on the governance body, participate in projects and is a member.

For example, Karl Tore Mæland and Niall Macdonald attend the Fish feed committee FEFAC meetings on behalf of the feed industry in Norway and Scotland. EWOS is an associate member of the Global Salmon Initiative. EWOS is a member of IFFO RS, RTRS and ProTerra. These are just some examples of EWOS's activity.

REPORT SCOPE
and index

This report corresponds to the 'In accordance' CORE option in the GRI G4 reporting framework. The following pages provide an index to aspects and disclosures that we have identified as material in our operations, including EWOS' own indicators.

REPORTING ENTITIES

The organisation covered in the sustainability report is the EWOS feed and R & D operations, which includes: EWOS Canada; EWOS Chile; EWOS Norway; EWOS Scotland; EWOS Vietnam; and EWOS Innovation Norway and Chile. EWOS Canada, Chile, Norway and Scotland produce feed for salmonid species. EWOS Vietnam produces feed for warm water species. Given the regional differences and nature of operations, it is stated for the individual indicator where EWOS Vietnam is included/ excluded.

OTHER NOTES TO THE REPORTING:

- EWOS 08: Marine index and marine ratios is not reported for EWOS Vietnam as the focus is on the use of marine ingredients in salmon feeds
- G4-EC5: Standard entry level wage by gender is reported for EWOS Vietnam only.
- G4-EN12: Biodiversity impacts are linked to EWOS 07 for EWOS Innovation only
- G4 HR5-HR6: Child labour: Reported for EWOS Vietnam only
- G4-17: EWOS is not reporting financial statements in 2015 since there was a change of ownership within 2015 to Cargill.

EXTERNAL ASSURANCE

EWOS has chosen not to seek external assurance for the Sustainabiliy Report 2015. As EWOS is now a part of Cargill Aqua Nutrition, external assurance of the sustainability reporting will be a consideration for 2016.

EWOS SPECIFIC INDICATORS			
Disclosure Title		**Response**	**Omission**
EWOS 7	Fish escapes	p. 38	
EWOS 8	Raw material ingredients	pp. 24–27	
EWOS 9	Functional feeds	p. 49	
EWOS 10	Supply chain auditing	p. 27	
EWOS 11	Local community complaints	p. 38	
EWOS 13	International management standards	pp. 10, 64	

EWOS has a complete set of indicators that are used for internal reporting each quarter (EWOS 01–EWOS 52). These indicators include farming issues that EWOS Innovation reports on routinely and also the GRI equivalents. The EWOS specific indicators reported in the 2015 sustainability report maintain the EWOS numbers.

GENERAL STANDARD DISCLOSURES			
Standard Disclosure	**Standard Disclosure Title**	**Response**	**Omission**
STRATEGY AND ANALYSIS			
G4–1	Statement from the most senior decision-maker of the organisation	pp. 4–5	
G4–2	Key impacts, risks, and opportunities	pp. 8–9	
ORGANISATIONAL PROFILE			
G4–3	Name of the organisation	p. 2	
G4–4	Primary brands, products, and services	pp. 12	
G4–5	Location of the organisation's headquarters	p. 2	
G4–6	Countries in which the organisation has significant operations	p. 3	
G4–7	Nature of ownership and legal form	p. 2	
G4–8	Markets served	pp. 2–3	
G4–9	Scale of the reporting organisation	pp. 2–3	
G4–10	Breakdown of workforce	p. 60	
G4–11	Coverage of collective bargaining agreements	p. 62	
G4–12	Description of supply chain	pp. 6–7, 19	
G4–13	Significant changes during reporting period	Inside cover	
G4–14	Addressing the precautionary approach or principle	p. 64	
G4–15	External charters, principles, or initiatives endorsed	pp. 70–71	
G4–16	Memberships of associations	pp. 70–71	
IDENTIFIED MATERIAL ASPECTS AND BOUNDARIES			
G4–17	Coverage of the organisation's consolidated financial statements	Inside cover	
G4–18	Process for defining the report content and the aspect boundaries.	pp. 65–67	
G4–19	Material aspects identified	pp. 66–67	
G4–20	Aspect boundaries within the organisation	p. 67	
G4–21	Aspect boundaries outside the organisation	p. 67	

