



# GRI - REPORT 2014



# GRI-REPORT 2014

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# LERØY SEAFOOD GROUP



# LERØY – IN EVERY KITCHEN

Lerøy Seafood Group is the leading exporter of seafood from Norway and the world's second largest producer of Atlantic salmon and trout. Our vision is "... to be the leading and most profitable global supplier of sustainable seafood", and every day we supply the equivalent of three million seafood meals to more than 70 markets worldwide.

The Group supplies a total range of seafood products from Norway including salmon, fjord trout, cod, saithe, mackerel, herring and shellfish. Lerøy Seafood Group is a wholly integrated company, carefully following each step throughout the entire value chain, from salmon egg to finished product.



Company	Licences	Smolt cap.	2011 GWT	2012 GWT	2013 GWT	2014 GWT	2015E GWT
Lerøy Aurora AS*	26	12	18 100	20 000	24 200	26 800	31 000
Lerøy Midt AS	55	22	62 300	61 900	58 900	68 300	70 000
Lerøy Sjøtroll	60	23	56 200	71 600	61 700	63 200	65 000
<b>Total Norway</b>	<b>141</b>	<b>57</b>	<b>136 600</b>	<b>153 400</b>	<b>144 800</b>	<b>158 300</b>	<b>166 000</b>
Villa Organic AS**						6 000	
Norskott Havbruk (UK)***			10 900	13 600	13 400	13 800	15 500
<b>Total</b>			<b>147 500</b>	<b>167 100</b>	<b>158 200</b>	<b>178 100</b>	<b>181 500</b>

● Associated companies

\* Included volume from Lerøy Finnmark AS from 01.07.2014

\*\* LSG's share of Villa Organic's volume in H1 2014, not consolidated

\*\*\* LSG's share, not consolidated

- 1. LERØY AURORA AS**  
ANTALL LISENSER: 18 • 2014 GWT : 23 515
- 2. LERØY FINNMARK AS** (FUSJONERT MED LERØY AURORA AS 2015)  
ANTALL LISENSER: 8 • 2014 GWT : 3255
- 3. LERØY MIDT AS**  
ANTALL LISENSER: 55 • 2014 GWT : 68 284
- 4. LERØY VEST AS**  
ANTALL LISENSER: 34 • 2014 GWT : 36 876
- 4. SJØTROLL HAVBRUK AS**  
ANTALL LISENSER: 26 • 2014 GWT : 26 328



The Group's core activities are production of salmon and fjord trout, processing of seafood, product development, sale, marketing and distribution of seafood. Lerøy Seafood Group has grown significantly both organically and through acquisitions over the last 15 years. In 2014, the Group had activities in 13 countries and 49 municipalities in Norway. The Group is a major employer in several of these municipalities and is grateful for the good support provided by both local and central public authorities.

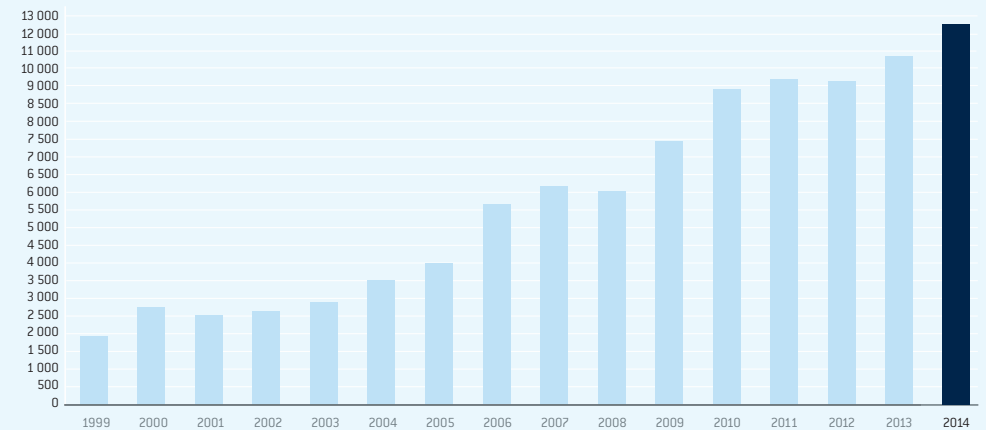
In countries outside Norway, the Group is most active in Sweden and is well established in Stockholm, Gothenburg, Malmö and Smögen. In other countries, the Group has a global sales network made up of subsidiaries in Finland, Denmark, the Netherlands, France, Spain, Portugal and Turkey, and sales offices in China, Japan and the USA. In addition, the Group provides national distribution of fresh fish to the Norwegian market through wholesalers in Bergen, Oslo, Stavanger and Trondheim. Moreover, the Group has 14 processing facilities located in different European countries.

The Group aims to take good care of the environment, the fish we produce, and all people involved in our business. High quality is ensured by control systems and Lerøy is committed to food safety and delivers full traceability on all of its 2,500 products. In a global perspective, the production of Atlantic salmon and fjord trout is one of the most sustainable and environmentally friendly methods of food production that exists. However, the Group maintains a strong focus on the potential challenges represented by point pollution and other environmental impacts of the business. The Group's business is closely related to the natural conditions in Norwegian and international sources of fresh water and marine areas, and access to clean water and clean sea is a prerequisite for the Group's operations. The Group makes continuous investments to minimise its impact on the environment, and to maintain correct environmental attitudes among management and employees. At year-end 2014, the Group had 2,306 employees. In 2014, the Group produced 158,000 tons of salmon and trout, and exported seafood for more than NOK 12.5 billion.

## GLOBAL PRESENCE



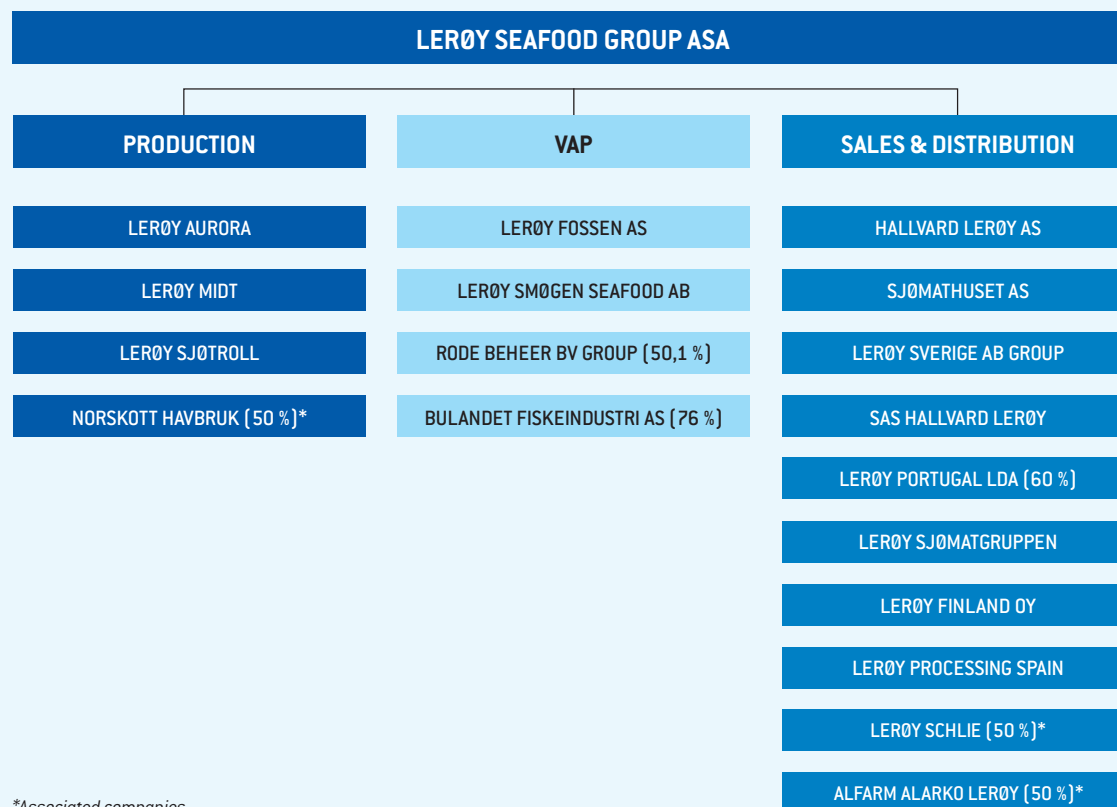
## TURNOVER LSG (NOK MILLION)



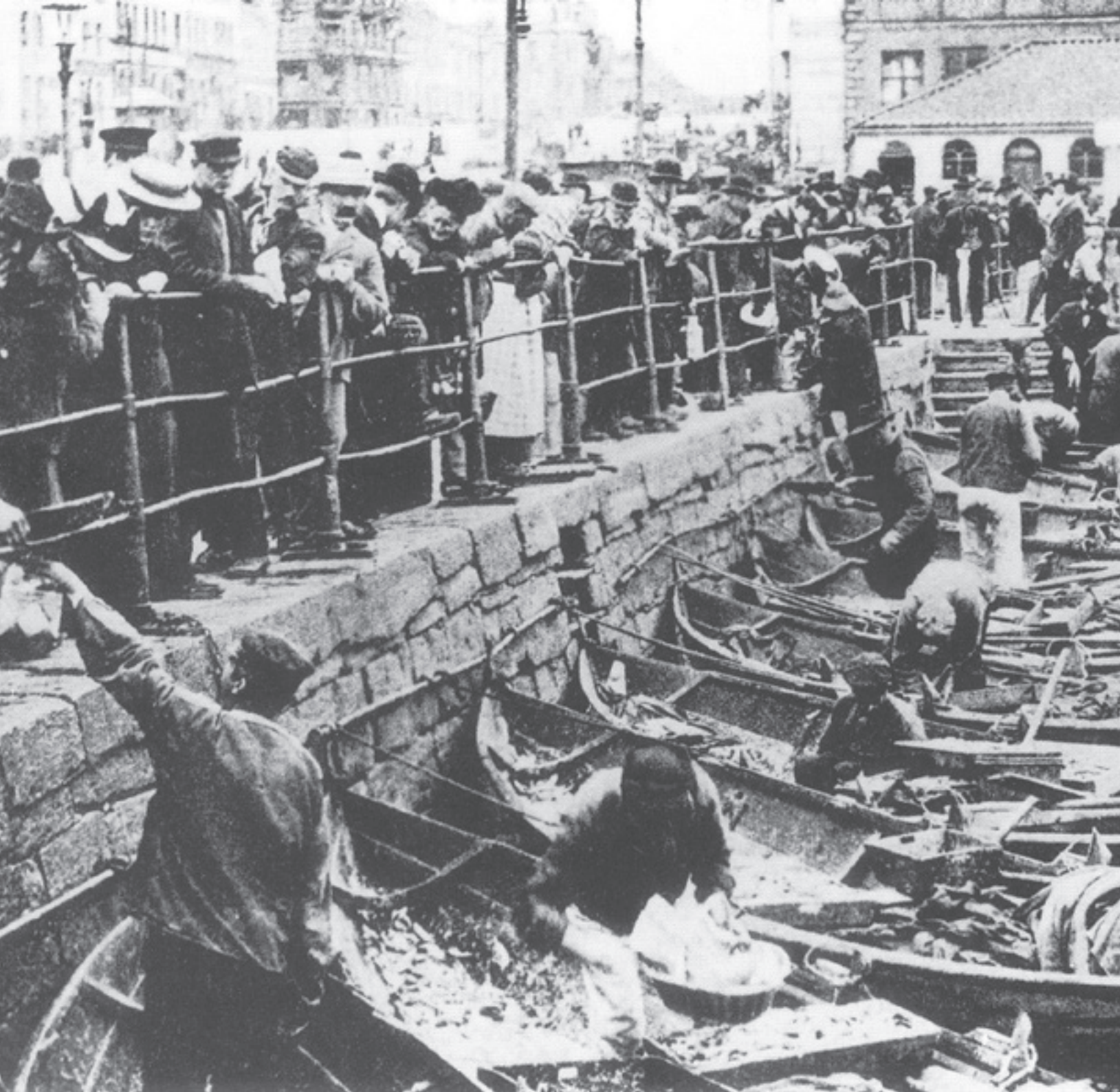
# LERØY SEAFOOD GROUP, VALUE CHAIN AND THE DIFFERENT COMPANIES

Paramount in Lerøy Seafood Group's strategy is to be a fully integrated supplier of the Group's key products, Atlantic salmon and trout. The Group currently reports within three main segments; Production, VAP (Valueadded - processing) and Sales & Distribution. The Group views its operations as regional with a global perspective. The Sales & Distribution activities are global, while the Production processes are largely regional.

The Farming segment includes the Group's activities within production of Atlantic salmon and trout, including harvesting and an increasing share of filleting. The subsidiaries in this segment in total represent a major employer along the Norwegian coastline and other areas, and strive to be visible and supportive in all operating regions. The VAP segment is a core activity for the Group and involves high-value processing of mostly salmon and trout, but also other species. The different operations in this segment have a strong local foothold in their respective communities, while sales are increasingly to the global market. The Sales & Distribution segment has a global reach, comprising sales, marketing, product development, distribution and simple processing of both the Group's own produced products as well as for external suppliers.



\*Associated companies



## HISTORY AND 2013

The Lerøy Seafood Group can trace its operations back to the end of the 19th century, when the fisherman-farmer Ole Mikkel Lerøen started selling live fish on the Bergen fish market. The fish was hauled to market in a corf behind Ole Mikkel Lerøen's rowing boat, a journey that could take between 6 and 12 hours, depending on prevailing winds and currents.

Over time, Ole Mikkel Lerøen's operations gradually came to include retail sales in Bergen, the sale of live shellfish and a budding export business. In 1939, two of his employees, Hallvard Lerøy sr. and Elias Fjeldstad, established what today has become one of the Group's principal sales companies – Hallvard Lerøy AS. Since its establishment, the company has been a pioneering enterprise in a number of fields in the Norwegian fishing industry. The company's main focus has constantly been on development of markets for seafood, and the pioneering spirit is still very much alive in the Group.

# IMPORTANT EVENTS 2014

## PRODUCT DEVELOPMENT

- Lerøy consolidates their position as Norway's largest supplier of sushi
- Lerøy develops a delicious new dish – oven-ready cod with herb butter
- Developments to the category by supplying sliced salmon for buffets
- Launch of panco-crust ed fillet of cod

## ENVIRONMENT

- Further development of Ocean Forest
- LSG established as one of the largest producers of lumpfish
- Start-up of construction of Preline, closed containment facility for smolt
- Zero use of antibiotics for salmon in the sea since 2011
- Focus on various R&D&I projects within the environment and sustainability

## STRATEGIC EVENTS

- Opening of Sjømathuset in Oslo in February, Norway's largest and most modern facility for freshly packaged products.
- 8 licences from Villa Organic AS were merged into Lerøy Aurora
- Agreement signed for the acquisition of seafood distributor Alarko in Turkey
- Purchase of 34% of lumpfish producer, Norsk Oppdrettsservice AS







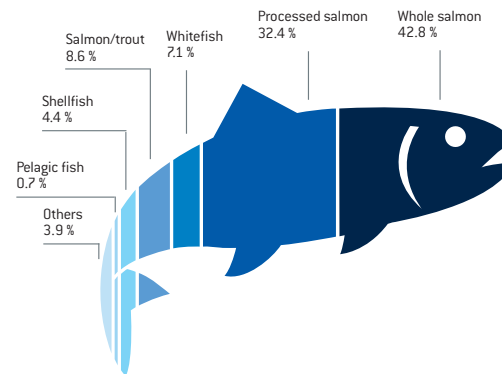
## THE PRODUCTS

The Group divides its products into four main areas: salmon products, whitefish, pelagic fish and shellfish. The distinction between farmed species and wild fish is significant and requires different logistics and working methods. These products are distributed on the Norwegian market and more than 70 other markets worldwide.

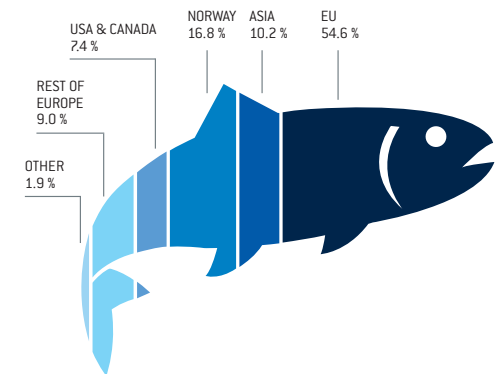
The Group's strategy is to meet the market's ever-increasing demands for food safety, quality, product range, cost efficiency and continuity of supply. This is achieved by coordinating the various elements in the value chain: the production units, the Group's sales network and established strategic alliances with sea farms, fishing vessels and fish processing plants primarily along the coast of Norway.

The Lerøy Seafood Group has a large portion of fresh fish products in its product range. At present the share of fresh fish products is more than 80%. After Atlantic salmon and trout, whitefish is the largest product area. In recent years, this product area has developed favourably through cooperation with a number of small and medium-sized companies. Lerøy Seafood Group is also a supplier of shellfish and fresh pelagic fish to Norwegian and European markets. The sale of shellfish and fresh pelagic fish represents a small but interesting niche product area.

PRODUCT AREAS YTD 2014



GEOGRAPHIC MARKET YTD 2014





## A CHALLENGING YEAR, BUT ALSO THE BEST IN THE GROUP'S HISTORY

We expected 2014 to be a good year, and we were not wrong. 2014 will go down in the history books as a record-breaking year for Lerøy Seafood Group ASA. Turnover was up NOK 1.8 billion, from NOK 10.8 billion to NOK 12.6 billion, and our operating profit totalled NOK 1.8 billion compared with NOK 1.6 billion in 2013. With such a solid result, our company can continue its wonderful rate of development sustained over the past two decades. It is incredibly inspiring to be part of a company and an organisation that constantly strives to reach new goals, and that is able time after time to achieve these goals. I am genuinely proud to be able to say that I have been employed by such a company for 22 years.

Over the past 15 years, we have made significant strategic investments both upstream and downstream, in our efforts to create the type of organisation we are today. Our work to further develop our company strategy, with a focus on continuous improvements throughout the value chain, has been a core activity during 2014 and will remain so in the years to come.

It has been Lerøy Seafood Group's strategic goal to be self-sufficient in terms of smolt in all regions. We have made substantial investments over the past years towards this goal. The most significant investments were made in Belsvik in 2012. To date, this facility has shown satisfactory results with regard to the quality of the smolt, fish health and growth. In 2014, we invested NOK 150 million

in expanding our smolt facility in Laksefjord in Finnmark. This company is now a state-of-the-art recirculation plant with a total capacity of 12 million smolt.

As a result of the expansion, Lerøy Seafood Group can now boast a total production capacity of 57 million smolt, comprising 23 million in the region of Hordaland, 22 million in Central Norway and 12 million smolt in North Norway. This provides us with a strong position for the future.

Aquaculture represents a major share of value creation for Lerøy Seafood Group. In 2014, we had a total production of 158,258 tons of salmon and trout. This is an increase of close to 13,500 tons (9.3% growth) from 2013. Bearing in mind the biological challenges faced, and the fact that Norway in total reported growth of 4%, we are satisfied with our development. In 2013, we purchased a significant percentage of the shares in Villa Organic AS. This company was split up in 2014, with 8 licenses allocated to Lerøy in Finnmark. We have gained positive experience during our first year of operations in Finnmark, and we are confident that we can make significant developments in this region in the years to come. We were also very gratified to confirm the licence for demonstration and training granted to Lerøy Aurora in the autumn of 2014. We feel it is important to help disseminate information and knowledge about aquaculture to groups and persons not involved in our industry.

2014 was a challenging year biologically, with high temperatures during the summer and subsequent complexities. Although 2014 was a challenging biological year for the Norwegian aquaculture, I would emphasize that the production of salmonids in Norway over time has been, and still is, the most sustainable production of salmonids in the world. Norway has the strictest environmental regulations.

I think it's sad that an efficient Norwegian food production, which both nationally and globally is environmental and economical competitive, is frequently subjected to non-serious or strategic attacks aiming to prevent further development in Norway.

In our quest for optimal environmental and economical sustainable production, we have made significant investments in the production of the cleaner fish lumpfish. In 2014 we bought 34% of the company Norsk Oppdrettservice AS, which is a leader in the production of this species. The company has production facilities both in Central Norway and South Norway. In addition, we have built two separate plants for the production of lumpfish, and early in 2015 we purchased another producer in Northern Norway. Lerøy will in the future be self-sufficient in all regions. Experience so far shows that lumpfish is a very efficient cleaner fish. In 2014, Lerøy produced 0.6 million lumpfish, in 2015 we fivefold to 3 million and in 2016 we will double again to 6 million lumpfish.

Our value-added processing (VAP) segment can report a successful year in 2014, with a total improvement in profit of 28%. The segment made substantial investments in 2013 in Norway, Sweden and the Netherlands in order to increase capacity. Since then, we have worked hard to gradually exploit our increased capacity, and can confirm impressive growth in both turnover and profit in 2014. Moreover, we still have vast potential for further growth in the years to come. Lerøy Seafood Group aims to further develop this segment and is seeking strategic investments in new and interesting markets in the future.

2014 was also a positive year for our Sales & Distribution segment (S&D), with an increase in turnover from NOK 10.3 billion in 2013 to

NOK 12.0 billion in 2014. I would like to highlight Hallvard Lerøy AS in particular, which for the first time has passed the milestone of NOK 10 billion in turnover, reporting a total of NOK 10.7 billion. This is an impressive result! Keep in mind however that the prices realised in 2014 were record high for the Group.

