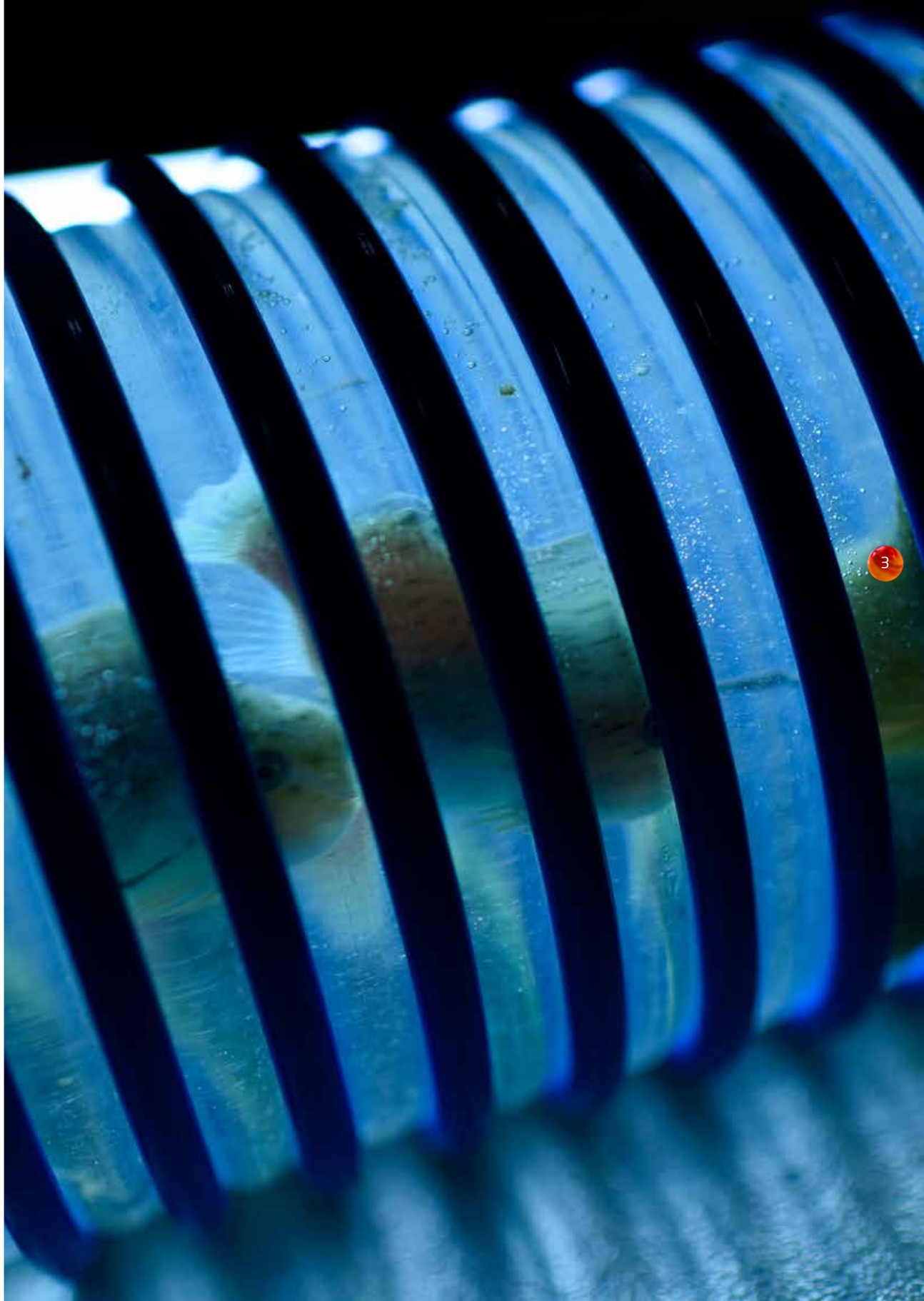
2017

SALMAR'S
ENVIRONMENT
AND SOCIAL
RESPONSIBILITY

SUSTAINABILITY IN EVERYTHING WE DO!