G4-22	Effect of restatements of information provided in previous reports	No restatements	
G4-23	Significant changes in scope and aspect boundaries from previous report	No changes	
STAKEHOLDER ENGAGEMENT			
G4-24	List of stakeholder groups engaged	p. 69	
G4-25	Identification and selection of stakeholders	p. 68	
G4-26	Approach to stakeholder engagement	p.68	
G4-27	Key topics and concerns raised through stakeholder engagement	pp. 70–71	
REPORT PROFILE			
G4-28	Reporting period	2015	
G4-29	Date of most recent previous report	June 2015	
G4-30	Reporting cycle	Annual	
G4-31	Contact point for questions	Inside cover	
G4-32	'In accordance' option, GRI content index and external assurance	p. 72	
G4-33	Policy and current practice regarding external assurance	p. 72	
GOVERNANCE			
G4-34	Governance structure	p. 64	
ETHICS AND INTEGRITY			
G4-56	Values, principles, standards, code of conduct, and code of ethics	pp. 10, 57, 64	
SPECIFIC STANDARD DISCLOSURES			
Standard Disclosure	**Standard Disclosure Title**		
	CATEGORY: ECONOMIC		
ASPECT: ECONOMIC PERFORMANCE			
G4-DMA	Generic Disclosures on Management Approach	p. 58	
G4-EC1	Direct economic value generated and distributed	p. 2	As EWOS now is part of Cargill, a privately held company, financial performance will not be part of the report.
G4-EC4	Financial assistance received from government	p. 39	
G4-FP2	Percentage of purchased volume which is verified as being in accordance with credible, internationally recognised responsible production standards, broken down by standard.	p. 27	
ASPECT: MARKET PRESENCE			
G4-DMA	Generic Disclosures on Management Approach	p. 58	

G4-EC5	Ratios of standard entry level wage by gender compared to local minimum wage at significant locations of operation (EWOS VIetnam only)	p. 62	
G4-EC6	Proportion of senior management hired from the local community at significant locations of operation	p. 61	
CATEGORY: ENVIRONMENTAL			
ASPECT: MATERIALS			
G4-DMA	Generic Disclosures on Management Approach	pp. 22–23	
G4-EN1	Materials used by weight or volume	pp. 24–27	
G4-EN2	Percentage of materials used that are recycled input materials	pp. 26	
ASPECT: ENERGY			
G4-DMA	Generic Disclosures on Management Approach	pp. 34–35	
G4-EN3	Energy consumption within the organisation	pp. 36–37	
G4-EN5	Energy intensity	p. 37	
G4-EN6	Reduction of energy consumption	p. 37	
ASPECT: WATER			
G4-DMA	Generic Disclosures on Management Approach	pp. 34–35	
G4-EN8	Total water withdrawal by source	p. 37	
ASPECT: BIODIVERSITY			
G4-DMA	Generic Disclosures on Management Approach	pp. 34–35	
G4-EN12	Description of significant impacts of activities, products, and services on biodiversity in protected areas and areas of high biodiversity value outside protected areas	p. 38	
ASPECT: EMISSIONS			
G4-DMA	Generic Disclosures on Management Approach	pp. 34–35	
G4-EN15	Direct greenhouse gas (GHG) emissions (Scope 1)	p. 36	
G4-EN16	Energy indirect greenhouse gas (GHG) emissions (Scope 2)	p. 36	
G4-EN18	Greenhouse gas (GHG) emissions intensity	p. 36	
ASPECT: COMPLIANCE			
G4-DMA	Generic Disclosures on Management Approach	pp. 34–35	
G4-EN29	Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with environmental laws and regulations	p. 39	
CATEGORY: SOCIAL			
SUB-CATEGORY: LABOR PRACTICES AND DECENT WORK			
ASPECT: OCCUPATIONAL HEALTH AND SAFETY			
G4-DMA	Generic Disclosures on Management Approach	pp. 58–60	