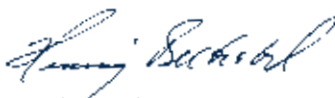
On 7 August 2014, Russia introduced a full ban on the import of all salmon and trout from Norway. Russia has been a very important market for Lerøy Seafood Group, representing 10% of our total sales of salmon and trout. It therefore goes without saying that we faced an extremely difficult situation, having to reallocate large volumes of fish to new markets practically overnight. At the time of writing, both Russia and China have an embargo on imports from Norway, and these bans are evidence of how vulnerable we are, and how important it is to develop new markets, products and segments in the future

After several years of important, strategic investments, 2014 has been a very exciting year. In 2013, we started work on the construction of Sjømathuset in Kalbakken, Oslo, in cooperation with NorgesGruppen.

Our objective for Sjømathuset was to build an ultra-modern processing and distribution plant for fresh seafood, targeting NorgesGruppen's grocery stores. Production at Sjømathuset started on 17 February 2014. The start-up phase has been very challenging, but we have learned so many important lessons and now, at the start of 2015, we are confident that our new facility will help us take our category for fresh seafood to a whole new level. This project has been exciting both for me personally and for everyone else involved. We hope that the year to come will be even more successful for S&D, as we are able to exploit our full potential thanks to the investments made in recent years.

My heartfelt thanks go to all our employees and partners for their hard work in 2014. I am sure that together we can sustain our fantastic rate of development to date. I know we can do it – but, if we are to succeed, we all have to work together towards a common goal:

**To do everything a little better than before.**



Henning Kolbjørn Beltestad  
CEO  
Lerøy Seafood Group



# GOVERNANCE

When recruiting board members, the Group's owners have already for many years taken into consideration the Group's need for varied expertise, continuity, renewal and changes in ownership structure.

In 2014, the Board of Lerøy Seafood Group had Helge Singelstad as the Chairman, and the six Board members were Arne Møgster, Britt Kathrine Drivenes, Hege Charlotte Bakken, Hans Petter Vestre, Marianne Møgster and Didrik Munch. Read more about the board members in the Group's annual report ([link: page 28](#)). Neither the CEO nor other senior executives in Lerøy Seafood Group ASA are members of the company's Board of Directors.



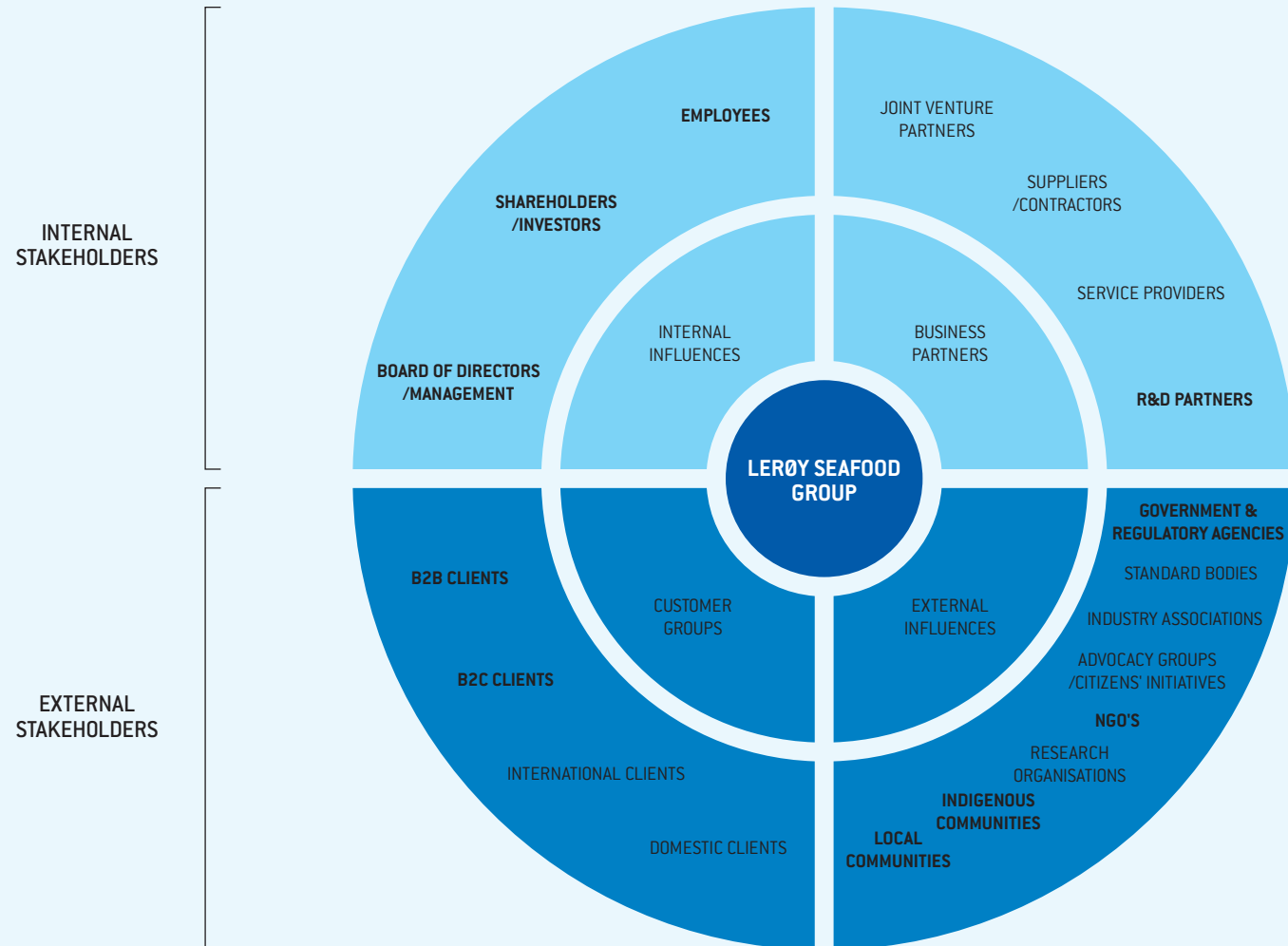
# STAKEHOLDERS

A Stakeholder is an accountant, group, organisation, member or system who affects or can be affected by an organisation's actions. Lerøy Seafood Group has different stakeholders and communicates with these via,; meetings, annual reports, environmental reports, GRI reports, CDP reports, communication in media, announcements, registrations, public reporting, joint projects, partnership agreements, stock exchange, websites etc.

Good communications with stakeholders is important in our daily work. In a new process, we analyse our stakeholders on the basis of their influence on our organisation. This helps us to identify how to engage them more effectively, yet more importantly ensures shared value on both sides of the table.

Keywords:

- Acceptance of topics chosen
- Different perspectives on impacts
- Problem identification
- External impression
- Knowledge



# LERØY WORLDWIDE

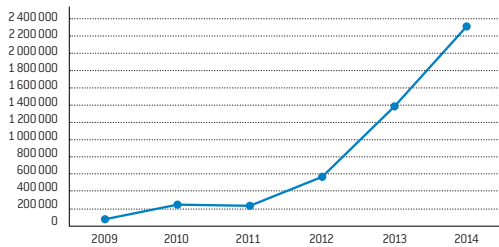
## PERSPECTIVES FROM DIFFERENT COMPANIES

### IN LERØY SEAFOOD GROUP:

#### FROM LERØY SWEDEN:

Lerøy Smögen Seafood AB has a fully certified environmental management system in accordance with ISO 14001. In addition, the Group has three wholesale companies located in Sweden, one in Stockholm, one in Gothenburg and one in Lomma. In total, these companies increased their sales of environmentally labelled products by 65% from 2013 to 2014. The share of environmentally labelled products in 2014 comprised approx. 17.5% of the total volume of products sold in Sweden, compared to 12% in 2013. Swedish consumers are among those consumers most interested in environmentally labelled products in Europe.

#### MSC AND KRAV LABELLED PRODUCTS SOLD IN SWEDEN 2011 – 2014 (KG)



#### FROM OUR PRODUCTION COMPANIES IN FRANCE; FISHCUT AND EUROSALMON

The environment and sustainability are a natural part of the French companies' policies and both companies have worked hard on this area over the past years. As a result, the companies now have clearly defined working targets for both the environment and social responsibility.

#### FISHCUT AND EUROSALMON TARGETS AND PERFORMANCE IN 2014

Fish Cut	Target 2014	Result in 2014	Target 2015
Electricity consumption	0,170 kWh/kg	0,460 kWh/kg	0,420 kWh/kg
Water consumption	2,20L/kg	2,72L/kg	2,60L/kg
Total absence	< 3,22 %	4,19%	< 4,19

EuroSalmon	Target 2014	Result in 2014	Result in 2015
Electricity consumption	0,400 kWh/kg	0,194 kWh/kg	0,400 kWh/kg
Water consumption	2L/kg	2,49L/kg	2,50L/kg
Total absence	< 6,67 %	4,92%	< 4,92

The start-up and utilisation of new and larger facilities for Fish Cut presented challenges in terms of goals and goal achievement. More realistic goals have now been set for 2015. The cause of the non-achievement of goals for water consumption for Eurosalmon was a new machine that uses a lot of water. This was not taken into account when the goals were set.



# ENVIRONMENTAL AND SUSTAINABILITY MANAGEMENT

The CEO of Lerøy Seafood Group has main responsibility for the environment and sustainability, whereas the Corporate Social Responsibility (CSR) is responsible for coordinating the efforts of all companies within the Group. Lerøy Seafood Group is organised with local management for its fish farming activities, and the local management's knowledge of and care for the local environment are of decisive importance. The Managing Directors of each subsidiary are responsible for their companies' performance, and are supported by the Quality Managers who perform daily follow-up within the companies.

In order to develop internal competencies, a number of competency groups have been set up in Lerøy Seafood Group. The competency group for quality and the environment is made up of Quality Managers and led by the CSR Supervisor. In addition, the CSR Supervisor holds regular meetings with representatives from the other competency groups, where quality and the environment are on the agenda.

Lerøy Seafood Group has established competency groups within:

- Quality and the environment
- Production of fish for consumption
- Production of young fish
- Fish health
- Industry
- Economy

## ENVIRONMENTAL POLICY

Lerøy Seafood Group is one of the largest seafood corporations in the world. We live off the natural resources produced in the sea and rely on these resources being properly managed so that we can continue to sell seafood in the future. The management of Lerøy Seafood Group will do their utmost to ensure that the products manufactured and purchased comply with the prevailing rules and regulations of our industry.

We will furthermore strive to find the most environmentally friendly and sustainable systems for our products via a close cooperation with our customers and suppliers of fish feed and transport.

Lerøy Seafood Group will continuously seek to introduce improvements that will reduce pollution and help protect the environment. Our employees will focus on the company's environmental targets. In fact, Lerøy Seafood Group will include the environment as one of its main focus areas in the future, in terms of both employees and our products.

## ETHICAL GUIDELINES

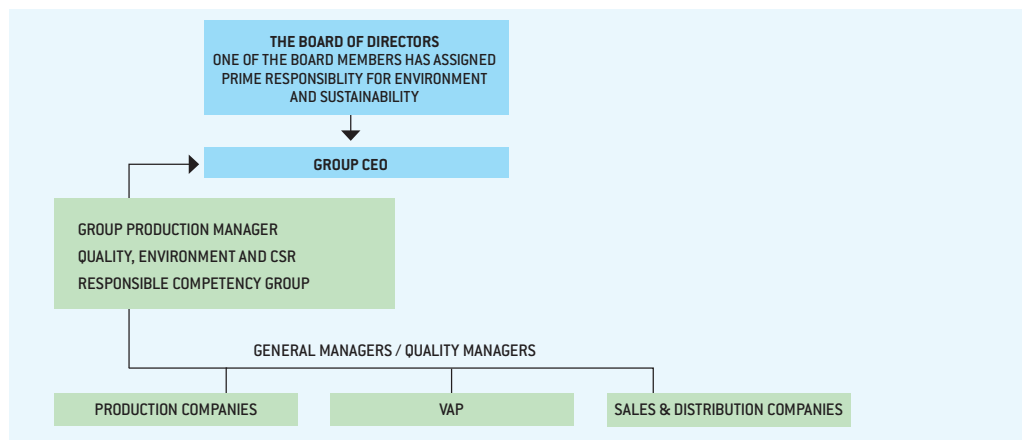
Lerøy Seafood Group is a corporation involved in global business and working relationships with suppliers and subcontractors worldwide. In order to safeguard all our activities, we have prepared a set of ground rules which apply to us and our partners on a daily basis. Our ethical guidelines have been reviewed by the Board of Directors and implemented in every Group company. The Group is responsible for ensuring practice of these ethical guidelines, but each employee also bears an individual responsibility to follow the guidelines when carrying out tasks for the Group. The company management is responsible for ensuring full practice of and compliance with the ethical guidelines. The set of ground rules has been divided into two separate areas and comprises the following:

- Part 1: Factors relating to the company, suppliers and subcontractors.
- Part 2: Factors relating to the individual employee.

Our goal is to combine healthy business management with a clear responsibility for society and the environment. As a general rule, Lerøy Seafood Group together with its suppliers and subcontractors shall fully comply with legislation in respective countries. The Group has a principal

rule that the strictest requirements shall be met. In the event of deviations, measures shall be implemented to improve the situation.

The Group's goal is to contribute towards improving human rights, labour rights and environmental protection, both within the Group, in relation to our suppliers and subcontractors and in relation to trading partners. Lerøy Seafood Group does not support individual political parties or individual politicians, but the Group takes part in public debate when in the interests of the Group. Environmental aspects shall be taken into consideration throughout the production and distribution chain, from production of raw materials to sales, and shall not be delimited to the Group's own activities. All attempts shall be made to safeguard local, regional and global environmental aspects. Aspects regarding animal ethics shall also be taken into full consideration.



Lerøy focuses on a good working environment, where job satisfaction is essential for the performance of important tasks. The photo above is from Lerøy Midt's new hatchery facility in Belsvik, Sor-Trøndelag.

# SUSTAINABILITY FOCUS AREAS AND TARGETS

For Lerøy Seafood Group, it is essential to maintain a constant focus on areas where we have the greatest influence in terms of sustainability. We have therefore carried out a critical evaluation of the value chain and our working processes, and concluded that we currently have the greatest influence within the area of our fish farming activities. A major share of our efforts related to the environment and sustainability will therefore focus on fish farming.

Lerøy Seafood Group works hard to constantly improve the interaction between fish farming and the environment, aiming at generating positive and lasting environmental benefits. The Group has five main elements related to environmental work within fish farming activities:

- Work to prevent accidental release of fish
- Measures to reduce salmon lice
- Fish health and fish welfare
- Efficient utilisation of land and sea areas
- Reduced discharge of nutrient salts from premises

The Group's fish farming companies have established a clearly defined set of goals for each

operational segment and have developed operating procedures to ensure that they can reach these goals. The Group also carries out regular internal and external audits to ensure full compliance between operating procedures and proper conduct. In addition, the Group has implemented advanced technology to secure and monitor performance, and environmental requirements on our suppliers.

Our environmental vision – “Take action today for a difference tomorrow” – therefore provides a clear statement from every employee within the Group that we fully intend, every day, to take the initiative for environmental improvements, benefiting both the environment, the fish farming industry and our coastal communities.





KEY PERFORMANCE INDICATORS (KPI)	TARGETS FOR 2014	STATUS 2014	TARGETS FOR 2015
<b>1. Work to prevent accidental release of fish</b>			
LSG KPI 1: Accidental release	Zero accidental release	Target not achieved	0
<b>2. Measures to reduce salmon lice</b>			
LSG KPI 2: Lice	Max. 0.1 female lice of reproductive age during emigration period for wild salmon and char. Max. 0.5 female lice of reproductive age during rest of the year.	Target achieved	0.1
LSG KPI 6: Use of medicines	Max. 4 chemical delousing procedures per generation in south / max. 1 in north	Target not achieved in south / target achieved in north	Max. 4 chemical delousing procedures per generation in south / max. 1 in north
<b>3. Fish health and fish welfare</b>			
LSG KPI 3: Mortality per generation	6 %	Target not achieved	7.0 %
LSG KPI 4: Density	Max. 25 kg/m <sup>3</sup>	Target achieved	25 kg/m <sup>3</sup>
<b>4. Efficient utilisation of land and sea areas</b>			
<b>5. Reduction of discharge of nutrient salt per location</b>			
LSG KPI 5: Location status	Max. average MOM-B per location: 1.5	Target achieved	Max. average MOM-B per location: 1.5
LSG KPI 7: Biological feed factor	Biological feed factor: 1.1	Target achieved	Biological feed factor: 1.09
LSG KPI 10: Reduction of discharge of nutrient salts	R&D via Ocean Forest		R&D via Ocean Forest
<b>6. Other</b>			
LSG KPI 8: Complaints from stakeholders	All complaints shall receive a written response	Target achieved	All complaints shall receive a written response
LSG KPI 9: Fish feed	Increased content of MSC certified raw materials FishSource score for marine raw materials for individual species > 6, biomass score > 8 FFDRm < 1.35	Target achieved	Increased content of MSC certified raw materials FishSource score for marine raw materials for individual species > 6, biomass score > 8 + FFDRo < 2.95
Energy consumption in kWh / ton produce	Each company establishes individual targets		Each company establishes individual targets
Water consumption in m <sup>3</sup> per ton produce	Each company establishes individual targets		Each company establishes individual targets
The share of packaged raw materials shall be increased (the term packaged raw materials is defined as commodities)	Each company establishes individual targets		Each company establishes individual targets



## THE VALUE CHAIN OF FISH FARMING

It is important for Lerøy Seafood Group to focus on the areas where the Group has the greatest impact in terms of sustainability. Based on a critical evaluation of the value chain and the Group's processes, we have concluded that we currently can make the greatest impact by working on aspects related to our aquaculture business.

Our work on the environment and sustainability will therefore focus on the impact of aquaculture. Lerøy Seafood Group plays an active role in all parts of the value chain, which consists of roe and smolt production, fish farming, harvesting, processing, distribution and consumption.



### REQUIREMENTS FOR SUPPLIERS

The Group's main suppliers are fish feed suppliers. In 2014, Lerøy Seafood Group mainly purchased feed from EWOS and Skretting. The main target is to ensure that the raw materials used in the Group's feed are both fished or harvested in an ethically sound manner and in compliance with legal frameworks and based on sustainable harvest or fishing. The Group cooperates with feed suppliers in the work required to meet this target.

The Group has established requirements for its suppliers of fish feed to make sure that raw materials are managed in a satisfactory manner. Moreover, the Group will require its suppliers to closely monitor how quotas are established and respected, and how the catch is utilised. Lerøy Seafood Group requires that the raw materials in its fish feed must come from areas regulated by national quotas for the respective species, and where the quotas are allocated as far as possible in conformance with accepted scientific recommendations, such as ICES, FAO, IMARPE, SERNAPESCA\*.

The Group requires that all of its feed suppliers prioritise use of raw materials certified in accordance with IFFO's standard for sustainability, or raw materials with MSC certification or similar. The supplier's certification scheme should be a member of ISEAL and have guidelines for sustainability requirements also for small pelagic fisheries. Palm oil should not be used. Raw materials based on soya require "Roundtable on Responsible Soy" RTRS, certification or similar.

MSC - Marine Stewardship Council – a standard for sustainability for fish caught in the wild  
 ICES - International Council for the Exploration of the Sea – an organisation for enhanced ocean sustainability  
 FAO - Food and Agriculture Organization of the United Nations  
 IMARPE – Instituto del Mar del Perú  
 SERNAPESCA – Servicio Nacional de Pesca y Acuicultura (Chile)  
 IFFO – The Marine Ingredients Organisation  
 ISEAL - International Social and Environmental Accreditation and Labelling Alliance  
 RTRS - Roundtable on Responsible Soy



### ROE PRODUCTION

Lerøy Seafood Group has capacity to produce 130 million fertilised eggs per year. In 2014, the Group's production volume was 102 million fertilised eggs and the Group imported 12.5 million fertilised eggs.

The majority of the Group's production activities are certified according to Global Gap and roe production is subject to particularly stringent requirements on fish health and the environment. Roe production involves taking parent fish ashore in May prior to stripping. Production of roe takes place mainly from October to December. Roe is delivered from the breeding facilities to the young fish facilities during the hatched larvae stage. The development of hatched larvae takes place at defined temperatures, allowing for flexible delivery times within certain limits. This allows the Group to adapt production, allowing for optimal utilisation of capacity in the young fish facilities.

### SMOLT PRODUCTION

Lerøy Seafood Group can produce 51 million smolt per year in its subsidiaries. In 2014, the amount of smolt produced was 40.6 million. Smolt production takes place in an onshore facility in fresh water, where hatched larvae are delivered from producer to individual young fish facilities. The roe hatch and the fry receive start feed in the young fish facilities. The first smolt are delivered from the young fish facilities to the production facilities 8 to 12 months after hatching. Lerøy Seafood Group has regionalised its production of smolt in order to ensure optimal adaption of smolt quality.