SALMAR
Passion for Salmon

Contents



1. Passion for Salmon

SalMar's corporate culture is constantly evolving, and builds on the values that have brought the company where it is today. These values are expressed in a set of tenets that underpin what we do and the way we behave.

SalMar is one of the world's largest producers of farmed salmon, and the world's largest producer of farmed organic salmon. The company aims to be the lowest-cost producer of salmon. This goal can be achieved only through sustainable biological production. SalMar's vision is: *"Passion for Salmon".*

SalMar has adopted the following tenets, which reflect its corporate culture, values and attitudes:

- What we do today we do better than yesterday
- The job is not done until the person you are doing for is satisfied
- Focus on the solution
- The job we do today is vital to the success of all
- We care!
- Sustainability in everything we do

SCOPE OF THE REPORT

The report covers those Norwegian companies in which SalMar's shareholding and operational liability exceeded 50 per cent in 2017. This is the fourth report which focuses exclusively on the environment and corporate social responsibility, and presents our activities in 2017. In addition, SalMar publishes a comprehensive annual report.

The report has been prepared on the basis of the principles required by GRI (Global Reporting Initiative). On the last page, you will find a thematic overview of the GRI index and our reporting related to this. Any questions relating to this edition should be addressed to Sustainability and Nutrition Manager Merete G. Sandberg or IRO Runar Sivertsen.

SalMar's tenets run like a red thread through this report and create a framework for its disposition. Each chapter is introduced by a brief text linking its contents to one of the company's tenets.

2. Message from the CEO

SalMar had a very eventful and successful 2017. Our strong financial results reflect not only a record level of profitability for the company's operations, but also the fact that SalMar is an organisation staffed by many dedicated and highly skilled employees, who – through their joint efforts – have succeeded in creating substantial value for shareholders, employees and society alike.

In 2017, both our fish farming operations and our sales and processing business have made substantial contributions to our profitability. At the same time, we are pleased to see that during the year we began to get to grips with a major challenge – rising costs. The improvement in our production costs is the result of systematic endeavours over several years. The efforts we have made in this area are crucial to our ambition and clearly expressed aim of being the world's best aquaculture company. The results we have achieved give us confidence in the future and the success of the projects and investments we are undertaking to take the company forward. These were considerable in 2017.

This was also the year that we became the first company to take the plunge and bring our salmon back to the open sea, by putting the Ocean Farm 1 facility into pilot operation in Frohavet, off the Trøndelag coast. At the same time, we completed major investments in the company's hatcheries, which reflects our confidence in the future and our willingness to engage in an industry and a company that has every opportunity ahead of it.

At SalMar, we have an unshakable belief that we are working in an industry with its future ahead of it. The fundamentals are in place for substantial value creation going forward. In good years like 2017, we are able to build the financial robustness we need to underpin further investment.

Work on sustainability is part of our daily work and is thus integrated into the whole. In Salmar, we believe in "showing our way through". Operationalizing the UN's sustainability goals and Norway's climate targets to the fields where SalMar can make a difference is an ongoing work. We are operationally focused and work with collaborators in a variety of fields to realize our goals.

Volume growth – made possible by better biology

2017 was another year in which we increased the volume harvested. Overall, we harvested a little more than 135,000 tonnes, 20,000 tonnes more than in 2016. This growth was made possible by improvements in the biological situation. Through the year, we saw the positive effects of our long-term and systematic endeavour to improve the way we handle the salmon lice situation. We have also seen the tireless efforts of staff who have acquired expertise and initiated countermeasures that have gradually become more precisely targeted. The outcome of all this, particularly in the second half of 2017, was better biology, better fish welfare and better growth.

Salmon lice are a natural part of the marine fauna – our focus is on sustainable management

Salmon lice are a natural part of the marine fauna, and will always be a challenge that must be dealt with. For years, SalMar, and the aquaculture sector as a whole, have been working hard to do just that. And those efforts have paid off. This is an area where we as a company – as well as an industry – must have control.