G4-LA6	Type of injury and rates of injury, occupational diseases, lost days, and absenteeism, and total number of work-related fatalities, by region and by gender	p. 61	We have reported OHS data using units that are consistent with previous reporting practices, rather than adopting the GRI formulas.
ASPECT: TRAINING AND EDUCATION			
G4-DMA	Generic Disclosures on Management Approach	pp. 58–59	
G4-LA9	Average hours of training per year per employee by gender, and by employee category	p. 60	
SUB-CATEGORY: HUMAN RIGHTS			
ASPECT: CHILD LABOR			
G4-DMA	Generic Disclosures on Management Approach	pp. 58–59	
G4-HR5	Operations and suppliers identified as having significant risk for incidents of child labor, and measures taken to contribute to the effective abolition of child labor	p. 62	
SUB-CATEGORY: SOCIETY			
ASPECT: ANTI-CORRUPTION			
G4-DMA	Generic Disclosures on Management Approach	pp. 58–59	
G4-SO4	Communication and training on anti-corruption policies and procedures	p. 63	
ASPECT: COMPLIANCE			
G4-DMA	Generic Disclosures on Management Approach	pp. 58–59	
G4-SO8	Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with laws and regulations	p. 63	
SUB-CATEGORY: PRODUCT RESPONSIBILITY			
ASPECT: CUSTOMER HEALTH AND SAFETY			
G4–DMA	Generic Disclosures on Management Approach	pp. 48–49	
G4-PR2	Total number of incidents of non-compliance with regulations and voluntary codes concerning the health and safety impacts of products and services during their life cycle, by type of outcomes	p. 49	
ASPECT: COMPLIANCE			
G4-DMA	Generic Disclosures on Management Approach	pp. 48–49	
G4-PR9	Monetary value of significant fines for non-compliance with laws and regulations concerning the provision and use of products and services	p. 49	

ABBREVIATIONS

AGD
Amoebic gill disease

AIC
Agriculture Industries Confederation

ASC
Aquaculture Stewardship Council

ASRC
Artic Salmon Research Centre

BAP
Best Aquaculture Practices

BOD
Board of Directors

CMS
Cardiomyopathy syndrome

CQN
Cargill Aqua Nutrition

DEFRA
Department for Environment, Food and Rural Affairs, UK

DHA
Docosahexaenoic acid

EF
Ecological footprint

EFSA
European Food Safety Authority

EIMS
EWOS Integrated Management System

EPA
Eicosapentaenoic acid

FAO
Food and Agriculture Organisation of the United Nations

FCR
Feed conversion ratio
eFCR economic

FEFAC
European Feed Manufacturers Federation

FFDRo
Forage fish dependency ratio oil

FFDRm
Forage fish dependency ratio meal

FIFO
Fish in fish out

FPC
Fish protein concentrate

GHG
Green house gas

Global G.A.P
Good Agricultural Practice

GPTW
Great Place to Work

GRI G4
Global Reporting Initiative G4

GSI
Global Salmon Initiative

HSMI
Heart and skeletal muscle inflammation

IEA
International Energy Agency

IFFO RS
The Marine Ingredients Organisation Global Standard for Responsible Supply

ILO
International Labour organization

ISA
Infections salmon aneamia

IUU
Illegal, Unreported, unregulated

LCA
Life cycle assessment

MODR
Marine oil dependency ratios

MPDR
Marine protein dependency ratio

MSC
Marine stewardship council

MTB
Maksimalt tillat biomasse (fish farming quotas Norway)

NGO
Non-governmental organisation (eNGO: environmental NGO)

NIFES
Norwegian Institute of Nutrition and Seafood Research

PD
Pancreas disease

RTRS
Round Table Responsible Soy

SFP
Sustainable Fisheries Partnership

SINTEF
Applied research, technology and innovation instutute in Norway (Stiftelsen for industriell og teknisk forskning)

SLRC
Sea Lice Research centre

SRS
Salmonid Rickettsial Septicaemia

UKAS
UK National body for the accreditation of testing and calibration laboratories, certification and inspection bodies.

UNGC
United Nations Global Compact

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