Lerøy Seafood Group is mainly self-sufficient with smolt from its own young fish facilities. Selection of the smolt produced by Lerøy is based on traditional breeding methods, which are very similar to traditional breeding methods for livestock and poultry. The breeding programme for salmon is family-based, using a systematic measurement of the 22 different properties of Atlantic salmon. By measuring and keeping control of these properties, there is a good basis for selection for maximum genetic progress and minimal degree of inbreeding. New selection methods based on genetic markers have also been implemented in recent years.

### FISH FARMING

Production of salmon takes place in carefully selected locations in the sea. An optimum environment must have good flow of water and the correct temperature range, topography, oxygen content and exposure. Once the location has been approved by fishery, environmental and coastal authorities, the cages (nets and floating devices) are installed at the location so that the fish will have the best possible environment. All parts of the production equipment are certified in accordance with a specified Norwegian standard: NS 9415 for floating fish farming installations.

Once the smolt are carefully assessed to determine whether they are ready for sea water, they are released to sea. Production in these facilities takes from 12 to 20 months, depending on temperature, genetic potential and the quality of the farming and care of the fish during this period. Production is monitored in the individual cages, where cameras and sensors ensure optimal feed and control to ensure optimal growth, fish health and welfare, and to prevent discharges to the environment.

### PRODUCTION

Production at Lerøy is defined as slaughtering and processing. These processes take place in modern factories designed for the production of food and approved by the proper authorities. The fish is anaesthetised and put to death in accordance with set rules to avoid unnecessary suffering and to ensure high product quality. Lerøy Seafood Group has six facilities in Norway involved in slaughtering, packing and processing of salmon and trout. In addition, the Group has two plants that produce sushi and whitefish. Abroad, the Group has 14 plants that produce various seafood products where salmon products are the main focus. All of the facilities meet prevailing requirements regarding discharges to the external environment.

# WORLD'S BIGGEST HATCHERY OPENED IN BELSVIK, NORWAY

In August 2013, Lerøy opened one of the world's biggest smolt plants, in Belsvik, Norway. The plant is also foremost in the world when it comes to recycling, as it reuses 98% of all water in the plant. The facility has a flow-through system and is able to produce 14 million smolt a year. The plant is strategically located in Belsvik, with short distances to Lerøy's aquaculture farms in Central Norway.

Concern for the environment has influenced the design, development and operation of this new facility, resulting in major changes to production systems and to new and eco-friendly methods:

- **Water consumption:** Use of recycling technology throughout the facility enables a 98-99% reduction in water consumption compared with conventional "flow-through" facilities, thereby preventing the need for major installations in the landscape, such as dams and pipelines. There is also very little impact on the biological diversity in the water source when compared with a flow-through facility. Water consumption in 2014 in Belsvik was 1.3 million m<sup>3</sup> compared to the average amount of 65 million m<sup>3</sup> required for corresponding production in a conventional facility. Water consumption at the facility has been approximately 3,000 litres per minute.
- **Energy:** The consumption of energy is lower in a facility using recycling technology compared to a flow-through facility. Although energy is required to pump and purify water, there are substantial

savings to be made through utilising the energy of heated water. Heat energy at the Belsvik facility is based on the exploitation of seawater heat by using heat pumps. Energy consumption in 2014 in Belsvik was 8,963 GWh.

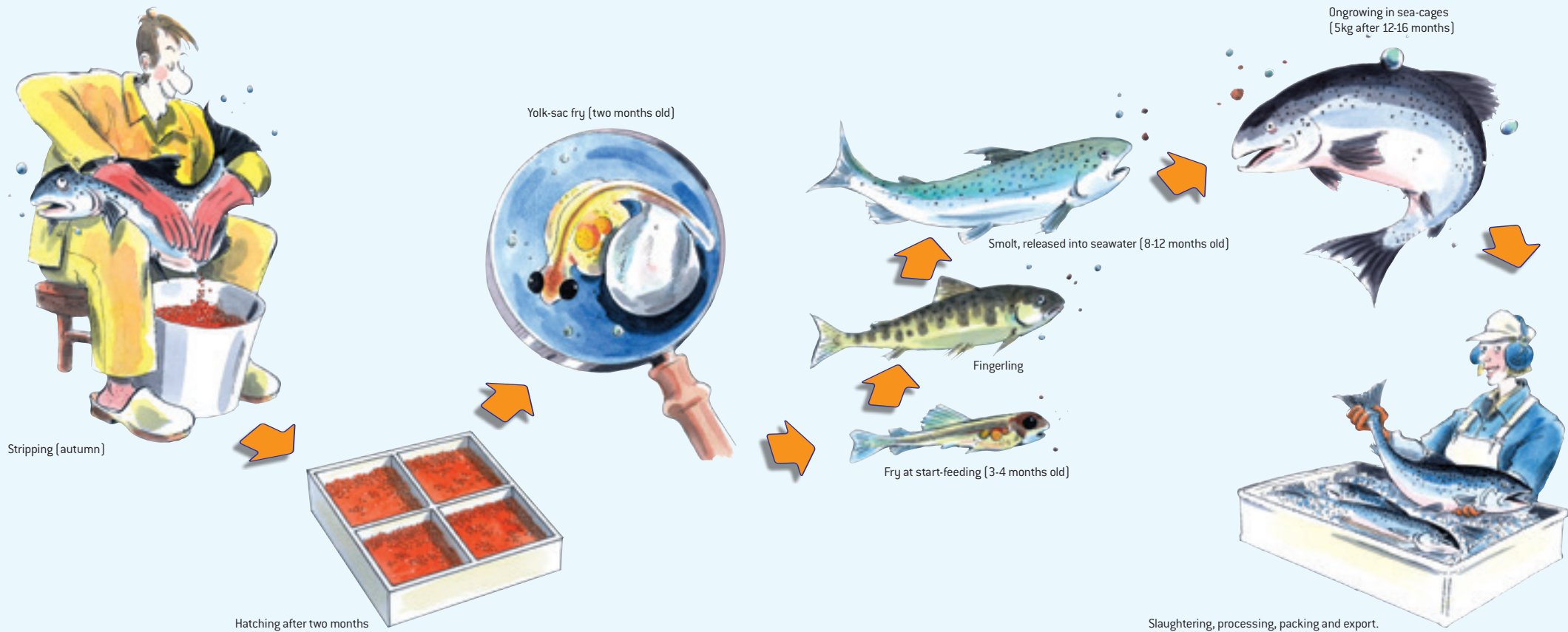
- **Sludge:** Sludge generated in the mechanical filtering of water is set aside and preserved at the recycling facility. Sludge is a by-product, which can be used as soil improvement or fertiliser, or for the production of biogas.

Emissions to the recipient has been within the permitted levels with an average capture rate of suspended solids at 79.7% and 64.8% of organic matter (BOD). All accumulated sludge and organic material has been delivered to the biogas production

- **Spills:** Waste waters in a recycling facility pass through several filters and treatment processes before arriving at the recipient. Outflow water is reduced by 98-99% compared with conventional facilities. This provides for a much higher prevention rate for accidental release than with conventional facilities.

The Group's environmental goals in 2013 focused on the transition to more eco-friendly operations, based on renewable energy sources and improved energy re-use. The opening of the Belsvik facility was a huge step forward in the right direction for Lerøy, with its high focus on energy efficiency.





## FROM ROE TO PLATE

**Stripping:** The brood stock fish are stripped of their roe and milt. The inseminated roe are placed in the hatchery, where they take 60 days at a maximum water temperature of 80°C to hatch out.

**Hatching:** When the eggshell breaks, the eggs hatch out, yielding fry with yolk-sacs on their stomachs. The yolk-sac is the fry's "lunch-box" for the first few weeks of its life before start-feeding, when it gradually begins to take dry feed.

**Smolt:** After about one year in a hatchery tank, the salmon have grown enough to be set out in seawater. At this point they have already undergone physiological changes that enable them to live in the sea. An average smolt weighs 80-100 g when it is released into the sea. Smolt used to be set out in the spring, but this now also takes place at other times of the year.

**On-growing in the sea:** After just over two years in the sea cages, the salmon have grown to a weight

of about 5 kg. The rate of growth depends, among other factors, on the water temperature.

**Well-boats:** Well-boats are used to transport both smolt from the hatchery to the on-growing farms and fully-grown live salmon from farms to the slaughterhouse. All salmon are slaughtered in specialised fish-processing plants. They are anaesthetised before they are slaughtered and are then immediately cleaned, sorted, chilled and processed for further transport. Some fish

are smoked or turned into fillets or "table-ready" products, but most are sold as cleaned whole salmon.

**Transport:** Around every 20 minutes, every day all year round, a trailer fully loaded with salmon crosses the Norwegian border on its way to the market. In addition, salmon is also exported on board its own salmon aircraft. Several companies are now also evaluating the use of sea transport to carry salmon from processing plants to market.

# RESEARCH, DEVELOPMENT AND INNOVATION – FISH FARMING

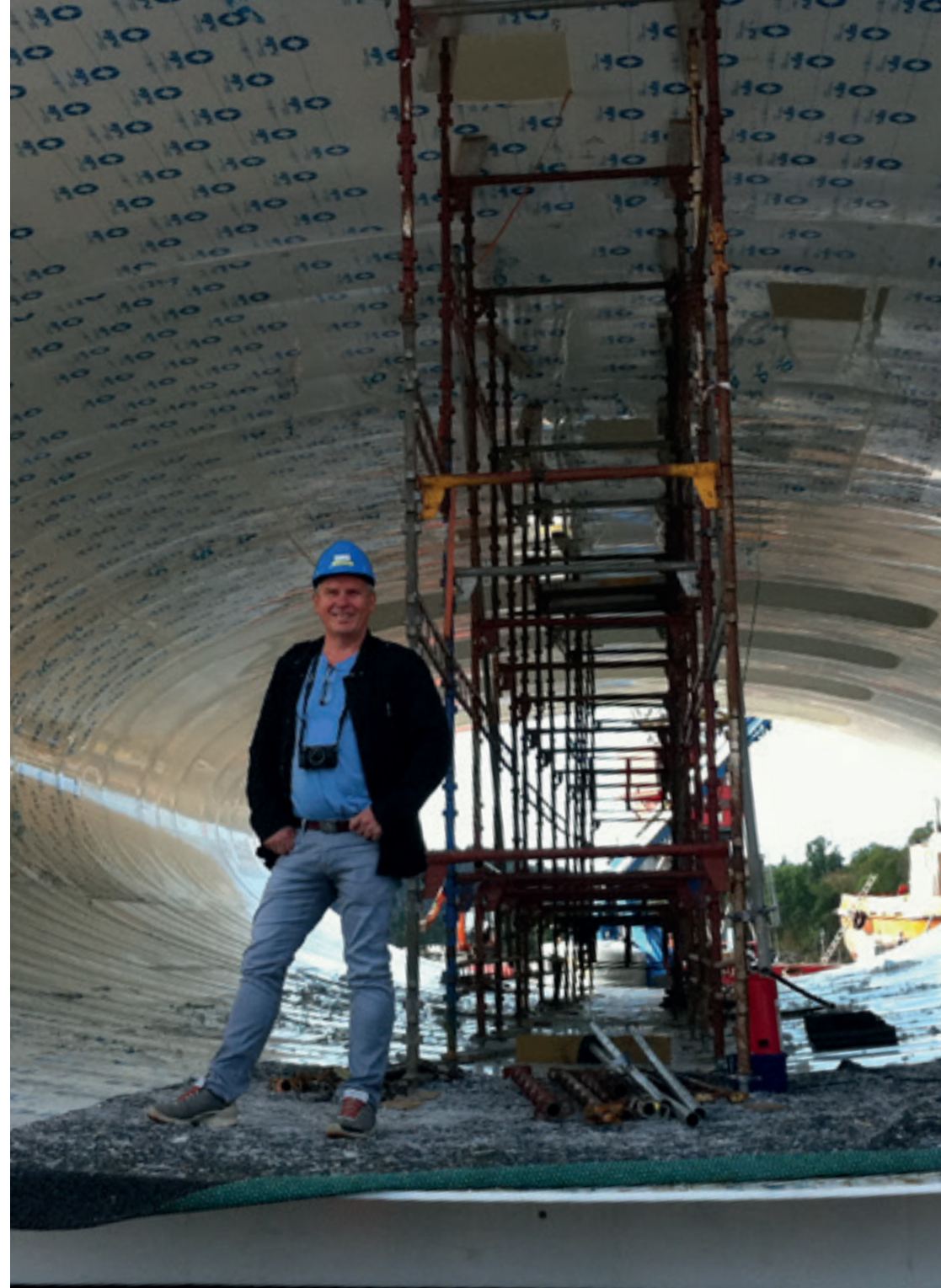
Research, development and innovation are central factors in the work to further develop the entire value chain in Lerøy Seafood Group. The Group has a history of active participation in R&D&I projects directly or via our subsidiaries in order to ensure proximity to and ownership of the projects and maximum exploitation of the input factors. Ordering and implementation competency are central concepts in Lerøy Seafood Group's R&D&I work. We shall have the ability to formulate our challenges and goals as precisely as possible and to rapidly implement results throughout the organisation. The actual R&D&I work is often carried out in cooperation with national and international R&D groups. The R&D&I projects comprise a wide range of subjects, from innovation in cooperation with internal and external groups to participation in major, significant research

projects, such as the Research Council of Norway's SFI scheme (SFI – centre for research-based innovation).

## **The Group's R&D&I efforts in 2014 have focused on 4 main areas:**

- 1) Combating lice
- 2) Feed/feed exploitation/feed strategies
- 3) Fish health
- 4) Technology

An increase in innovation is increasingly underlined as a fundamental element for the future of Norway. Lerøy Seafood Group is recognised for its innovative efforts over the past century. We aim to continue in this way, and our ambition is to be at the very forefront in terms of innovation within every part of our value chain.





## SALMON LICE

The company has a principal strategy for fighting salmon lice, based on the principle of "Integrated Pest Management", i.e. the implementation of a number of measures to prevent and fight salmon lice, wherein treatment with medication is the very last measure utilised.

### The Group's R&D&I work related to salmon lice takes four different approaches:

- 1) keep the salmon away from the lice
- 2) keep the lice away from the salmon
- 3) kill the lice before it finds the salmon
- 4) kill the lice once it has found the salmon.

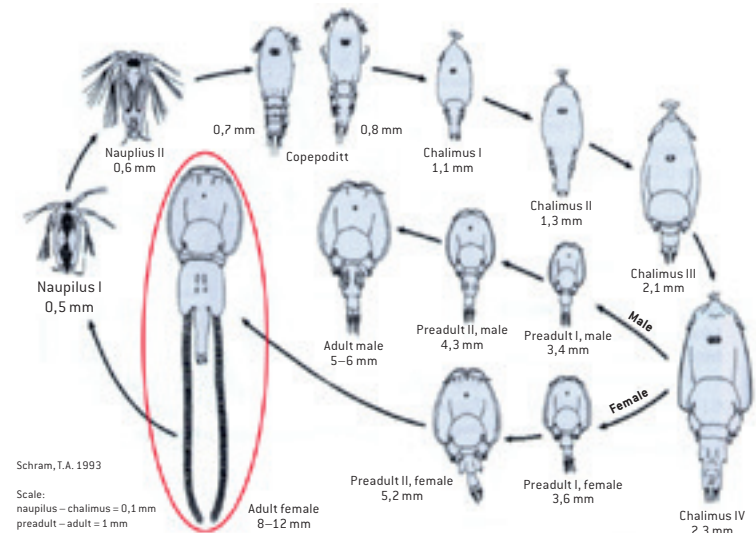
The first three methods are preventive, while the fourth involves treating salmon infected with lice. Lerøy is active within all four methods, and has applied for a specific R&D licence to test "packages"

of different measures at full scale according to the principle of "Integrated Pest Management".

Lerøy Seafood Group employs a package of initiatives comprising cleaner fish (ballan wrasse, goldsinny wrasse and/or lumpfish) which eat the lice from salmon, functional feed to reinforce fish resistance to lice, and efficient and systematic cleaning procedures for nets etc. to allow the cleaner fish to feed properly, combined with a coordinated and selective use of medicinal treatment when required. When required, the "combination method" is used upon agreement with the patent holder in order to minimise use of medicines while reducing the risk of resistance to medication. Hydrogen peroxide, which has no negative impact on the environment, is also used substantially where appropriate.

Lerøy Seafood Group is involved in a number of comprehensive research projects involving the fight against salmon lice. As one of two fish farming companies, Lerøy Seafood Group is part of the prestigious research programme entitled "SFI Salmon Louse Research Centre", a 5+3-year research programme with a total financial framework of more than NOK 200 million. The focus in this programme is to strengthen both the non-specific and specific natural defences of fish against salmon lice, the development of precise methods for resistance testing, development of new medicinal methods of treatment and the utilisation of salmon lice genomics in order to develop more precise research tools and treatment techniques. To date, know-how about salmon lice has advanced significantly, laying the

foundations for development of feed types that reduce the volume of lice infection for salmon or increase the salmon's ability to rid itself of lice infection. Several gene tests have been developed and commercialised, indicating the sensitivity of salmon lice to different medical treatment methods utilised. This ensures an optimal choice of treatment agent and method when medicines are necessary. Furthermore, both vaccines and repellents with long-term effect are under development.



Sea lice: *Lepeophtheirus salmonis*

## LUMPFISH

Having documented positive results with the use of lumpfish as a lice eater, Lerøy Seafood Group has decided to invest heavily in our own production of lumpfish. The production and utilisation of lumpfish as cleaner fish in our facilities allows us to minimise reliance on cleaner fish caught in the wild. At the same time, we will be able to achieve optimal density and release time for cleaner fish in our cages, depending on problems with lice in individual locations.

In 2014, Lerøy Seafood Group acquired 34% of the shares in lumpfish producer Norsk Oppdrettservice AS, with facilities in Flekkefjord and Molde. This move allows us to provide a satisfactory supply of lumpfish to our regions in South and Central Norway.

Lerøy Seafood Group also has ownership rights to production facilities for lumpfish in North Norway. As a result, we can also achieve a self-sufficient

supply of lumpfish for our locations in North Norway, when necessary. To date, salmon lice have not been problematic at our facilities in North Norway.

Our goal is to be self-sufficient in the supply of lumpfish by the end of 2015. Our lumpfish strategy shall ensure a substantial reduction in our use of medicinal treatment in 2015, and close to zero use in all our fish farms in 2016.

The use of Wrasse is an important element in Lerøy Seafood Group's strategy to fight salmon lice. To date, we have purchased wild wrasse from professional fishermen, but Lerøy Seafood Group has taken part in two different projects involving the farming of wrasse. These projects have now allowed us to establish farming of wrasse. Experience indicates that wild Wrasse are very vulnerable in terms of handling and injury. A programme of close follow-up has therefore been established in order to prevent

local overfishing and to ensure the gentlest possible handling of the fish.

In order to ensure a regular and predictable supply and correct fishing of the natural stocks, Lerøy Seafood Group takes part in the project financed by the Norwegian Seafood Research Fund for wrasse production (with a total budget of NOK 33.1 million).

This allows us to ensure that our R&D activities in this area target our industry while accumulating new expertise as it emerges.

Lerøy Seafood Group also chairs several other R&D projects which focus on combating salmon lice, in cooperation with research institutions, equipment suppliers and other fish farming companies.

The main objective for these projects is to:

- Keep the salmon away from the upper parts of the sea waters where we know there is the highest concentration of salmon lice larvae. We make use of LED lights with a special wavelength or physical barriers taking into account the fact that salmon require access to air so they can regulate buoyancy.
- Use of laser to remove lice from freely swimming salmon. Laser treatment of salmon lice.





## FEED AND FEED UTILISATION

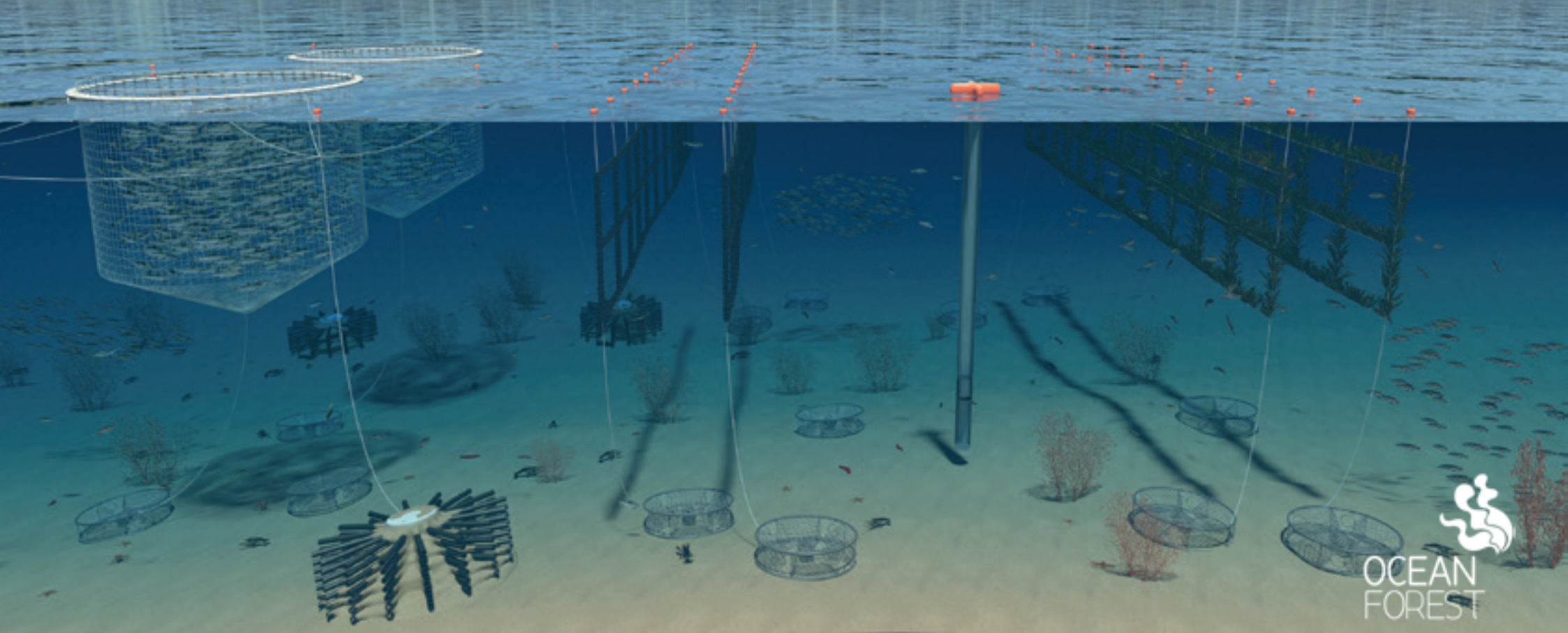
Feed is the largest individual input factor for Lerøy Seafood Group and we place a significant focus on optimal and cost-efficient utilisation of feed. Lerøy Seafood Group works closely with our feed suppliers and takes an active and influential role in the further development of feed composition in order to ensure that it is as highly adapted as possible to our fish farming environment, our fish material and our different markets. We have established ultramodern R&D facilities and carry out feed trials, maintaining full control of feeding and the volume of feed eaten per vessel. Several trials have been performed in 2014 involving the use of new raw materials in the feed and benchmarking of existing feed concepts.