Active delousing methods will always form an important part of the toolkit needed to gain control of the situation. The key here is to develop and apply precise methods so that treatments can be used as sustainably and gently as possible. This is painstaking work, which will continue in the years ahead. As in all other areas of SalMar, the aim is to ensure that what we do today we do better than yesterday.

In 2017, we also achieved good results from a more qualified and sustainable application of preventive methods against lice infestation. These, too, are the result of an endeavour that has been going on for some time. A blend of measures which is expected to have a considerable impact going forward combines the division of fish farming operations into strictly applied zones to optimise the underlying biological conditions, the use of skirts around the net pens to prevent salmon lice in the open water from gaining easy access to the salmon, as well as the use of cleaner fish, a strict net cleaning regime and optimisation of the water quality. In 2017, we have seen the potential that this combination offers.

Production costs – a step in the right direction

We aim to be the world's best aquaculture company, and having the lowest costs in the industry has always been a clear objective for us. As a result, we do whatever is in our power to control and reduce costs, though always on the salmon's terms. It is this approach that will secure our long-term competitiveness.

In 2017 we started to see the result of our long-term efforts and our focus on cost-cutting measures. In fact, we have trimmed over NOK 2 per kg off our overall production cost.

At SalMar, we strive for continuous improvement, which means that we are far from having reached our objectives in this area. In 2018, we will continue to work towards further reductions in our costs and will take new steps to safeguard our long-term competitiveness and position as the lowest-cost producer in the business.

SalMar out in front

Innovative leadership has always been a key strategic objective for SalMar. We are an organisation that is made up of skilled and dedicated SalMarites, whose joint efforts result in innovation and development and together equip the company to meet the challenges of tomorrow. We will seek new solutions that can give us an advantage and bring our performance and efficiency to new levels.

In 2017, this manifested itself in investments in both our existing operations and in more forward-looking solutions. Two new hatcheries went into operation during the year: one in Senja, which covers our operations in Northern Norway; and one at Follafoss in Central Norway. These facilities make use of a new technology that enables the sustainable production of juvenile fish – with a lower environmental footprint and less use of resources. The facilities are part of an investment programme which will stretch out into the future.

The foundation for optimal biological production lies in providing our fish with a good start in life. This requires investments in the field of genetics and in the way our juvenile fish are nurtured at SalMar's hatcheries. Our objective is to produce high-quality smolt - delivered at the optimal time and at the optimal size.

Ocean Farm – in 2017 we brought the salmon back out to sea

For SalMar, innovation leadership has taken on new meaning in that we – as the first company in the industry – have taken our production of farmed salmon back out to sea. Our Ocean Farm 1 project has attracted a great deal of attention, and marks a milestone not only for us as a company but for the industry as a whole.

In 2017, the project went into large-scale operation. Construction of the facility in China was completed on time and on budget during the summer, after which it was transported to its destination in Frohavet, off the coast of Trøndelag. It arrived there in September and was anchored in place. Stocks of fish were transferred to the new facility in the middle of the month. At that point we had embarked on the next phase, full-scale pilot operations, during which the project's concept would be tested out in reality.

The idea behind the project was simple and logical. We wanted to take salmon production back out to the salmon's natural habitat – the sea – where they spend most of their natural lifecycle. We wanted to open the way for the sea to be used as a sustainable location for the farming of salmon, but also for other aquaculture activities that could provide an important contribution to the sustainable production of food for a growing global population.

So far, the pilot phase has gone well. Although it is still early days in the development of an entirely new concept, our basic idea seems to be holding up. The salmon appear to be thriving in this environment. Nevertheless, there is a long road ahead before any conclusions can be drawn from the project. Despite the confidence our experience so far has engendered, we realise that this is a project in which the collection of data and development of expertise is crucial to success in the long run. It has therefore been important for us to bring in competent partners who, together with us, can develop technology and expand our knowledge base. That is why it has also been right for us to fund a professorship at the Norwegian University of Science and Technology (NTNU), which – on a free and independent basis – will focus on expanding our understanding of what will be required for ocean farming in tomorrow's world.

The technical solution underpinning Ocean Farm 1 has been designed for fish farming in open seas like Frohavet. If we are to take aquaculture production out into open water, it will be necessary to further develop the technology. At the same time, the authorities must also contribute by creating a regulatory framework that allows an innovative industry to make use of the sea for sustainable food production.

Passion for Salmon

I feel it is natural to conclude with some well-deserved words to a very fine organisation. SalMar is a unique company, with many dedicated and highly skilled employees. I would like to thank each and every one for their contributions in 2017! Their hard work shines through in our performance and results.

Our watchword is a "Passion for Salmon". Everyone at SalMar knows full well what that means. We are passionate about what we do, about our salmon, about SalMar and for a sustainable future. It is our zeal, engagement and shared focus on continuous improvement that will ensure our future development and results.

We aim to be the "world's best aquaculture company". To realise this ambition, everyone who works at SalMar must come to work every day with a desire to do things better than they did them yesterday. We will be on the front foot every day, know where we stand and where we are going. Only then will we be in a position to work systematically for continuous improvement. One part of it is to show transparency in how we work on sustainability and performance. This report shows the status of many selected indicators and I hope you find it informative.

Being the world's best aquaculture company is an ambition not easily achieved. But we have what it takes. SalMar has an organisation, a position and a corporate culture that makes me confident that we will stretch and grow to reach new heights. It will be challenging, but at SalMar, are we nevertheless determined that this is exactly what we plan to do.

Konsernsjef
Olav-Andreas Ervik

3. Sustainability in everything we do

Although Salmon farming is one of the most sustainable and environment-friendly ways of producing food, the process poses a number of environmental challenges. The Group focuses on resolving those challenges through continuous development of its operations and investment in new technology.

SalMar will safeguard its long-term profitability and growth through sustainable fish farming and industrial operations, and by acting as a responsible corporate citizen. For SalMar, sustainability is about maintaining high ethical and business standards, and contributing to a greater awareness of the environment in which we operate day to day. We protect the environment and ensure that it is managed in a way that benefits future generations.

Core businesses and segments

SalMar's core business is the farming, processing and sale of Atlantic salmon. The Group's activities extend along the entire value chain from broodfish and the production of roe, to the freshwater and marine phases, harvesting, processing, sale and distribution. SalMar has been growing since its foundation in 1991. In 2017 it produced 135,200 tonnes of salmon in Norway, the equivalent of around 1.9 million nutritious and delicious dinner portions per day.

The salmon are raised in clean water and under controlled conditions at fish farms in Møre & Romsdal, Trøndelag, Troms and Finnmark. The Group has harvesting and processing facilities in Frøya (InnovaMar) and Aukra (Vikenco AS). In all, the Group has a presence in 35 municipalities in Norway.

ABC OF FISH FARMING

EGGS/FRY

SMOLT

GROWTH

TRACEABLE SUPPLY CHAIN

HARVESTING

SALES

MARKET

BROODSTOCK

The broodstock are the parent fish which provide the eggs and sperm (milt) required to produce new generations. The fertilised eggs take 60 days to hatch when placed in an incubator kept at eight degrees Celsius.

EYED SALMON EGGS

After 25-30 days in the incubator the eggs have developed to the stage where the eyes of the salmon are clearly visible as two black dots inside the egg.

FRY

The egg hatches when the eggshell cracks open, liberating the baby fish (fry) inside. When it hatches the fry is attached to a yolk sac, which provides it with the sustenance it needs during its first few weeks of life. From now on the fish's growth and development will all depend on temperature.

INITIAL FEEDING

When most of the yolk sac has been absorbed, the fry can be moved from the incubator into a fish tank. They are now ready for initial feeding. The water temperature is kept at 10-14 degrees Celsius, and the fry are exposed to dim lighting 24 hours a day. The initial feeding period lasts for six weeks. As they grow the fry are sorted and moved to larger tanks. Well ahead of their "smoltification" all the fish are vaccinated before being shipped by wellboat to the fish farm's marine net-pense.