Moreover, Lerøy has maintained a major focus in 2014 on feeding regimes, and has accumulated and incorporated "best practice" throughout the organisation. Lerøy Seafood Group requires an extra focus on the quality of the fish supplied as an end product to the end customer. Throughout the year, the Group has invested significant resources in the concept of sustainability and in certification schemes for individual raw materials. Salmon from Lerøy shall have a high level of Omega 3 fatty acids, and we currently produce some of the most Omega 3-rich salmon on the market. This may present a problem in terms of sustainable exploitation of the available resources rich in Omega 3, but we have an extensive

programme that targets making salmon a net producer of marine Omega 3 fatty acids, in the same way that salmon is currently a major net producer of marine proteins.

We maintain a significant focus on the correct use of raw materials with a view to optimal exploitation of marine resources, fish welfare and quality. FINS (Fish Intervention Studies) is a major project involving the effect of fish on human health. The objective of the project is to both document and explain the effect of marine protein and fat in the form of fatty and lean fish on the medical and mental health of sections of the population such as children, pupils at

lower secondary school, people who are overweight and the elderly. The project has a total budget of more than NOK 60 million. The Norwegian Seafood Research Fund (FHF) is financing the project, in direct cooperation with enterprises such as Lerøy Seafood Group. The project is chaired by NIFES, the National Institute of Nutrition and Seafood Research, in Bergen. Lerøy Seafood also plays an active role in the project focusing on the nutritional quality and the end product's importance for the physical and mental health of the consumer.



## 5 KEY PROJECTS FOR SUSTAINABILITY

### OCEAN FOREST

Sustainable fish farming is a high priority for Lerøy Seafood Group. New, innovative projects and innovation play a decisive role in identifying good sources of marine raw materials for the ever-increasing fish farming industry, and in order to feed the growing population. In 2013, Lerøy cooperated with Bellona, an environmental organisation, to implement an ambitious project principally targeting utilisation of those products we have in excess in order to produce those products we are lacking.

The company's vision is as follows:

The sea – the most important source for future production of food, feed raw materials and energy/ biomass, via absorption of CO<sub>2</sub>.

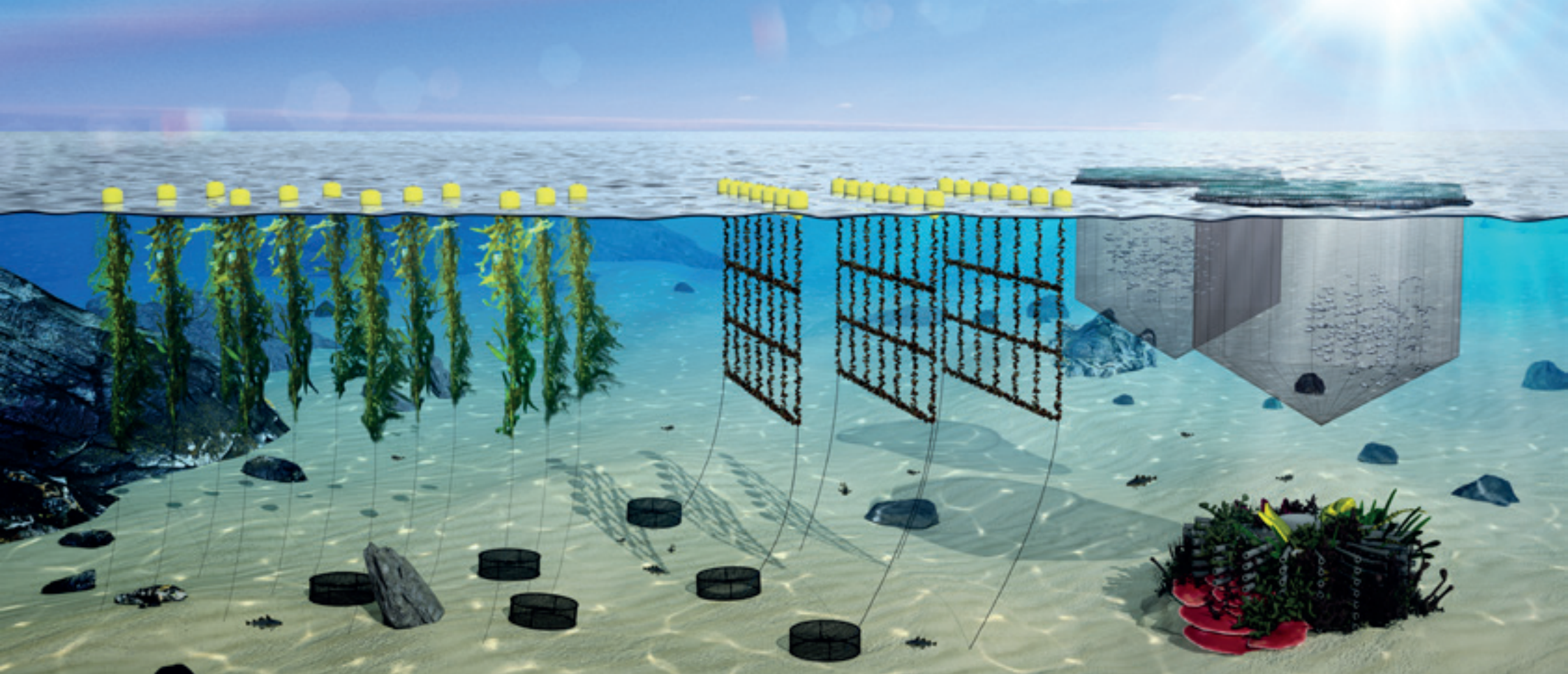
Lerøy Seafood Group and Bellona together with national and international R&D groups aim to research how the organic interaction between different species can help solve the environmental problems created by fish farming, while at the same time attempting to achieve a significant value generation by taking a leading role in the development of new sources of biomass for human

consumption, fish feed and bio-energy.

The cultivation of kelp, shellfish and invertebrates together with fish is a new concept within the history of Norwegian fish farming. Waste produced by one species becomes a resource for another species, generating an eco-system of value generating species forming an interaction in harmony with their environment. Mussels, kelp and other invertebrates filter large organic particles from fish feed or in the water flow, such as small lice larvae. At the same time, these organisms absorb excess nutrient salts

and large volumes of CO<sub>2</sub>. By increasing production of these new and valuable species, we can enhance value generation while also producing high quality raw materials that can be utilised to produce fish feed, for consumption or energy production.

Ocean Forest AS, a joint venture between Bellona Holding AS and Lerøy Seafood Group ASA, had its first year of operations in 2014. The company's personnel are all employees of different Lerøy companies. Ocean Forest AS has focused on establishing a knowledge base for production of low-trophic species



such as mussels and various macroalgae based on recycling nutrient salts.

The company has applied for but not yet achieved a licence for those species they want to farm at Lerøy Sjøtroll's facility on Rongøy island. This facility is currently a salmon farm. While awaiting the licence, the company has focused on different areas related to macroalgae, for example:

- \* different types of farming technology
- \* absorption of nutrient salts
- \* use of macroalgae in different conditions

This work has partly been carried out in cooperation with Bicotec AS in Rogaland and the University of Wageningen in the Netherlands.

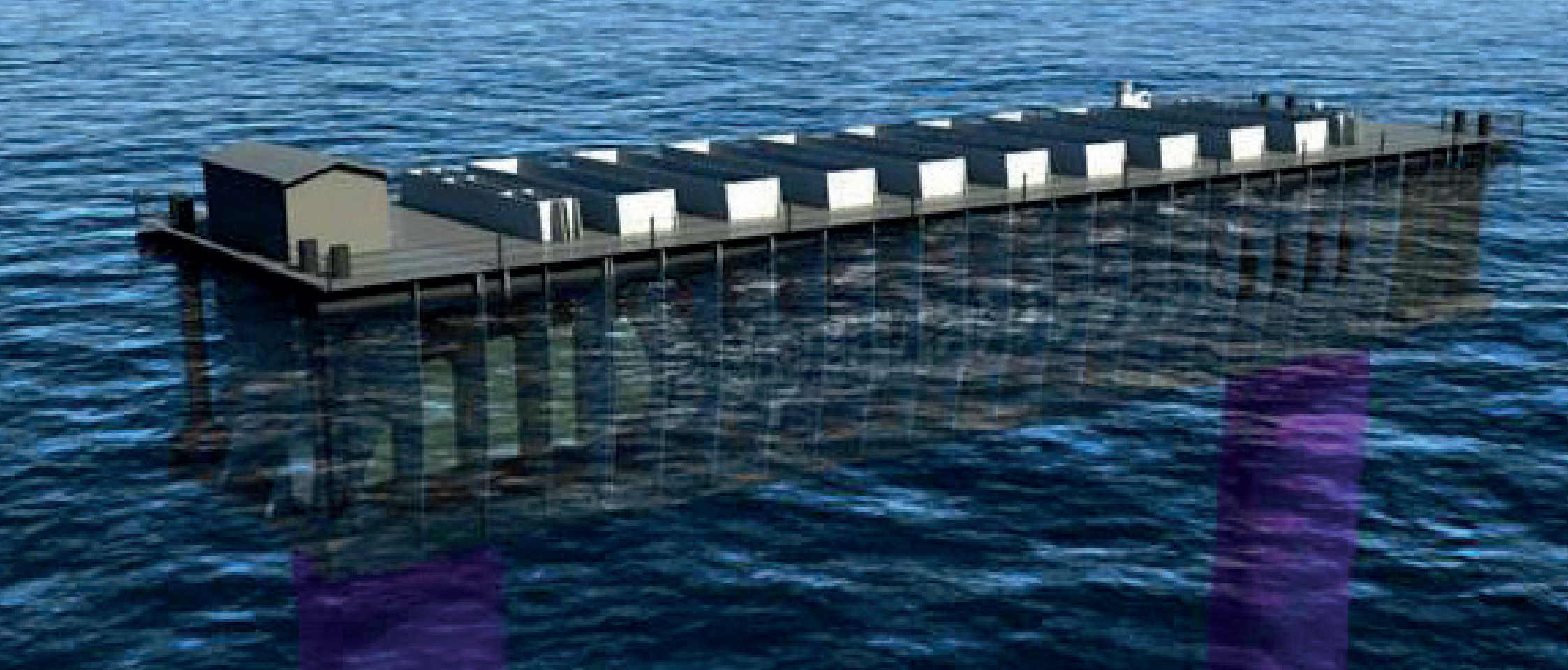
Ocean Forest in cooperation with Karmsund Fiskemel, Pelagia, has developed and tested fullscale production of mussel meal. The focus during this process was on separating the soft part of the mussel from the shell fraction. The meal types produced will now undergo biological trials using salmon, and thorough chemical characterisation. This field produces a world of opportunities and we are very much looking forward to continuing our research in the years to come.

## A SUSTAINABLE FISH FARMING INDUSTRY

OCEAN FOREST HAS THE FOLLOWING AMBITIOUS GOALS:

- Production of sustainable raw materials and clean energy
- Production of marine raw materials for feed
- Absorption of large volumes of CO<sub>2</sub>
- Minimise environmental impact from Norwegian fish farming





## PRELINE

In recent years, Lerøy Seafood Group has been working on a project to produce large smolt in a semi-closed facility. The project has resulted in a pilot facility named Preline. With a Preline facility, we will be able to produce smolt in a closed containment facility in the sea. The smolt will be kept in the facility until it weighs approx. 1 kg, and will then be transferred to open cages. This will reduce the amount of time in the sea. Our first Preline facility has now been launched and the first generation of large smolt will be produced in 2015. The facility will produce larger and more robust smolt, and will be able to achieve 2-3 production cycles per year.

The facility is made of polyethylene and has a volume of 2,000 m<sup>3</sup>. It has an oblong shape and the fish will be able to swim against the current, like in a river. Water is sourced from depths of 25-30 metres and is replaced every 3-4 minutes. The plan is to run full-scale tests of the facility in 2014/2015. Construction of the facility complies with NYTEK and NS 9415.

The goal with this facility is to achieve the following:

- Improved control of biological and physical factors (current, temperature, O<sub>2</sub>, pathogens etc.).
- Minimise infection by using deep-sea water (25-30 metres).
- Minimise risk of salmon lice and requirement for lice treatment.
- Lower mortality rate.
- Minimise accidental release.
- Improved biomass control.
- Improved growth, improved feed factor.
- Minimise loss.
- Delivery of autumn smolt in the spring and spring smolt in the autumn.
- Improved utilisation of fish for consumption facilities, including equipment.
- Improved financial gain and reputation.

## ENSILAGE OF RESIDUAL RAW MATERIALS FROM FISHING OF WHITE FISH

As shareholders of Austevoll Seafood, Lerøy Seafood Group has the potential to exploit raw materials which were previously dumped at sea by the deep sea fishing fleet. Over the past years, Hordafôr, a company within the AUSS Group, has invested time and resources in utilising raw materials previously regarded as waste. This included not only fish guts and heads, but also by-catches etc. Hordafôr is currently working on a major project in cooperation with the white fish industry and fleet in North Norway, with the support of the Norwegian Seafood Research Fund.

In 2011, the Norwegian and foreign deep sea fishing fleet delivered around 580,000 tons of white fish (round weight) to Norwegian harbours (statistics provided by the Norwegian Directorate of Fisheries). Assuming that approximately 30% of this round weight can be utilised as ensilage, there is a total potential 175,000 tons of raw materials available from the deep-sea fishing fleet for white fish which can be utilised for example for fish feed.





## TRIPLE

Companies now have to report three bottom lines.

- Economy
- Environment
- Social responsibility.

Triple is a project aiming to transform current social challenges into commercial opportunities of the future. The objective is to generate a triple yield: increased profitability, reduced discharges and a positive contribution to society. The project comprises various companies cooperating to identify sustainable solutions, allowing us to develop new products, services and solutions that benefit our company, the consumers and society in general - a Triple Win.

The food industry represents a major share of global greenhouse gas emissions, and a high number of health problems worldwide are related to diet. One half of all food produced is never eaten, but becomes waste. The food industry may hold the key to finding a solution for a sustainable future. It also provides substantial commercial opportunities. This is what TRIPLE aims to research.

The companies in the project comprise private, public and voluntary organisations, and do not compete directly with each other. The project involves all parts of the value chain.

## EAT

What we eat has an influence on greenhouse gas emissions and ultimately the greenhouse effect. We do not have exact figures for the food industry's share of total greenhouse gas emissions, but we do know that it is one of the largest individual factors. What you eat also makes a difference.

Lerøy Seafood Group is a participant in EAT, as a business partner. By entering into discussions with various organisations within R&D, medicine, academics, politics and industry, we aim to participate in the dialogue on future methods to achieve a healthy and sustainable food industry. One objective is to identify specific goals, and measures shall be implemented up to 2050.

We aim to provide the ever-increasing global population with a healthy and nutritional diet, within safe environmental boundaries. This can only be achieved by integrating knowledge and management in close cooperation between the different bodies involved in food, health and sustainability.

## FISH HEALTH

Lerøy Seafood Group maintains a constant focus on fish health and control of health at our facilities. The fish farming industry faces a number of health-related challenges which cannot currently be solved by vaccination or medication - in particular viruses - but also faces other more unspecific problems such as gill problems and ulceration during the winter. Together with the Department of Biology at the University of Bergen, Lerøy Seafood Group has established a position for a PhD student in nutrition to work systematically on problems with fish gills. We are also actively involved in working with vaccine suppliers to solve the problems relating to ulceration. Fish health has been a target area for Lerøy Seafood Group.

## TECHNOLOGY

The current production practice, using open cages located in waters close to the coast, represents the greatest advantage for the Norwegian fish farming industry, but the concept brings certain challenges, for example the risk of lice and accidental release. Lerøy Seafood Group is actively involved in several research projects challenging current technology in order to further develop the industry to become as environmentally and financially sustainable as possible.

Throughout 2014, Lerøy has cooperated with Preline Fishfarming Systems AS on the development and construction of a closed-containment, floating post-smolt facility. The facility takes the form of a large pipe 50 metres long, 12 metres wide and 8 metres high. The water inlet is flexible and can be arranged at depths from 0 to 30 metres. The facility is designed purely as a flow-through system, and is located in Sagen in Samnanger municipality in the region of Hordaland. Comprehensive tests will be carried out on the new facility in 2015.

Lerøy Seafood Group believes that the problems relating to lice and accidental release of salmon will be resolved. One major technological challenge is to identify and implement locations with the highest possible degree of biological sustainability. Such locations may place new requirements on equipment and operational formats which we currently do not face today.

At the same time, we rely on the goodwill of our local communities so that we can make use of such locations. Lerøy Seafood Group is involved in several projects targeting both offshore fish farming and use of closed containment fish farming technology for parts of the production phase.

The accidental release of farmed salmon is a challenge to the industry in terms of sustainability, economic loss and impairment to the industry's reputation. Both in-house projects and participation in R&D projects have allowed the Group to optimise its production equipment and operating procedures. However, we are fully aware that none of our facilities (whether sea or land based, open or closed) can guarantee 100% against accidental release, as indicated by the report issued by the Norwegian Board of Technology, entitled "Salmon farming in the future". Several closed containment production concepts are currently being tested. Lerøy Seafood Group is confident that closed-containment, floating concepts may provide a solution for particularly vulnerable locations, from smoltification stage and until the fish weighs approximately 1 kg. We participate in a number of R&D projects within this area, e.g. the OPP project (Optimal Post-Smolt Production).

Lerøy Seafood Group is also involved in a new full-scale project together with several other major fish

farming enterprises in Norway. The project involves tracing escaped fish back to its original location. New technology has been developed to allow traceability of salmon back to its original location, by carrying out analyses of fish scales. The new technology can be used to trace a farmed fish back to its owner.

Lerøy Seafood Group played an active role in establishing the review entitled "How can charting salmon genomics help solve the challenges of the Norwegian fish farming industry?", which is financed by the Norwegian Seafood Research Fund and led by the Department of Biology at the University of Bergen. There is no doubt that this project opens the door to a number of unknown methods now that salmon genomes have been mapped, and this will have a substantial impact on salmon welfare, combating disease and optimising operations.

Lerøy Seafood Group, together with enterprises such as the Norwegian Seafood Research Fund and the Research Council of Norway, is fronting an initiative to establish a common knowledge platform to gain a more extensive perspective on knowledge of genomics (system biology), and to make a "salmon database" available to the industry.



# FOOD SAFETY





The target for Lerøy Seafood Group is to ensure, together with the Group's feed suppliers, that the raw materials used in the Group's feed are fished and harvested in an ethically sound manner and in compliance with legal frameworks and based on sustainable harvest and fishing. In addition, the Group is actively involved in all parts of the value chain in order to ensure supply of safe products to the consumer.

Lerøy Seafood Group is actively involved in all parts of the value chain in order to ensure supply of safe products to the consumer. Based on experience gained over many years, we have developed a quality system which contains routines and procedures to ensure supply of safe products. As a part of our quality assurance routines, we carry out control and monitoring of our manufacturers and partners. This involves making requirements on their quality systems and procedures, and making analyses and monitoring operations. Our quality team carries out between 150 to 200 external quality audits every year. This is required so that we can feel safe that the products we purchase are in compliance with the requirements we place on our own products. Moreover, the products are controlled by Lerøy Seafood Group at different stages throughout the entire production process, from egg/processing plants to finished product in a box and, in certain cases, up to delivery to the customer.

Lerøy Seafood Group currently has a large number of manufacturers of fish and shellfish. Our audit system includes a risk analysis of manufacturers in order to determine how often the individual manufacturer is to be audited. The analysis covers risk related to product, volume purchased, customer requirements, history of complaints and results of audits.