SMOLTIFICATION

The process whereby the juvenile fish transition from a life in freshwater to a sea-going existence is called smoltifi cation. During this process the fish develop a silver sheen to their bellies, while their backs turn a blue-green colour. Their gills also change when the juvenile fish turns into a smolt.

ON-GROWING

The farming of fish for human consumption takes place in net-pens, large enclosed nets suspended in the sea by flotation devices. In addition to a solid anchorage, net-pens require regular cleaning and adequate measures to prevent the farmed fish from escaping. Growth in the net-pens is affected by feeding, light and water quality. Here too the fish are sorted as they develop and grow.

HARVESTING & PROCESSING

A year after transfer to the marine net-pens, the first fish are ready for harvesting. The fish are transported live by wellboat to the processing plant. There the fish are kept in holding pens, before being carefully transferred to the plant itself. The fish are killed and bled out using high tech equipment, and always in accordance with applicable public regulations. After harvesting the salmon is subject to various degrees of processing.

SALES

The fish is sold either as whole gutted salmon (fresh or frozen), fillets, in individual portions or a wide range of other products, which are distributed to markets around the world.

Bringing the salmon back to the sea!

On 28 February 2016 the Norwegian Directorate of Fisheries awarded the first eight development licences to Ocean Farming AS, a part of the SalMar Group. This is a full-scale pilot project, in which SalMar is collaborating with other organisations within the aquaculture and offshore industries. The development licences have been granted for a period of seven years, but may be converted into ordinary production licences before that time if the objectives and the criteria stipulated by the Directorate of Fisheries have been met.

Under the designation Ocean Farm 1, the pilot facility arrived at its destination in Frohavet, off the coast of Trøndelag, on 5 September 2017. Installation of Ocean Farm 1 at the site and the initial transfer of fish has gone according to plan. The project has now entered a pilot operational phase. So far, the fish have performed well, with strong growth and low mortality. The first generation of fish to be raised at Ocean Farm 1 is expected to be harvested in the second half of 2018. If successful, the project offers considerable potential for the entire industry.

Employs leading-edge offshore technology

When developing the ocean farm's technical solutions, every fish farming process has been taken into account, and new approaches have been found for how the various operating procedures should be performed. In addition to complying with the aquaculture industry's own fabrication standards, the regulations and standards applicable in the offshore oil and gas sector have also influenced the installation's design. The pilot facility is generic in its configuration, which means that while individual installations may have the same overall design, they must be certified/adapted to the prevailing weather and environmental conditions at their selected new locations.

Ocean Farm 1 is a slack-anchored, semi-submersible, rigid structure, with a high degree of flotational stability. It is intended for offshore installation in water depths of 100 to 300 metres. All fish handling operations can be performed on board, without recourse to external service vessels or equipment. In addition, the facility is equipped with one moveable and two fixed bulkheads so that it can be divided into three separate compartments, enabling different fish-related operations to be performed. The installation is fully automated to eliminate heavy manual operations. Normally, a crew of 3-4 people will operate and monitor the facility. Risk analyses show that the potential for fish escapes is very low.

Contributes to sustainable growth

For SalMar, sustainable growth in the aquaculture industry depends on its ability to make use of new locations that offer good biological conditions for the farming of fish stocks – typically areas that are less affected by tidal currents and where the direction of currents is more constant. The project's objective is to develop technologies that will make this possible. Feasibility studies started in 2012, and over the next three years various technical solutions were evaluated. This resulted in the design of a complete offshore fish farming installation. If successful, the initial, full-scale pilot facility could help to resolve the aquaculture industry's currently limited opportunities for further growth.

Equipped for R&D

The pilot installation has been equipped for the performance of R&D activities, with particular focus on biological conditions and fish welfare. In this way it will help to promote the further advancement of the aquaculture industry through applied research and development. SalMar has been allocated a site at Frohavet, off the coast of central Norway, for this project. The objective is that operational experience gained from this pilot facility will be fed back into commercial production of this type of offshore fish farming installation.