# TRACEABILITY AND PREPAREDNESS

Lerøy Seafood Group has full traceability for all products from boat/cage to customer. For species related to fish farming, such as salmon, trout and cod, customers can go to Hallvard Lerøy's website to download traceability information for products sold via Hallvard Lerøy AS.

The current traceability system follows a fish from roe stage to finished, packaged product. When customers log on to the system, they receive detailed information on the product throughout the entire value chain. The system provides information on fish from parent fish stage to slaughter, such as location, treatments and also quality information such as fat, colour and condition.

Every year, recall tests are carried out by the Group's major manufacturers to ensure traceability for all products from boat or cage to customer. In 2014, Hallvard Lerøy carried out six recall tests. These tests involve contacting the manufacturer about a fictional matter, tracing the products from production and identifying which customers have received the product. A risk assessment is always carried out to determine whether the product should be recalled and which bodies are to be notified.

The typical procedure for recall of products consists of the following phases:

1. Written explanation of nonconformity
2. Classification:
  - Class I: Need for information
  - Class II: Other faults/nonconformities in the product
  - Class III: Products representing a health risk
3. Notify manufacturer and management /preparedness team
4. Tracking product, verify nonconformity
5. Notify customers
6. Written explanation of what is to be withdrawn
7. Inventory / Destruction
8. Corrective action to prevent recurrence

Lerøy Seafood Group has compiled a directive for preparedness and recall of products. The preparedness group comprises representatives from management, production, market, quality and environment.



Lot: 132155      Species: Norwegian Atlantic Salmon

## Trace Information

### Broodstock

Broodstock:	Aalvik
License:	12869
Strain:	AquaGen

### Juvenile

Hatchery:	Laksefjord	Smolt Plant:	Laksefjord
License:	FLB0003	License:	FLB0003
Hatching Period:	- 2011-08-01	Wellboat:	
Smolt Weight:	61 g		

### Farm

Fish Farm:	1112 Gaurtebjøtta	Last Day of Feeding:	2013-02-04
Farm License:		Temp. Last Day of Feeding:	2,5 C
Location License:	10734	Date of Sea Transfer:	2011-07-30
Name of Fjord:	Kilfjord, Lyngan	Wellboat:	
Cage Density:	3 kg/m <sup>3</sup>	Duration of Transport:	0 hours
Cage Number:	1208		

### Packing Station

Packing Station:	Lerøy Aurora AS T126	Packing Date:	2013-02-15
License:	T-126	Core Temperature:	2,0 C

### Processing

Processing Plant:	Lerøy Aurora As Skjervøy
License:	T-126
Processing Date:	2013-02-15

Lot: 132155      Specie: Norwegian Atlantic Salmon

Feed			Treatment		
Supplier	Type	First Day	Type	Name	Period
<b>Juvenile</b>					
Skretting	Nutra XP 0,5, 0,5 mm	2011-01-14	Juvenile		
Skretting	Nutra XP 0,7, 0,7 mm	2011-01-21	Vaccination	Alpha Ject Micro 6	2011-06-23 - 2011-06-24
Skretting	NUTRA XP 1,0, 1 mm	2011-02-23	Vaccination	Autogen ERM	2011-03-15 - 2011-03-16
Skretting	Nutra Olympic 1,2, 1,2 mm	2011-03-18			
Skretting	Nutra Olympic 1,5, 1,5 mm	2011-04-13			
Skretting	Protac 1,5, 1,5 mm	2011-04-15			
Skretting	Nutra Olympic 2,0, 2 mm	2011-05-12			
Skretting	Protac 2, 2 mm	2011-06-02			
Skretting	Nutra Supreme 2, 2 mm	2011-06-25			
Skretting	OXOCLINSYRE 5G/KG 2,0, 2 mm	2011-07-06			
<b>Farm</b>					
Skretting	Spirit 75 50A, 3 mm	2011-07-31			
Ewos	ADAPT MARINE 50 40A 500, 3 mm	2011-09-04			
Ewos	Opal 200 40A, 4 mm	2011-10-09			
Ewos	Opal 110-500 50A, 5 mm	2011-11-25			
Ewos	Robust-110 50A 500, 7 mm	2011-12-11			
Ewos	Opal 500 50A, 6 mm	2012-01-06			
Ewos	Opal 110 1000 50A, 9 mm	2012-02-23			
Ewos	OPAL-110 Ice 500 50A 500, 6 mm	2012-02-27			
Ewos	OPAL-110 Ice 1000+ 50 A 500, 9 mm	2012-03-12			
Ewos	Opal-110 2500 30A 500, 9 mm	2012-04-02			
Ewos	Opal 120 1000 50A, 9 mm	2012-06-07			
Ewos	Opal-110 1000 50A, 9 mm	2012-08-30			
Ewos	Opal 120 2500 50A, 12 mm	2012-09-16			
Ewos	Opal-120 2500 30A 500, 9 mm	2012-10-29			
Ewos	ROBUST-120 1000+ 30A, 9 mm	2012-11-14			
Ewos	Opal-120 ICE 1000 50A 500, 9 mm	2012-12-19			
Ewos	Opal-120 1000 20A, 9 mm	2013-01-03			

Lot: 132155      Specie: Norwegian Atlantic Salmon

Quality	
Sampling Date:	2013-02-15
Fat Content:	20,0%
Colour	Salmofan: 28,0
	Mg/kg: 0,0
Condition Factor:	

# ORGANISATION OF THE PREPAREDNESS GROUP

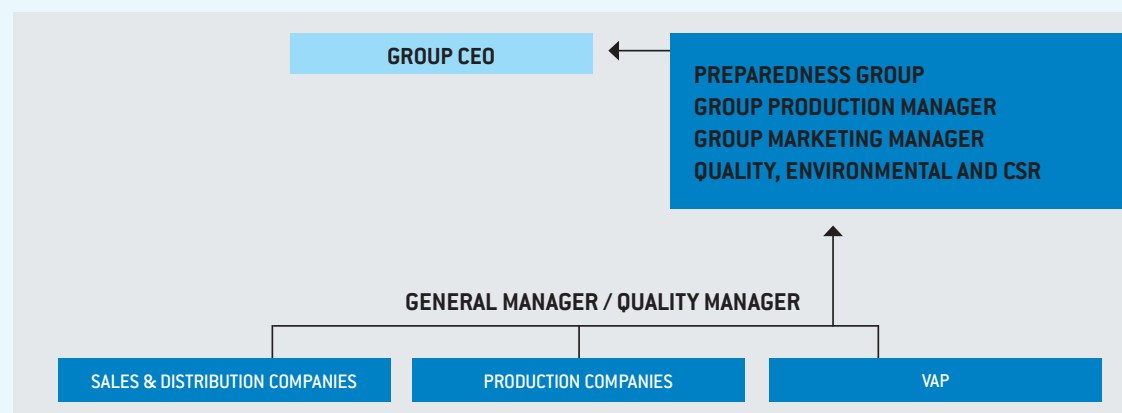
The preparedness group comprises representatives from management, production, market, quality and environment. The group has primary responsibility, both internally and externally, for communications, handling and execution of relevant challenges/crises which occur in relation to different bodies which enforce requirements on the Group.

These may be:

- Media
- Customers
- Authorities
- Organisations
- Consumers
- In-house, accidents/crises which affect employees

A separate directive has been compiled for preparedness and recall of products

## ORGANISERING AV BEREDSKAPSGRUPPE



## QUALITY

Based on experience gained over many years, Lerøy Seafood Group has developed a quality system containing routines and procedures to ensure supply of safe products. As a part of the quality assurance routines, the Group carries out control and monitoring of manufacturers and partners. This involves setting requirements on their quality systems and procedures, and analysing and monitoring their operations.

Lerøy Seafood Group's quality team carries out 150 to 200 external quality audits every year. This is required to ensure the purchased products are in compliance with the same requirements set on the Group's own products. Moreover, the products are controlled by the Group at all stages throughout the entire production process, from egg or processing plants to finished product in a box and even up to delivery to the customer.

All products are marked in relation to prevailing marking regulations in Norway or the EU and in import countries and in relation to customer requirements. Experience gained from individual cases of poor food safety over recent years has resulted in an increased focus on food safety. Lerøy Seafood Group takes this work very seriously and has invested significant resources in developing satisfactory procedures and systems in order to ensure that the Group is in compliance with its own strict requirements and the externally set food safety requirements.





### QUALITY IN THE SUPPLY CHAIN

Fish feed is the most important raw material for seafood production, and quality assurance is absolutely essential. In 2014, Lerøy Seafood Group purchased its fish feed from EWOS and Skretting. Lerøy Seafood Group has introduced a comprehensive sampling program for re-examination of feed in terms of chemical content, dust, presence of foreign agents etc. The feed supplier carries out audits of its own suppliers and Lerøy Seafood Group executes annual audits of the feed companies. These measures, combined with the internal control by feed suppliers and traceability, allow us to maintain control of feed content and quality.

### QUALITY AND ENVIRONMENTAL CERTIFICATION

An important tool in the Group's quality and environmental efforts is certification according to international standards. In 2013, Lerøy Seafood Group was the first company worldwide to be certified according to the ASC standard which ensures that our aquaculture business is conducted in an environmentally sound and sustainable manner.

The Group has worked for many years to assure high quality and has developed control systems based on Global Gap, MSC, ASC, ISO 9000; 14000 and 22000, BRC, IFS, Label Rouge, NS 9415 and HACCP. These standards are applied where appropriate, for example:

- Fish farming is covered by Global GAP and ASC certificates
- All the Group's production plants have BRC certification
- The sales department at the Bergen headquarters is certified in accordance with ISO 9001, and the "chain of custody" for ASC, MSC and Global Gap
- All fish farming production equipment is certified in accordance with the NS 9415 standard for floating fish farming installations.

**Global GAP** (Good Agricultural Practice) – Voluntary standard for the certification of agricultural products

**MSC** (Marine Stewardship Council) – Standard for sustainability for fish caught in the wild

**ASC** (Aqua Stewardship Council) – Standard for sustainability for farmed fish

**ISO 9000** – Standard for quality management system

**ISO 14000** – Standard for environmental management system

**ISO 22000** – Standard for food safety

**BRC** (British Retail Consortium) – Quality standard with focus on food safety

**IFS** (International Featured Standard) – Quality and food safety standards

**Label Rouge** – Quality assurance in France

**NS 9415** – Norwegian standard for floating fish farming installations

**HACCP** (Hazard Analytical Critical Control Point) – Risk analysis principles

**GLOBAL G.A.P.**



### GLOBAL GAP (GOOD AGRICULTURAL PRACTICE)

Global GAP is a standard for environmental conditions involving the Group's production activities and employees' working environment. The standard covers the production process from roe stage to fish slaughter.

Focus areas within Global GAP:

- Food Safety: The standard is based on criteria for food safety developed from the generic HACCP\* principles.
- Environment: The standard has two parts, one for environmental protection and one for good aquaculture practice to minimise the negative environmental impact of aquaculture.
- Employees' health, safety and welfare: The standard sets global criteria for workers' health and safety in the production facilities, and contains guidelines for social issues.
- Fish welfare: The standard sets forth global criteria for fish welfare in production facilities.

\*HACCP (Hazard Analytical Critical Control Point)  
– Risk analysis containing critical control points

### ASC (AQUA STEWARDSHIP COUNCIL)

The ASC is a certification and labelling programme for responsibly farmed seafood. The ASC has various standards compiled for fish farming, while the MSC (Marine Stewardship Council) compiles standards for fish caught in the wild. To date, the ASC has compiled eight standards, covering 12 species, all based on the same principles:

- Comprehensive legal compliance
- Conservation of natural habitat and biodiversity
- Conservation of water resources
- Conservation of species diversity and wild population through prevention of escapes
- Use of feed and other inputs that are sourced responsibly
- Good animal health (no unnecessary use of antibiotics and chemicals)
- Social responsibility for workers and communities impacted by farming

### FIRST ASC CERTIFICATION

Lerøy Seafood Group has been involved in the development of the ASC standard since 2004 and was the very first company in the world to offer the market salmon produced according to the new environmental standard – ASC, Aquaculture Stewardship Council.

The three first facilities in the world to gain certification according to this standard all are connected to Lerøy.

- No. 1 Jarfjord - Villa Organic
- No. 2 Hogsneset Nord - Lerøy Midt
- No. 3 Årøya - Lerøy Aurora

The goal is to gain ASC certification for all our fish farming facilities. By the end of 2014, all fish sold by Lerøy Aurora had the ASC certification.

Furthermore, Lerøy has achieved ASC chain of custody for its sales, distribution and value added processing chain, and is now able to offer the Japanese, American and European markets a variety of ASC certified salmon products.

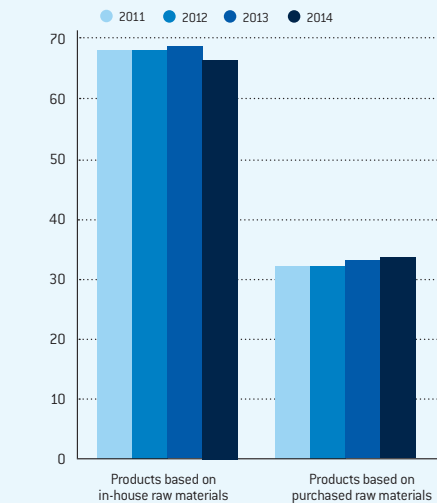
## BRAND PRODUCTS

In recent years, Lerøy Seafood Group has targeted the sale of their own brand products under the Lerøy brand. The Group also produces other products under brands such as: Aurora Salmon, Poseidon, Smögen Seafood, Fossen, Finest, Aurora Seafood, Catch and Fossen Fjord Fish.

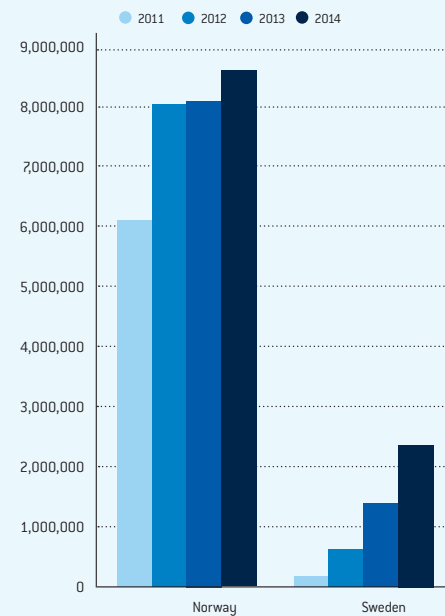
In 2014, the percentage of products based on raw materials owned by the Group was 67%, compared with 67.4% in 2013.

The Group also sells a number of products with certification to various sustainability standards, such as ASC, MSC, GLOBAL G.A.P. and Debio/KRAV. The volume of certified fish sold is higher than the volume labelled with certification. The reason for this is that the current production volume exceeds market demand for these products. However, there has been a significant increase in demand for certified products from 2013 to 2014, and in particular for ASC certified fish.

**SALE OF PRODUCTS BASED ON IN-HOUSE RAW MATERIALS (%)**

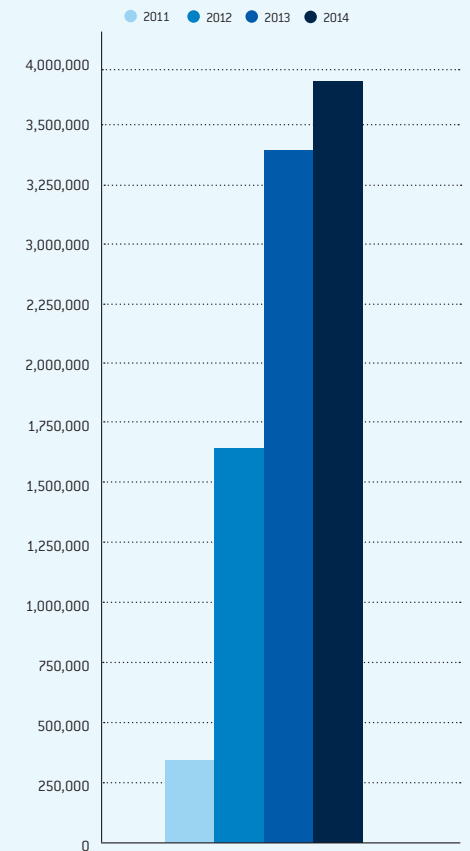


**ASC/MSC/KRAV-LABELLED PRODUCTS SOLD VIA HALLVARD LERØY AS AND LERØY SVERIGE AB (KG)**



The products sold from Norway have MSC certificates, but they are not labelled as MSC or sold as MSC products.

**SALE OF GLOBAL G.A.P. CERTIFIED SALMON VIA HALLVARD LERØY AS (KG)**



Salmon is certified to the GLOBAL G.A.P. standard, but will not always have the GLOBAL G.A.P. brand.



# HEALTHY PRODUCTS

“Fish is good for your health, all year round”. This Norwegian saying has repeatedly been confirmed by research in recent years. It has been shown that eating seafood lowers the risk of cardiovascular disease. Consumption of fish and other seafood is also important for development of the foetus, particularly as regards weight gain and neurological development. According to the Directorate of Health in Norway, it is recommended to eat seafood 2-3 times a week.

Fish is rich in protein and Omega 3, and does not contain sugar. It is generally believed that marine n-3 fatty acids – such as Omega-3 – play an important role in generating positive health benefits. There are lots of these fatty acids in fat fish such as salmon and trout.

What eventually could limit the consumption of fat fish is its content of dioxins and similar substances like PCB, but with today’s control of raw materials in fish feed and the fish itself, the limits for environmental toxins in fish are far below recommended values. An average person can eat ten salmon meals containing 200 grams of fish without exceeding the recommended maximum weekly values.



# THE ENVIRONMENT



Lerøy Seafood Group believes that aquaculture activities must be conducted with an "eternal perspective" as a condition for exploitation of coastal resources. The Group works hard to constantly improve the interaction between fish farming and the environment, aiming at generating positive and lasting environmental benefits.

The Group's environmental vision – "Take action today for a difference tomorrow" – is a clear signal from every employee that every day we will be pushing for environmental improvements to benefit the environment, aquaculture and our coastal communities.



# ENVIRONMENTAL GOALS

The Group's seafood companies have set clear goals for each of the operational key areas and developed operating procedures that are particularly designed to ensure achievement in these key environmental areas. Through internal and external audits, we can ensure that there is consistency between operating procedures and good action.

## **THE GROUP HAS FIVE MAIN ELEMENTS RELATED TO ENVIRONMENTAL WORK:**

1. Work to prevent accidental release of fish
2. Measures to reduce salmon lice
3. Fish health and fish welfare
4. Efficient utilisation of land and sea areas
5. Reduced discharge of nutrient salts from premises

These five elements are closely monitored through key performance indicators that are measured on a monthly basis and utilised internally in order to achieve improvements within individual companies and for benchmarking between comparable companies.

See the targets pages 16.



# LERØY SEAFOOD GROUP'S TARGET AREAS FOR THE EXTERNAL ENVIRONMENT

- Accidental release
- Lice
- Fish health
- Locations
- Fish feed incl. raw materials
- Greenhouse gases
- Residual raw materials
- Distribution

## ACCIDENTAL RELEASE

Prevention of accidental release of fish is an important and high priority area for Lerøy Seafood Group. Lerøy Seafood Group invests a considerable amount of work into optimising equipment and routines to avoid accidental release of fish. Actual incidents of accidental release and all events that can lead to accidental releases are reported to the Fisheries Authorities. Securing against accidental release is a question of maintaining a focus on execution/ action, good planning of all operations in order to ensure safe execution and efficient re-examination of operations. Keywords such as ATTITUDE, ACTION and Responsibility must be clearly defined by management and require full awareness of our responsibility to ensure zero accidental release of fish within our companies. Five incidents involving accidental release of fish were recorded by Lerøy Seafood Group in 2014 – 52,098 fish or 0.05% of the total number of our fish in the sea in 2014.

### Date Company Facility Species Number

25.04.14	Accidental release during loading of smolt.
10.08.14	Accidental release after a storm.
04.11.14	Accidental release during sorting in well boat.
10.11.14	Accidental release during work on well boat.
18.11.14	Accidental release due to hole in net.

None of our young fish facilities reported accidental release in 2014. Following accidents that could have caused, or actually did cause, accidental release of fish, it is of utmost importance that all circumstances surrounding the episode are made known to everybody in the organisation. Such events are used

actively in personnel training and for optimising routines and equipment. An increased focus on accidental release in recent years has already resulted in several changes to our facilities in order to prevent similar incidents in the future.

### Main goal: "Zero accidental release".

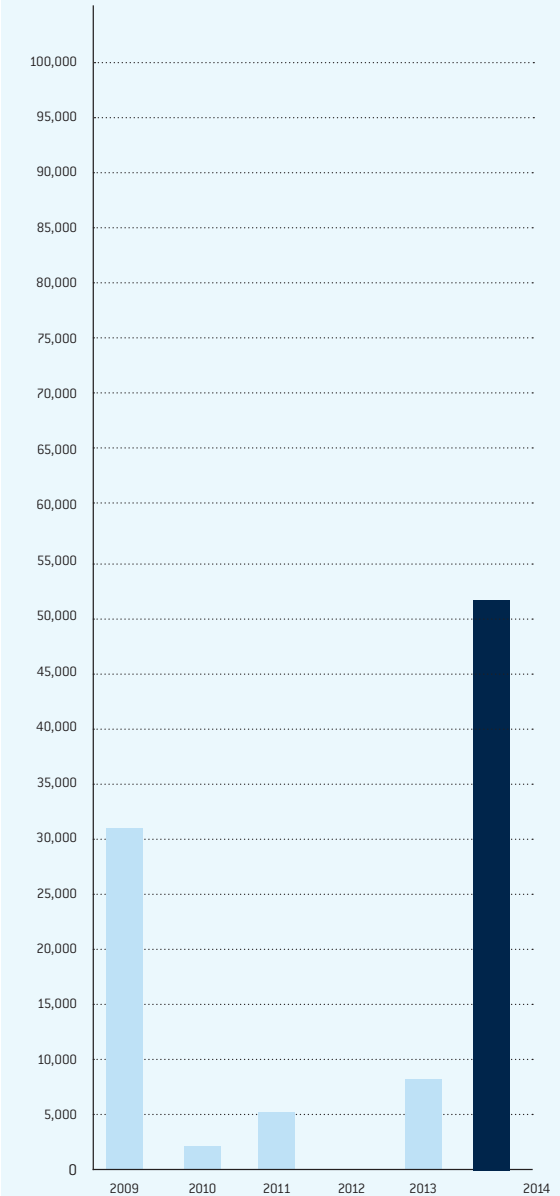
Specific measures include:

- Production of large smolt in closed containment facilities
- Replacement of nets
- All facilities shall comply with the new Nytech standard
- Certificates for all facilities
- Active participation in development of solutions to prevent accidental release, with a focus on solutions targeting nonconformances in bottom ring, chain and nets
- Modernisation of equipment
- No nets in sea without drawings
- No assembly of haul rope where there is no cross rope
- Marking of nets
- Extensive use of camera/divers during/ after work on nets
- New procedures for net handling
- New logging form for all work involving nets

### We can increase our:

- Continual work on attitudes
- Control/re-examination - always
- Continual revision of procedures
- Assessment of suppliers
- Use of new technology for monitoring

### ACCIDENTAL RELEASE IN LSG (NO. OF FISH)



It is important that incidents which result in accidental release of fish give rise to exchange of experience between fish farming companies. The companies in the Lerøy Seafood Group participate in groups where experience and competency are shared among

the actors. In order to improve our preparedness we also collaborate with other fish farming companies in our vicinity and participate actively in the work to increase expertise and enhance preparedness by taking part in activities coordinated by FHL (the Norwegian Seafood Federation). Moreover, our fish-farming companies maintain close contact and communication with the authorities regarding prevention of accidental release of fish.

**Not only do we comply with statutory requirements, we have implemented other preventive measures:**

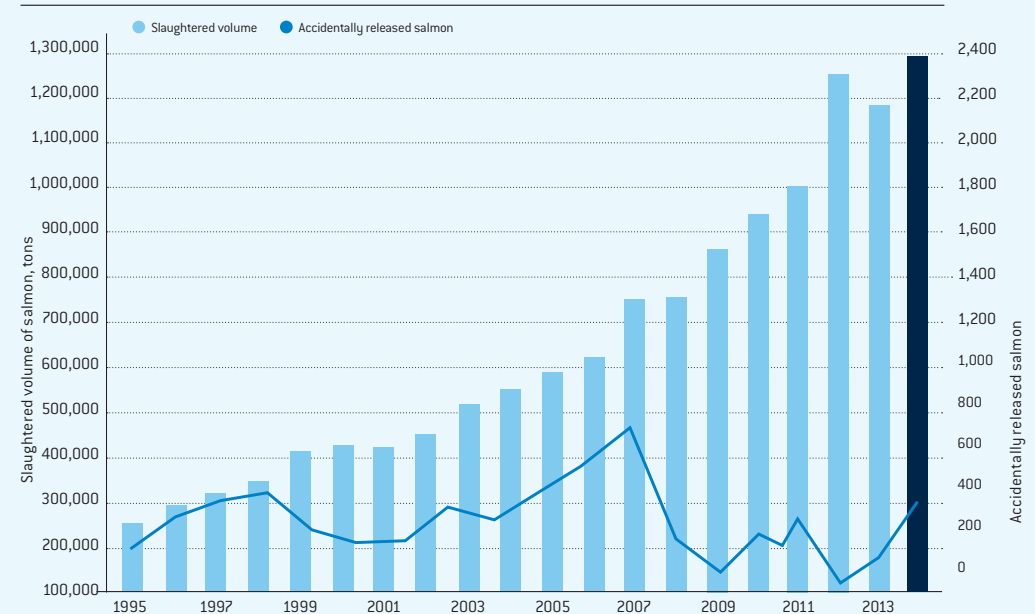
- Established a common preparedness stock of 500 retrieval nets in Kristiansund that are ready for deployment by a trained team when needed.
- Established a collaboration agreement with other major companies in Central Norway where each company is committed to keeping a central preparedness stock of 500 retrieval nets to be used by all companies when helping the company experiencing an accidental release situation.

- Established internal control with a higher frequency and scope of inspections.
- Routine diver inspections of nets after deployment in sea, as well as through the entire production phase.
- Increased requirements for maintenance inspections between each release.
- Participation in various development projects to test new equipment. One example is the GRIP project, which provided important answers to how nets and cages should be built and connected in order to prevent rubbing and wear.
- Surveillance project for unmanned facilities.

The fish farming companies in Lerøy Seafood Group will place prevention of accidental releases among its top priorities in the year to come, and will continue to maintain a focus on work to prevent accidental release.

**Main goal: "Zero – 0 – accidental release".**

**ACCIDENTAL RELEASE OF SALMON AND PRODUCTION GROWTH OVER LAST 15-20 YEARS**



The table shows accidental release of salmon compared with total volume of harvested salmon in

# MEASURE TO REDUCE SALMON LICE

Salmon lice have coexisted with salmon fish for a long time. The first written record of salmon lice is from the 17th century. In 1837 the zoologist Henrik Nikolai Krøyer described the species and gave it the Latin name *Lepeophteirus Salmonis*. Salmon lice have a natural co-existence with salmon.

Male and female salmon lice develop at slightly different rates; the male louse grows somewhat faster than the female. The growth rate is influenced by temperature; a higher temperature leads to faster growth.

At 5 °C it takes 11 weeks from Copepodite to fully developed female lice.

Important information re. salmon lice:

- Some areas present greater challenges than others for salmon lice
- Some salmon farmers have good control, while others have poor control
- Some rivers have a good salmon return rate, while others have a low rate
- Some companies achieve good results with Wrasse while others fail

## LICE STATUS IN 2014

2014 has been a difficult year in terms of salmon lice. While we had practically zero salmon lice at our facilities in North Norway, high temperatures in the sea in other parts of the country have caused higher numbers of salmon lice. In Central and West Norway, the reduced effect of medicinal treatment has resulted in increased costs in order to comply with salmon lice regulations. These difficulties have caused an increase in input factors required to combat and control salmon lice.

Chitin inhibitors are a group of delousing agents used in Norway and abroad to fight salmon lice. At present, it is suspected that chitin inhibitors may cause damage to certain species during ecdysis. The severity of this problem has not however been documented, making it difficult to reach a conclusion on the use of chitin inhibitors. The agent has been approved by Norwegian authorities for use to combat salmon lice, but Lerøy Seafood Group has decided to take a precautionary approach. Unnecessary use of chitin inhibitors shall therefore be eliminated due to resistance problems. Any use of chitin inhibitors requires special approval.

Since 2011, the Group has utilised chitin inhibitors on one occasion at one facility.

The number of moving salmon lice and fully grown female lice with eggs is measured and reported to the Food Safety Authorities on a regular basis. Lerøy Seafood Group is working hard to achieve its objective to eliminate the use of medicines to combat salmon lice, if justifiable in relation to regulations and factors relating to fish health. In 2014, Lerøy Seafood Group has therefore made significant investments to facilitate increased use of cleaner fish at our facilities. These investments will result in self-sufficient supply of cleaner fish in the future. The use of cleaner fish forms the basis of our work to combat salmon lice, and we aim to avoid use of chemicals in treating lice infestation.

### Main goal:

**"We aim to avoid salmon lice of reproductive age and we aim to avoid use of chemicals in treating lice infestation."**

Both the management and employees at our facilities have been and remain committed to lice treatment. We have met all public requirements as to counting, registration and treatment.

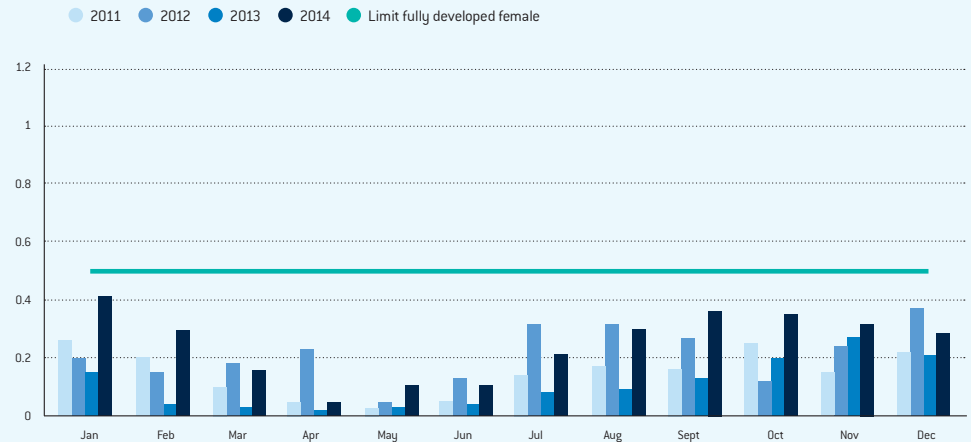
Lerøy Seafood Group sees huge potential in using wrasse to combat salmon lice, and has invested vast resources in recent years to learn more about Wrasse, including farming, utilisation and survival.

Examples of important measures for success with Wrasse:

- Plenty of shelter in the cages - Lerøy Seafood Group has recruited sports clubs and school children to create shelters for Wrasse in the cages

- Cleaning of nets - demanding work but necessary. The cages are washed down every 10th day. Cleaning boats are used to clean nets. Start-up in early July.
- Reduction of mesh size in nets - from 22 omfar to 28 omfar for large fish. This means that we can use somewhat smaller Wrasse for larger fish.
- Registration of dead Wrasse and refilling throughout the season.
- Goal for 5% Wrasse in all cages.
- Our goal is to be self-sufficient in the supply of lumpfish by the end of 2016.

DEVELOPMENT OF FULLY DEVELOPED FEMALE LICE WITH EGGS, LSG (AVERAGE NO. LICE PER FISH)





#### Important target areas for the future:

- More intensive use of Wrasse than before
- Use of alternative deployment patterns and locality structures
- Continuous monitoring of deployment and localities
- Treatment with approved treatment agents
- Coordination among facilities
- Test of mussels in relation to delousing

We aim to achieve the above by focusing on three main areas:

#### Prevention:

- Good locations
- Good smolt
- Clean nets
- Common plan for fallow areas

#### Monitoring:

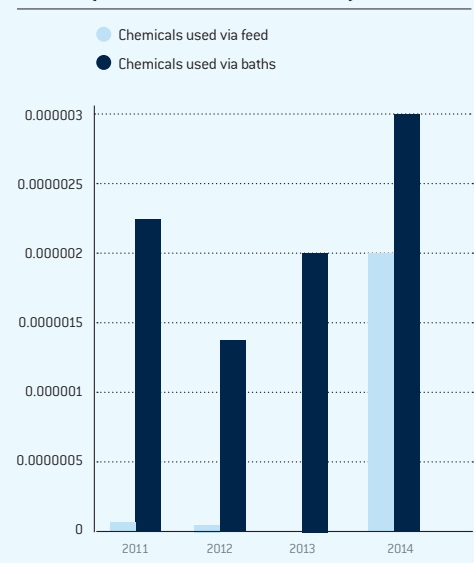
- Counting of lice
- Notification of lice counts to neighbouring facilities
- Better communication between neighbouring facilities
- Good monitoring for correct and timely treatments and reduce treatment frequency

#### Treatment:

- Use of delousing bath – tarp and well boat
- Feed
- Wrasse
- Rotation of medicines
- Common treatment in certain areas correctly timed to suit emigration of wild smolt
- Treatment during optimum weather conditions
- Follow-up/corrective action

The volume of chemicals used for delousing by Lerøy Seafood Group has seen a substantial reduction in recent years, while the volume nationwide has increased. There has been a particularly high increase in the use of chitin inhibitors nationwide.

**CHEMICALS , ACTIVE AGENT, USED IN DELOUSING AGENTS (KG/KG FISH GROSS GROWTH)**



#### PLANS – GOALS FOR 2015

**Main goal: "We aim to avoid salmon lice of reproductive age and we aim to avoid use of chemicals in treating lice infestation"**

- Increased use of own-produced lumpfish
- Optimal utilisation of Wrasse
- Strategic utilisation of treatments
- Implementation of new methods
- Limit infestation pressure
- Production of lumpfish
- Improved rotation of use of medication over larger areas
- Large Wrasse for parent fish and in areas with more than one generation
- The capacity to execute treatments within authority deadlines in all locations and coordinated throughout generations
- Compliance with authority requirements in the regulations regarding lice and zone regulations
- Cooperation with other companies



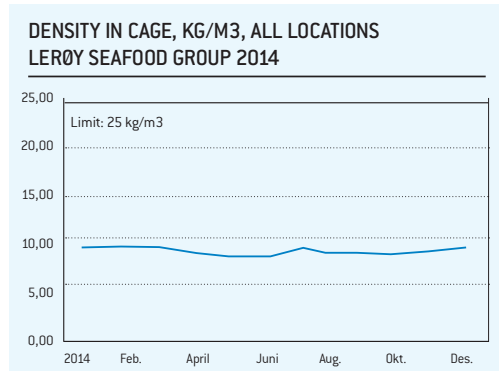
# FISH HEALTH AND WELFARE

**Target: Increase survival rate from release to slaughter**

- KPI 3 Death rate per generation 7%
- KPI 4 Density max 25 kg / m<sup>3</sup>

The main target for fish health and welfare is to increase fish survival rate from release to slaughter. All employees involved in fish farming are participating in training focusing on fish welfare.

Fish welfare is developed and monitored by keeping use of medicines at a minimum, with careful assessment of use, using only approved medicines which have documented environmental impact in accordance with the requirements of SLV, monitoring and documenting tolerance and following up biological feed factors.

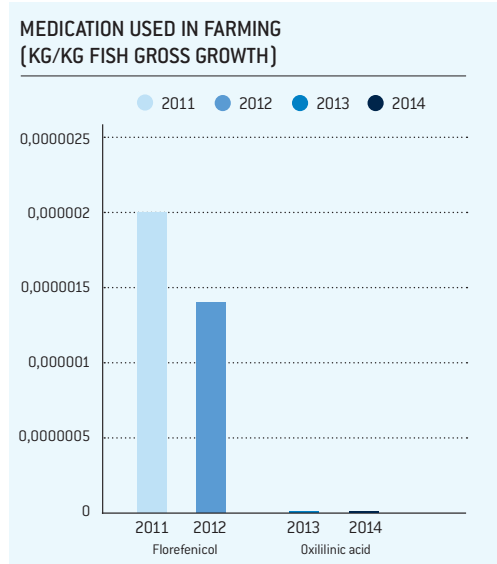


Furthermore, cage density, i.e. how much space the fish have in the cages, influences fish welfare. The maximum limit is 25 kg/m<sup>3</sup> but the results in 2014 were far below this limit, indicating that the fish have enough space in the cages.

## BACTERIAL TREATMENTS

Salmon is by far the healthiest "farmed animal" among the species from which food is produced here in Norway. No antibiotics have been administered for fish in the sea in recent years. The only type of antibiotic used is administered to young fish. In 2014, Lerøy Seafood Group utilised a total 24,470 tons of fish feed and 1.8 kg of antibiotics, active agents. This represents a 0.00000074% proportion of antibiotics in our fish feed.

**Lerøy Seafood Group's goal is to restrict the use of medicines.**



Read more about R&D activities related to fish health: [Group / R&D](#)





## EFFICIENT UTILISATION OF LAND AND SEA AREAS

**Target: Avoid harmful impact on species caused by intervention in natural environment in fjord systems, including sedimentation/sea beds.**

- KPI 5: Average MOM-B max 1.5 per location

All the locations utilised by Lerøy Seafood Group are approved for fish farming by various Norwegian authorities. Before starting operations at a location, approval is required from a number of official and private bodies. Furthermore, approval requires compliance with numerous analyses, requirements and local conditions.

One of the assessments carried out both prior to approval for operations at a location and during fish farming at the facility is a so-called MOM-B evaluation.

MOM-B stands for:

- M – matfiskanlegg (production facility)
- O – overvåkning (monitoring)
- M – modellering (models)

A MOM-B evaluation is carried out by a third party

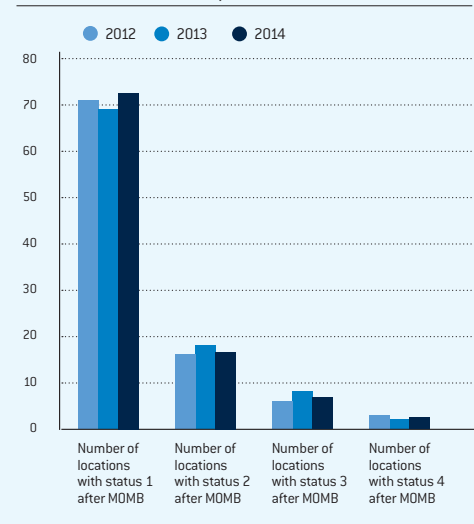
and involves extraction of samples from the seabed under cages and around the cages in a facility.

The analysis has three parts:

1. Fauna investigation
2. Chemical investigation (pH and oxidation-reduction potential)
3. Sensory investigation (gas, colour, odour, consistency, dredge volume and mud depth)

All parameters are given points according to how much sediment is influenced by the organic substance. The distinction between acceptable and unacceptable sediment condition is set to the largest accumulation that allows burrowing benthic organisms living in the sediment. The analyses are executed when production of one generation is at peak. On the basis of these investigations, the individual location receives a score, which also provides an indication of when the next MOM-B investigation should be carried out. A poor score often requires more frequent seabed investigations than a good score.

STATUS OF LOCATIONS, LERØY SEAFOOD GROUP, 2012 - 2014



Score 1 is the best score you can get and score 4 is the poorest score you can get.

In addition to MOM-B, analyses are also conducted locally at individual facilities. These include measurement of density, oxygen level in the sea, currents, water quality, visibility, dives under the facility etc. Each facility is also linked with neighbouring facilities in a zone-based cooperation to cooperate on topics such as lice and preventing accidental release, spread of disease, outbreaks of disease etc.

MOM-B samples shall always be taken before releasing fish to a location. Fish must not be released when the score is 3 or 4 without an additional evaluation of the status of the location, where the reason for the lack of restitution is described. If a score of 3 or 4 is reported for a location, an MOM-C sample shall be taken.

## DISCHARGE OF NUTRIENT SALTS

**Target: Reduction of nutrient salts discharged from premises**

The farming of salmon and trout results in discharges of nutrient salts, such as phosphorus and nitrogen. The production of algae and mussels results in intake and elimination of these nutrient salts. This provides the potential for a lifecycle that is beneficial from a sustainability perspective, where algae, mussels and fish for consumption are farmed in an MTA (multi-trophic aquaculture) process.

In 2013, Lerøy cooperated with Bellona to found a new company – Ocean Forest AS – to conduct research and development based on integrated multi-trophic aquaculture (IMTA). Ocean Forest will develop solutions that reduce costs for bio-production in the ocean and develop economic profit by utilising biomass for products.

As with the algae, the Group also aims for industrial production of mussels. Not only do mussels have a high content of Omega 3 fatty acids, they also contain other important nutrients which are of value for salmon. Industrial production of mussels could prove an important and sustainable source of raw materials for the feed industry. Mussel farming could also represent a substantial benefit in the elimination of phosphorus and nitrogen from seawater. An additional benefit with mussels is that they absorb CO<sub>2</sub> in their shells.





# RAW MATERIALS

## FISH FEED

Target: KPI 9 Fish feed

- FishSource scores for marine raw materials, separated species,  $\geq 6$  biomass score  $\geq 8$   
What are the FishSource scores?  
<http://www.fishsource.org/>

FishSource does not have its “own” sustainability rating system, rather providing the user with straight forward, clear, information on how international, accredited systems would rate/have rated the fisheries. Scores make use of commonly reported numbers from stock assessments but they do not define a fishery as “good” or “bad”. Fisheries can be ranked against one another and give insights into how other groups would score a fishery against current measures of sustainability. Scores currently relate to the Marine Stewardship Council (MSC) standards, which in turn rely on international organisations’ criteria – e.g. International Council for the Exploration of the Sea – ICES. Scores have been developed in a way that a score of 8 has a parallel of an 80 MSC rating – i.e., an “unconditional pass” on that criteria, towards MSC certification. The same rationale applies to,

e.g., a FishSource score below 6 “the fishery will be ineligible for certification” [MSC standards].

- FFRDm < 1.35, Forage Fish Dependency Ratio
- Increased usage of raw materials, which are certified according to a sustainability standard

	FIFO meal	FIFO oil
2010	0.85	2.5
2011	0.55	1.99
2012	0.38	1.74
2013	0.44	1.41
2014	0,57	2.09

Fish feed is the most important raw material for seafood production, and quality assurance of the feed is therefore of great importance. There are no requirements for use of specific feed for fish, but there are clearly defined nutritional requirements for the content of raw materials. In nature, fish is a part of the salmon’s diet, therefore salmon feed contains both fishmeal and fish oil. In 2014, the main raw materials in fish feed in Lerøy Seafood Group were Blue whiting, trimmings and anchovy in addition to fish cuttings. These raw materials mainly come from wild fish which is not suited for human consumption or not in demand.