This is Ocean Farming

The company behind the new pilot installation, Ocean Farming AS, is a subsidiary of the SalMar Group. It was established to develop an offshore fish farming capability. Through the development and implementation of new technologies and the build-up of operational experience, Ocean Farming will acquire the specialist expertise needed for this next generation of fish farming facilities to achieve its potential. Ocean Farming has received grants from Innovation Norway to help fund the concept development phase.

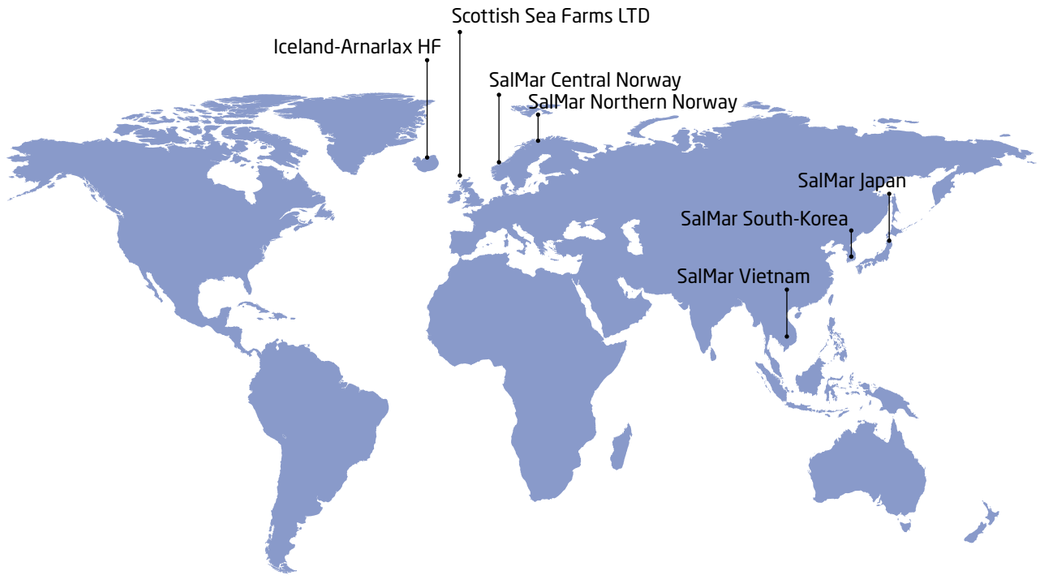
SalMar is one of the world's leading producers of Atlantic salmon and is integrated from broodstock, roe and smolt to value added products and sales. SalMar have significant farming operations in both Central and Northern Norway, as well as in Scotland through Scottish Sea Farms and in Iceland through Arnarlax Hf. SalMar also operate a comprehensive harvesting and VAP facility in Central Norway at the company's headquarter at InnovaMar on Frøya and on Vikenco at Aukra.

Learn more about SalMar at
www.salmar.no

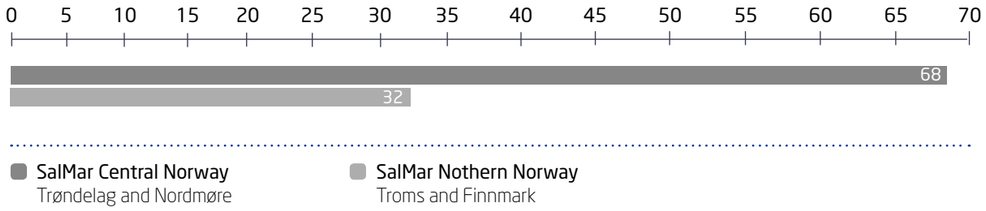
Financial **calendar 2018**

4th Quarter 2017 results:	15th February 2018
1st Quarter 2018 results:	15th May 2018
Annual General Meeting:	5th June 2018
2nd Quarter2018 results:	23th August 2018
3rd Quarter 2018 results:	8th November 2018