## MARINE RÅVARER I FISKEFØR LERØY SEAFOOD GROUP 2014

English	Latin	Norwegian	% Fish meal	% Fish oil
Blue whiting	<i>Micromesistius poutassou</i>	Kolmule	30,23	3,23
Boar fish	<i>Capros aper</i>	Villsvinfisk	0,97	0,51
Capelin	<i>Mallotus villosus</i>	Lodde	3,42	2,51
Capelin	<i>Mallotus villosus</i>	Lodde	0,36	0,43
Capelin trimmings	<i>Mallotus villosus</i>	Loddeavskjær	1,83	0,80
Herring	<i>Clupea harengus</i>	Sild	1,87	1,66
Herring trimmings	<i>Clupea harengus</i>	Sildeavskjær	18,96	10,31
Horse mackerel	<i>Trachurus trachurus</i>	Hestmakrell		0,06
Mackerel trimmings	<i>Scomber scombrus</i>	Makrellavskjær	2,44	1,94
Menhaden	<i>Brevoortia patronus</i>	Beinfisk		21,64
Norway pout	<i>Trisopterus esmarkii</i>	Øyepål	2,51	1,60
Peruvian anchoveta	<i>Engraulis ringens</i>	Ansjos	20,21	21,81
Pilchard	<i>Sardina pilchardius</i>	Sardin		11,16
Sardine	<i>Strangomera bentincki</i>	Sardin		1,29
Sandeel	<i>Ammodytes marinus</i>	Tobis	6,04	6,47
Sprat	<i>Sprattus sprattus sprattus</i>	Brisling Nordsjøen	3,33	8,11
Sprat	<i>Sprattus sprattus balticus</i>	Brisling Østersjøen	1,61	0,23
Whitefish trimmings		Hvitfiskavskjær	6,28	5,88
<b>Totalt</b>			<b>100,00</b>	<b>100,00</b>

In 2014, the main feed suppliers for the Group were EWOS and Skretting. The Group has an extensive sampling programme for the control of feeds with regard to chemical composition, dust, contaminants etc. The feed suppliers audit their own suppliers, and Lerøy Seafood Group conducts annual audits of feed companies. This, together with the feed suppliers' self-monitoring and traceability systems, means that we have control of feed content and quality. Furthermore, our target is to ensure, together with the feed suppliers, that the raw materials used in the Group's feed are both fished and harvested in an ethically sound manner and in compliance with legal frameworks and based on sustainable harvesting or fishing.

In general, salmon farming has traditionally depended on a supply of wild fish for fish feed as a large volume of fish oil is consumed by the industry. In recent years, this has significantly reduced, as fish oil has been replaced by vegetable oils, mainly originating from soya and rapeseed. Originally, fish feed had a 70% content of marine raw materials, whereas the fish feed used in the Group in 2014 contained approx. 30% marine and 70% vegetable raw materials. The transition to vegetable raw materials is mainly attributed to access to raw materials, but also due to the increased focus on sustainable production.

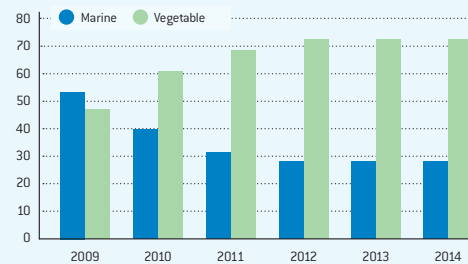
Fish as meal and oil will provide much more sustainable utilisation if supplied directly for human consumption compared to feed for animals. We try to supply wild fish directly to consumption and produce fish feed from the cuttings, where possible. Raw materials from wild fish are used as an ingredient in many different types of animal feed. Salmon is the one species that most efficiently converts raw materials into an edible product.

### "FISH IN – FISH OUT" – FIFO

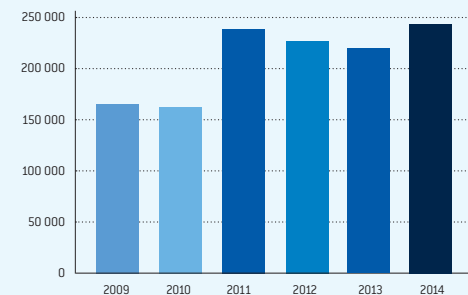
There are many ways of assessing sustainability within the seafood industry. The concept of "fish in – fish out (FIFO)" is very common in relation to fish feed, i.e. how much wild fish it takes to produce one kilo of farmed salmon. The targets set in the ASC standard are: FIFO protein lower than 1.31 and FIFO oil lower than 2.85. It is natural to calculate a FIFO value separately for protein and oil, as these two raw materials have very different performance.

In 2014, the FIFO value for protein at Lerøy Seafood Group was 0.57 (0.44 in 2013) while the value for fish oil was 2.09 (1.41 in 2013). This implies that we require 2.09 kg of wild fish to produce enough oil so that we can produce 1 kg of salmon, but we only need 0.57 kg of wild fish to gain enough protein for 1 kg of salmon. In other words, we have an excess of fishmeal which can be utilised in other products.

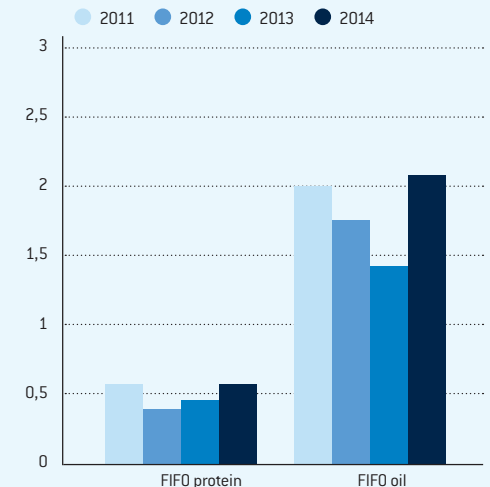
### DEVELOPMENT OF RAW MATERIALS IN FEED



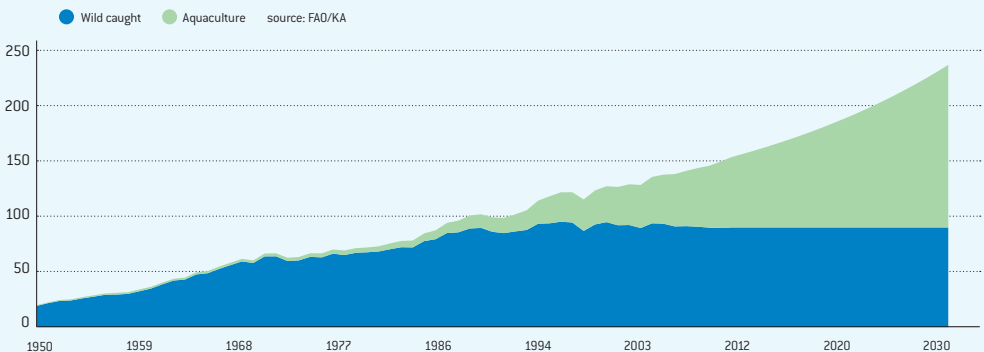
### CONSUMPTION OF FISHFEED IN LERØY SEAFOOD GROUP



### FISH IN - FISH OUT • LERØY SEAFOOD GROUP



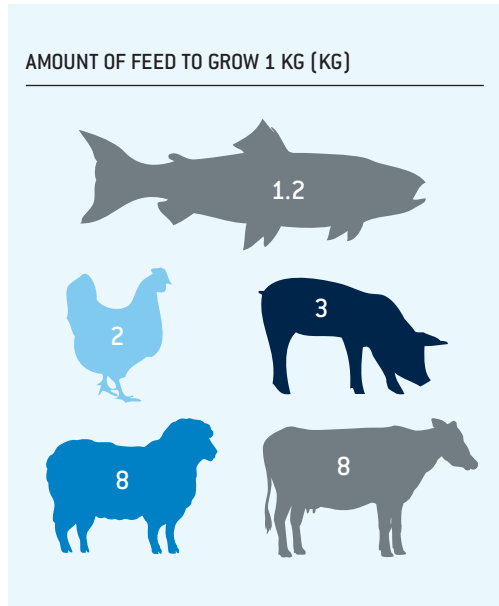
### UTVIKLING OG ESTIMATER – VILLFANGET OG PRODUKSJON FRA AKVAKULTUR 1950–2030 (MILL. TONN)



## FEED FACTOR

Target: Biological feed factor of 1.09

The feed factor is an important indicator of how efficiently we convert feed into fish. Salmon farming is exceptionally efficient compared with domestic animals. The feed factor for poultry is approx. 2 and for pork approx. 3.5, while for salmon Lerøy Seafood Group's fish farming companies reported a feed factor of 1,19 in 2014 (1.18 in 2013).



The following actions have been initiated in order to minimise the feed factor:

- Investment in better monitoring equipment
- Training of personnel
- Implementing new location structures
- Improved fish health with special focus on salmon lice
- Oxygen adapted feeding
- Increased focus on clean nets

## SALMON – AN IMPORTANT SOURCE OF PROTEIN FOR FUTURE GENERATIONS

The greatest challenges we face in the future when it comes to food production will be:

- production areas/availability of land
- fresh water
- energy

Only 30% of the earth's surface is land, and land availability will be a struggle in the future. Should available land be used for industry in order to provide jobs for future generations? Should we use the land to build houses for future generations? The growing population also requires a good infrastructure, comprising schools, hospitals, kindergartens, roads etc. These are all requirements that have to be assessed in relation to the land required to produce food.

70% of the earth's surface is covered by oceans, and we currently exploit far too little of the earth's waters for food production. Only 5% of the food we eat on a global scale comes from the sea. By comparison, 40% comes from farming and 55% from vegetable sources. With such limited land availability and limited access to fresh water and energy, the sea will have to provide for a large volume of the increased requirement for protein. We cannot count on sufficient volumes of wild fish in the future, so an increase in production of food from the sea must be derived from some type of aquaculture.

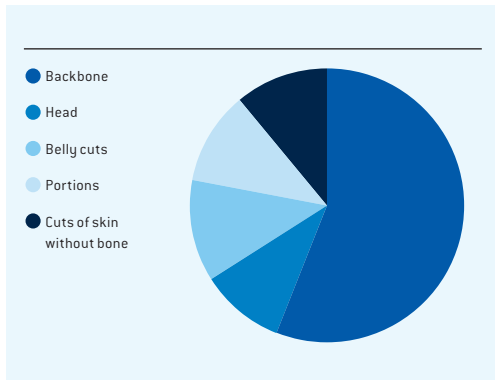


### Facts about salmon

<b>Feed volume</b> kg, per kg. fish	<b>1.2</b>
<b>Energy retention%</b>	<b>27</b>
<b>Protein retention%</b>	<b>24</b>
<b>Footprint water:</b> litres/kg edible volume protein	<b>1.950</b>
<b>Footprint CO2:</b> e/kg edible volume protein	<b>2.5</b>
<b>Agricultural land:</b> m <sup>2</sup> , utilised per kg edible volume protein	<b>3.2</b>
<b>Use of antibiotics in sea</b>	<b>No</b>
<b>Omega 3 content:</b> g, per 100 gram protein	<b>10.9</b>
<b>Essential minerals and vitamins:</b> Selenium, Iodine, Vitamins A, D and E, B6 and B12	
<b>Yield %</b> , from whole fish	<b>68</b>

## BY-PRODUCTS

The major by-products in Lerøy Seafood Group's operations are:



Lerøy Seafood Group works hard to achieve the highest possible rate of utilisation of raw materials produced or caught. This implies a goal of 100% utilisation of all nutritious raw material not used in the main production process. The by-product share depends on the type and specification of the processed products. The most important processed products are fillets and salmon and trout portions with or without skin. The utilisation rate for fillets is between 55 – 74%, while the residual products become by-products. For portions, the utilisation rate is between 45 – 68% depending on the specification.



# EMISSIONS

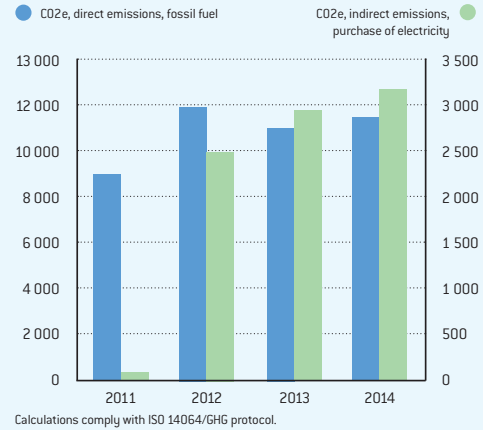
Lerøy Seafood Group has participated in various projects for analysing greenhouse gas emissions from the production of salmon, both as whole fish and as fillets. For example, the Group participated in a committee in Norway to formulate a standard for climate labelling of seafood. The standard “NS 9418 Carbon footprint for seafood” was published in 2013 and will be submitted as an ISO standard – the objective is for this to be an international standard for climate labelling of all types of food products. When the carbon footprint of a seafood product is calculated, all phases of the life cycle must be taken into account. For aquaculture products, this involves calculating greenhouse gas emissions from pre-production, farming of fish, transporting fish to harvest, waste management, cooling and transport to the retailer etc.

The main sources of greenhouse gas emissions in Lerøy Seafood Group’s operations derive from energy consumption for the Group’s operations and from fish feed. The purchase of products and services, of which fish feed and transport services make up a major share, are not at the moment included in the calculations as the Group has decided to focus on processed products with an emphasis on processing in Norway. One of the reasons for setting this goal was to achieve a reduction in greenhouse gas emissions per kg edible seafood.

	2014	2013	2012
Total consumption of fossil fuels, litres	4,252,729	3,927,876	4,464,489
Total consumption of electricity, GWh	60	58.0	53.1
Total CO2 emissions, tCO2	14,770	13,909	14,404

The emission factors are based on IPCC-2006 overview of factors for the fish farming industry.

## GREENHOUSE GAS EMISSIONS, USE OF FOSSILE FUEL AND PURCHASE OF ELECTRICITY, (TONS CO2E) FARMING DIV.

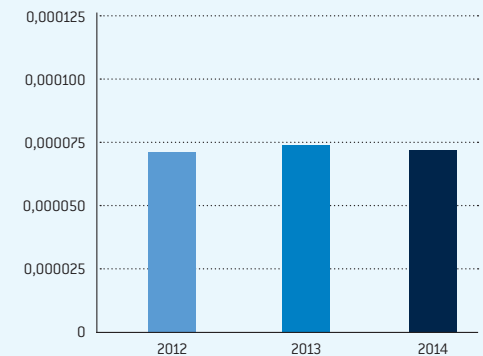


## EMISSIONS FROM LOGISTICS

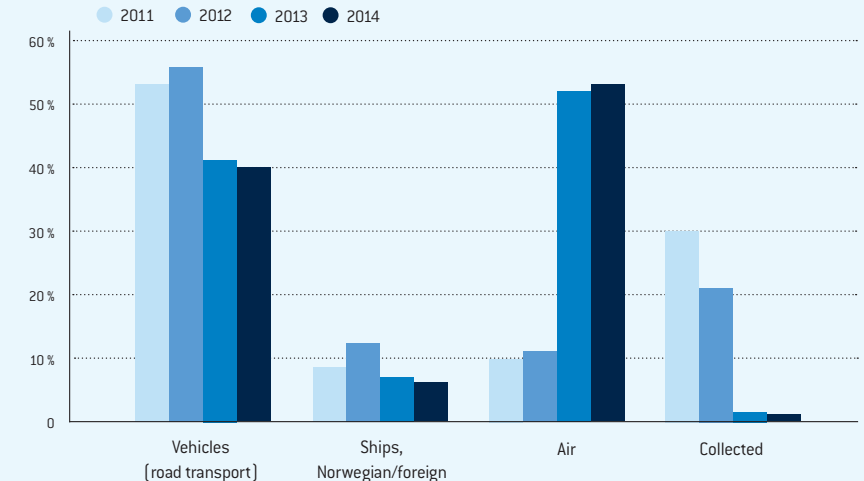
Lerøy Seafood Group can influence its greenhouse gas emissions through developing logistics solutions. Identifying the optimal transportation solution is beneficial for the environment while at the same time contributing to Group profitability. More than 80% of the Group’s products are distributed fresh. This places stringent requirements on proximity to the market and effective logistics solutions.

Hallvard Lerøy AS is the largest sales and distribution company within the Lerøy Seafood Group. The transport methods utilised by Hallvard Lerøy AS are road transport, airplanes, ships and containers. In 2013, over 55% of product distribution was by road. In addition, almost 30% of products were picked up by customers.

## CO2 EMISSIONS TOTAL PER KG FISH PRODUCED GROSS INCREMENT



## DISTRIBUTION IN HALLVARD LERØY 2011-2014





## ROAD TRANSPORT

The majority of distribution still takes place on road. This is mainly due to the logistic systems currently available for transport in regional areas. A number of our customers choose to provide transport themselves and therefore pick up products directly from our facilities. We work closely together with our transport suppliers, reinforcing the importance of environmental protection for all transport. The Group continuously looks for new distribution solutions that are still price competitive and generate the same level of service as before; for example, by changing parts of the road transport over to rail transport, where possible. This has reduced both costs as well as emissions. By making use of rail transport on parts of the route between Trondheim and Rotterdam, the CO2 emissions were reduced by 68.5%. Major transport companies have developed services involving rail transport of entire articulated trailers to Germany and Holland, which provides Lerøy Seafood Group with new potential to make extensive use of rail transport.

## AIR TRANSPORT

The volume of fish transported by air has increased in the past year, due to increased sales to Asia, Australia and the USA. The Group works closely with the air transport suppliers in order to identify the best air cargo systems and the best solutions for the environment. For example, the Group has actively co-operated with a large airline company that has scheduled passenger flights covering all Lerøy Seafood Group's markets. The Group makes use of the cargo capacity on these planes. By consciously focusing on this type of air cargo, the Group is able to meet market demand while utilising the most modern and least polluting aircraft.

## RAIL TRANSPORT

Lerøy Seafood Group's products from Northern Norway are transported to Southern Norway mainly by rail. This system works well during the summer months. During the winter there are sometimes delays due to weather conditions etc. that force the Group to make use of uneconomical solutions that may also be less than optimal for the environment.

## SEA TRANSPORT

The Group's frozen seafood is currently transported by ship. The Group will maintain its focus on environmentally friendly logistics and will collaborate closely with the main suppliers of distribution services in order to help reduce environmental impact in this area.



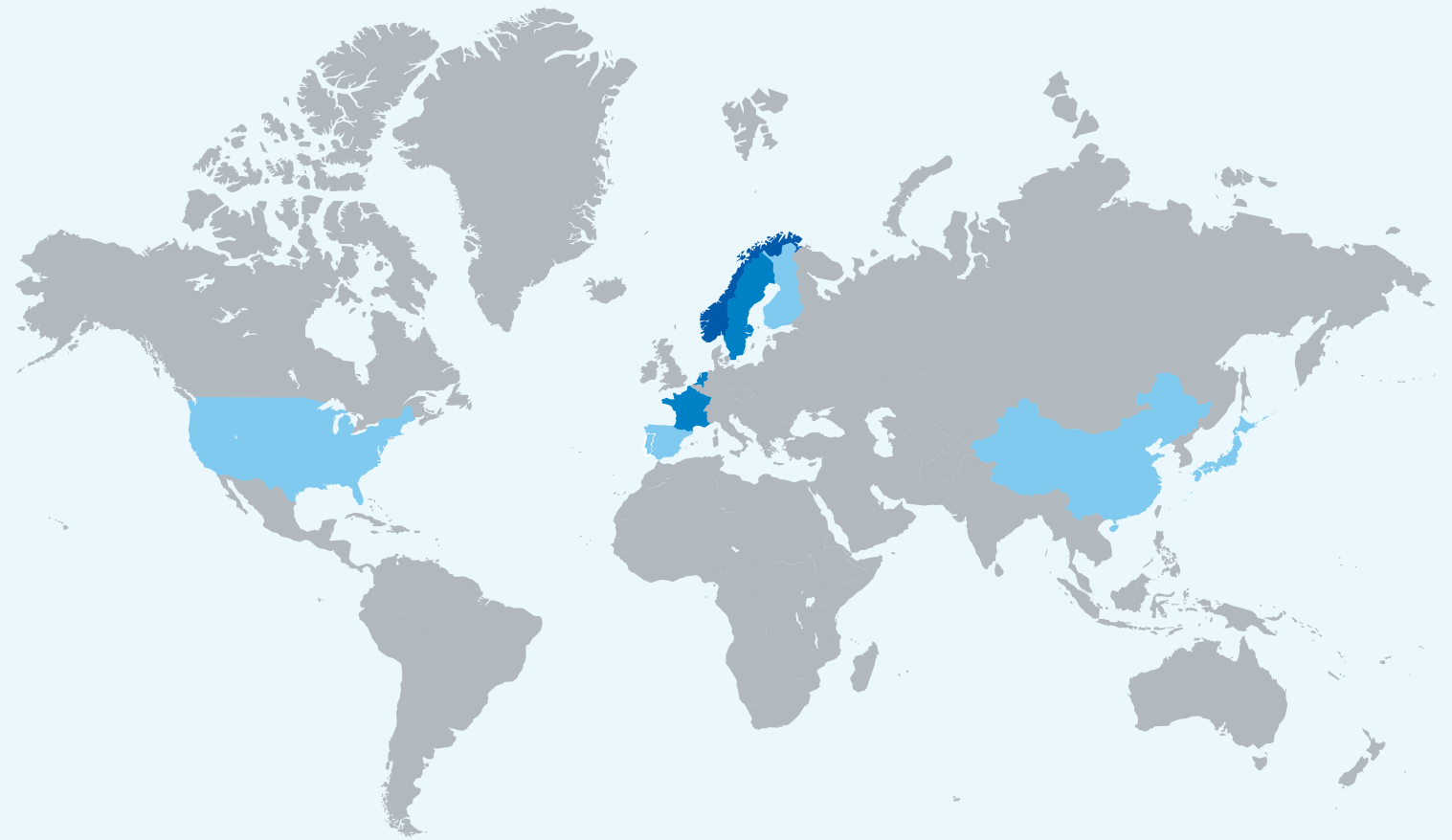
# SOCIAL AND ECONOMIC WELFARE



## WHERE DO OUR EMPLOYEES WORK?

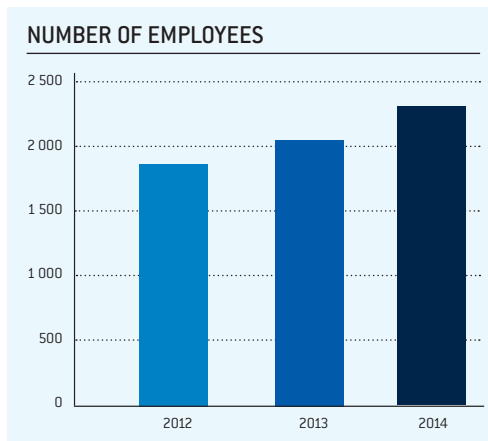
### NUMBER OF EMPLOYEES

- 0 - 100
- 100 - 500
- 500+



## EMPLOYEES

The parent company Lerøy Seafood Group ASA has its main offices in Bergen, Norway. In addition to the Group's CEO, the parent company has seven employees. Administratively, all personnel functions are handled by the wholly-owned subsidiary Hallvard Lerøy AS. At the end of 2014, there were 2,306 employees (2,067 in 2013) in the Group, including 727 women and 1,579 men.



discrimination due to disabilities. For employees or work applicants with disabilities, the company will arrange for individually adapted work tasks and environments.

As the Group is involved in a global industry which faces continuous development in general conditions, it is essential that our employees remain up to date and expand their knowledge and areas of expertise. The Group is made up of a young yet highly experienced group of people. With

the constant rate of change in general conditions in the business environment, the Group relies on employees who are dynamic, flexible and willing to learn. In recent years, development has been possible because the Group has been an attractive employer for talented people. One of several important prerequisites for the Group to sustain its positive rate of development is that the Group can offer attractive jobs to a number of skilled workers.

## EMPLOYEE WELFARE

In 2014, only minor injuries were reported among employees. The Group's Norwegian subsidiaries reported an accumulated sick leave of 5,7% (5,3% in 2013). This figure comprises 3,2% long-term and 2.5% short-term sick leave. The Group works actively to keep sick leave rates as low as possible. Comparable sick leave statistics are not available from our foreign subsidiaries. However, the organisations in the individual subsidiaries are subject to continuous development and all employees within the Group complete training in health and safety. The Group takes particular responsibility in relation to children and the young, to ensure good guidance and follow-up, helping avoid accidents or other negative incidents.

The different companies in Lerøy Seafood Group have their own employee representatives who take care of the formal cooperation between company and employee. All employees are entitled to join or establish trade unions as they choose. Each company has different types of events they organise. These may be family days, social gatherings, motivation meetings or events involving sports. The majority of our subsidiaries offer different types of sporting activities for their employees.



# ECONOMIC IMPACT

## ECONOMIC VALUE GENERATED AND DISTRIBUTED

Lerøy Seafood Group is strongly involved in the local communities in the areas we are located, and aims to contribute to local incomes in the form of purchasing goods, services and supplies locally whenever possible. The total purchases of goods and services by the Group's companies in Norway amounted to NOK 9.9 billion in 2014, and these purchases were made in more than 272 municipalities in Norway. In 2014, the Group's operations were located in 49 municipalities in Norway. Our employees contributed NOK 190 million in taxes to 125 municipalities. Based on our business over the last five years, the Group has contributed NOK 1.6 billion in taxes. As such, we contribute to the maintenance of a number of communities and workplaces around Norway.

## LOCAL COMMUNITIES

Lerøy Seafood Group's companies are often located in decentralised areas, making significant contributions to employment and income in the local communities. The Group aims to develop positive, close cooperation with these

communities and makes contributions through sponsoring and supporting local sports clubs and festivals/various events. The Group supports various local activities related to children and young people. Diet, health and healthy eating are important common values in this collaboration. It is therefore rewarding to see children and young people enjoying healthy food at different events supported by the Group.

With our decentralised locations, we also make contributions to investments in buildings, infrastructure, quays, floating quays and modern equipment in small, local communities. These form the grounds for local commerce. In fact, we represent 25-80% of the economical basis for certain suppliers in the municipalities in which we have facilities.

According to a spin-off analysis performed by Nofima, based on 2013 figures, the fish farming industry will generate a number of spin-off effects. The table below shows the most significant of these.

	TOTAL	PER LOCATION IN USE
Employment (full-time equivalents)	24,299	42
Farming	9,621	17
Derived (suppliers, immediate)	14,678	25
Volume produced (tons)	1,243,000	2,169
Purchase (NOK million)	34,300	60
Export (NOK million)	42,200	74
Value generation (NOK million)	14,735	25.7
Tax cost from companies (NOK million)	3,207	

The purchases made by the fish farming industry have spin-off effects throughout most of Norway. Goods are purchased from a number of different segments. The most important of these are:

- Industry
  - Rubber goods and plastic industry
  - Machine industry
  - Textile industry
  - Machine repairs and installation
  - Chemical industry
  - Metal industry
  - Timber and wood industry
  - Paper and paper goods industry
  - Computer and electronics industry
  - Transportation industry
  - Printing, graphic industry
  - Mineral product industry
  - Electrotechnical industry
- Agriculture, forestry and fishing
- Transport and storage
- Commodities, car repairs
- Financial services and insurance
- Professional, scientific and technical services
- Building and construction
- Power supply
- Public admin, defence, social insurance
- Sale and operation of real estate
- Commercial services
- Information and communication
- Hotel and restaurant trade
- Mining and extraction
- Water, sewage and waste removal
- Other services
- Cultural activities, entertainment etc.
- Health and social services
- Commodities, repair of vehicles
- Education



Lerøy Seafood Group is an active supporter of children and young people by making contributions to local clubs and associations.



Ladies from Hallvard Lerøy keeping fit on a hike to Fløyen in Bergen.

The fish farming industry is an extremely area-efficient producer of protein. The direct physical surface area utilised for salmon and trout production in Norway in 2013 was 21.09 square kilometres, upon which 1,243,000 tons of protein were produced from 573 locations. This implies an average production of 58,949 tons salmon/trout per square kilometre water surface area.

Every full-time equivalent in the production of fish for consumption generated an average value of NOK 3.5 million in 2013. By comparison, each full-time equivalent in agriculture had a value generation of NOK 360,000.

In terms of value generation per full-time equivalent, the figure for aquaculture is much higher than the average for mainland Norway. Value generation (contribution to GNP) is the value remaining after deduction of expenses related to consumption of goods and services as part of the production process. The average value generation for mainland Norway was NOK 0.83 million per full-time equivalent, while the

corresponding figure for aquaculture was NOK 3.5 million per full-time equivalent. A simple calculation tells us that our 2,306 employees in Lerøy Seafood Group make a contribution towards value generation of NOK 8,071 million. The supplier industry is experiencing growth and the choice of suppliers and subcontractors will become increasingly important for the future development of the seafood industry.

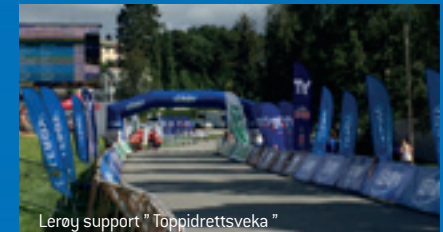
\*SINTEF: "The significance of the fishing and agriculture industries for Norway in 2009 – a national and regional ripple effect analysis."

\*\*SINTEF-report A26088 (2014): "Value generation and employment in the Norwegian seafood industry". Nofima, spin-off analysis performed in 2014 based on figures from 2013.

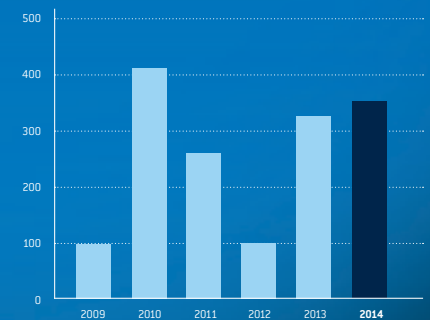
## LERØY SEAFOOD GROUP HELPS MUNICIPALITIES AND LOCAL COMMUNITIES IN MANY DIFFERENT WAYS.

The map shows the municipalities in Norway where Lerøy Seafood Group purchased goods, equipment and services in 2014.

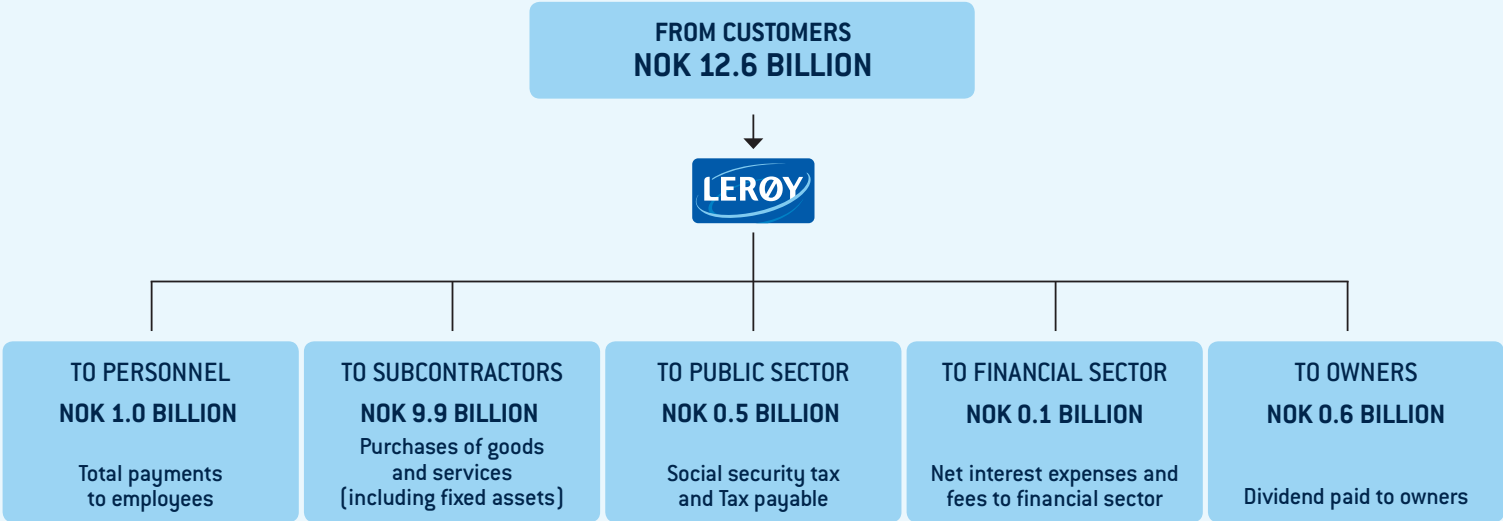
Lerøy Seafood Group purchased goods, equipment and services in Norway in 2014 for NOK 9.9 billion.



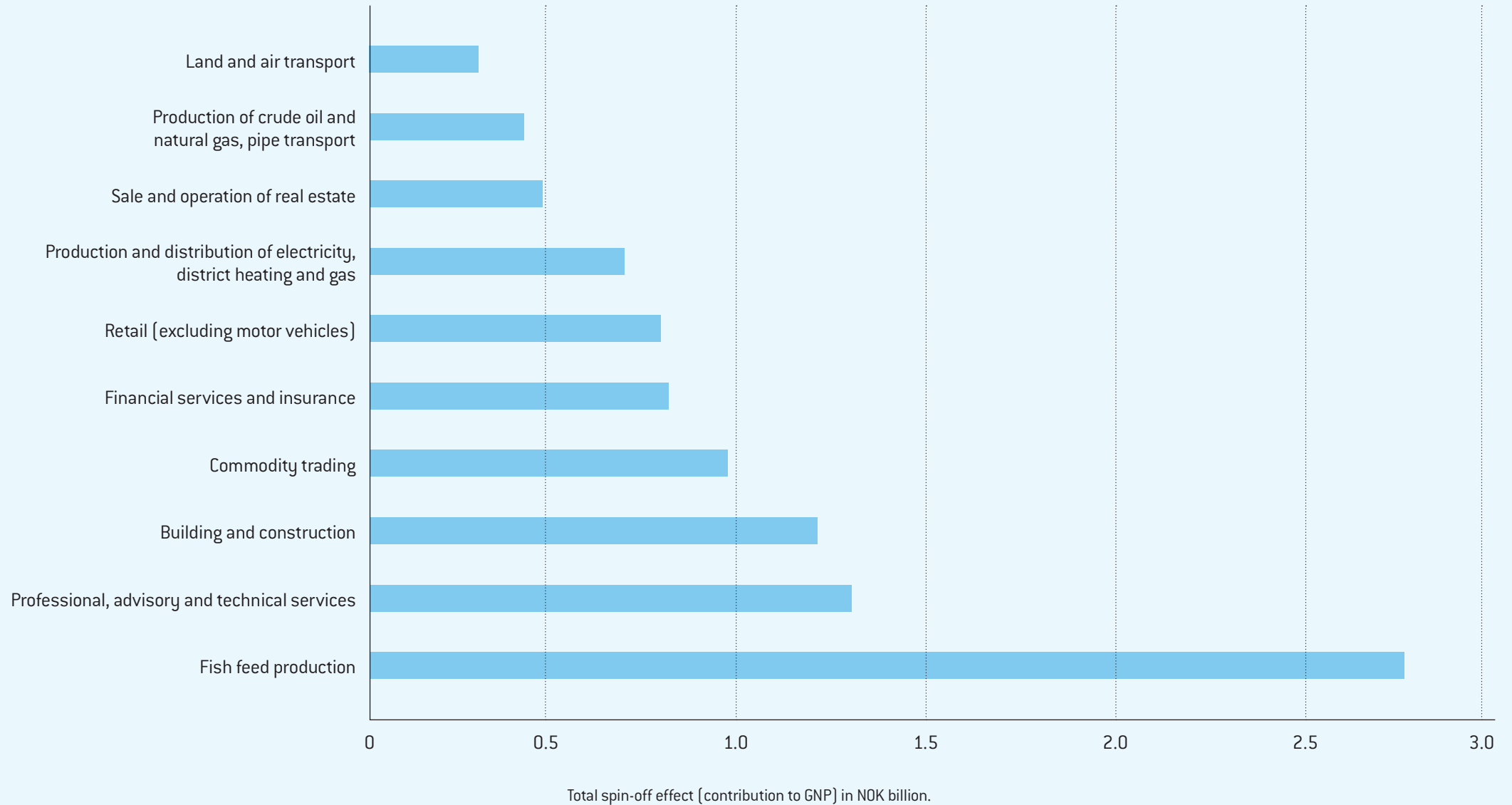
## LERØY SEAFOOD GROUP HAS PAID A TOTAL OF NOK 1.6 BILLION IN TAX OVER THE PAST 6 YEARS



ECONOMIC VALUE GENERATION AND DISTRIBUTION PER SECTOR IN 2014



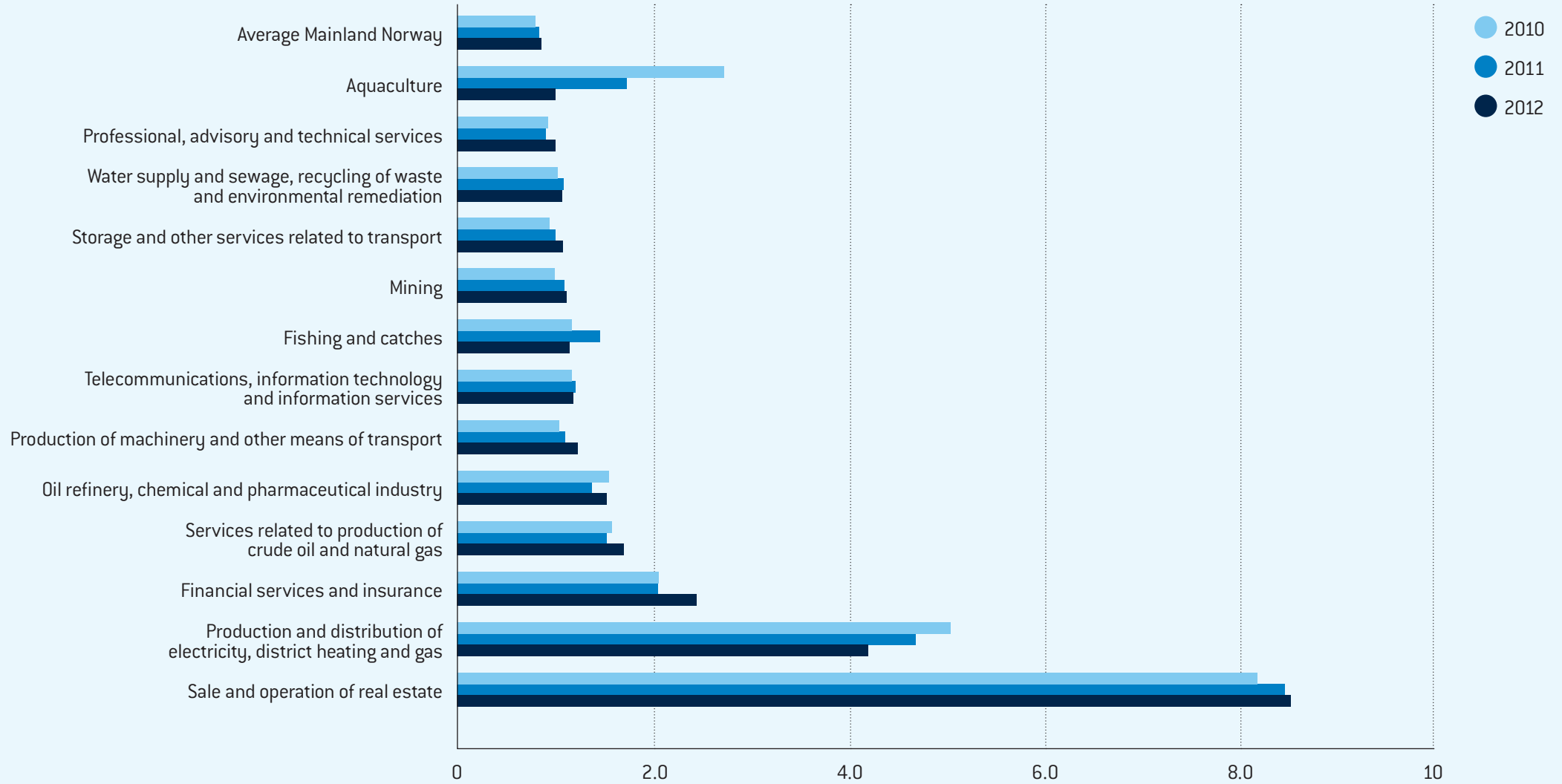
**THE TEN INDUSTRY GROUPS WITH THE HIGHEST SPIN-OFF EFFECT (CONTRIBUTION TO GNP) GENERATED BY THE VALUE CHAIN BASED ON AQUACULTURE IN 2012**



Sandberg et al. (2014)



VALUE CREATION (IN NOK MILLION) PER FULL-TIME EQUIVALENT FOR THE 14 INDUSTRY GROUPS IN NORWAY WITH THE HIGHEST VALUE CREATION PER FULL-TIME EQUIVALENT IN 2012\*



\*based on provisional figures from the public accounts for 2012

Sandberg, M., Henriksen, K., Aspaas, S., Bull-Berg, H., Johansen, U. (2014) Verdiskaping og sysselsetting i norsk sjømatnæring – en ringvirkingsanalyse med fokus på 2012. SINTEF Fiskeri og havbruk og SINTEF Teknologi og samfunn, Rapport A26088

# LERØY SEAFOOD GROUP, GRI-TABLE 2014

The report uses the GRI (Global Reporting Initiative) G4 reporting framework as a reference. In addition, the report includes GRI's Food Processing Sector Supplement indicators, where applicable. Sustainability expert Solutions Agency Vinha has reviewed the report and confirms its compliance with GRI G4.

<b>STRATEGY AND ANALYSIS</b>		<b>PAGE</b>	<b>ENVIRONMENTAL RESPONSIBILITY</b>		<b>PAGE</b>
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	Key impacts, risks, and opportunities	5	EN3	Energy consumption	56
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