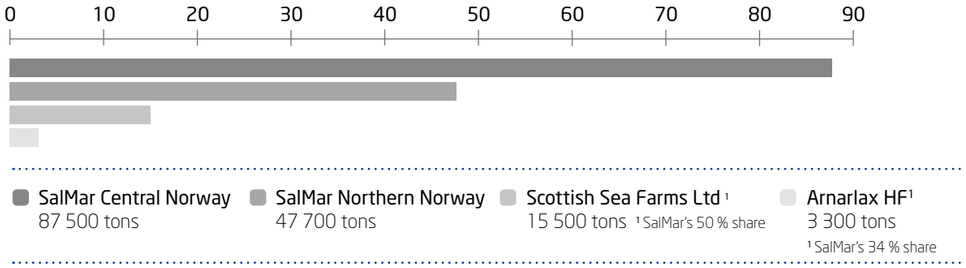
SalMar holds quarterly presentations open to the public. The presentations will take place at 08.00 CETat Hotel Continental in Stortingsgaten 24/26 in Oslo, Norway. The annual general meeting will be held at Frøya. Please note that the dates are subject to change. Changes will be communicated.



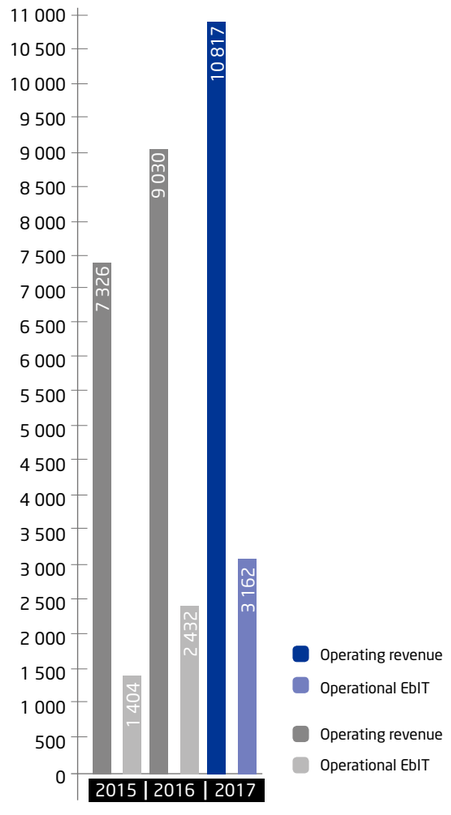
Geographical distribution of SalMar's 100 wholly owned licenses in Norway pr. 31.12.2017:



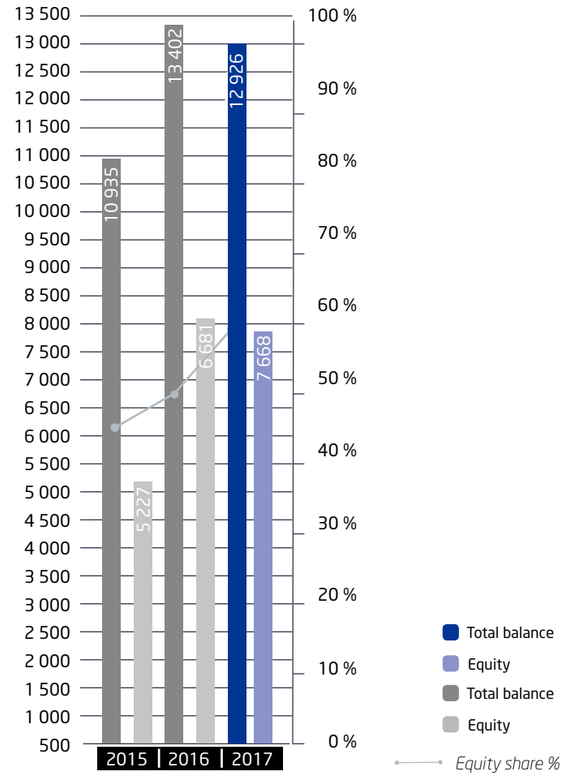
Harvest volume* 2017 by geography, gutted weight pr. 31.12.2017:
** gutted weight*



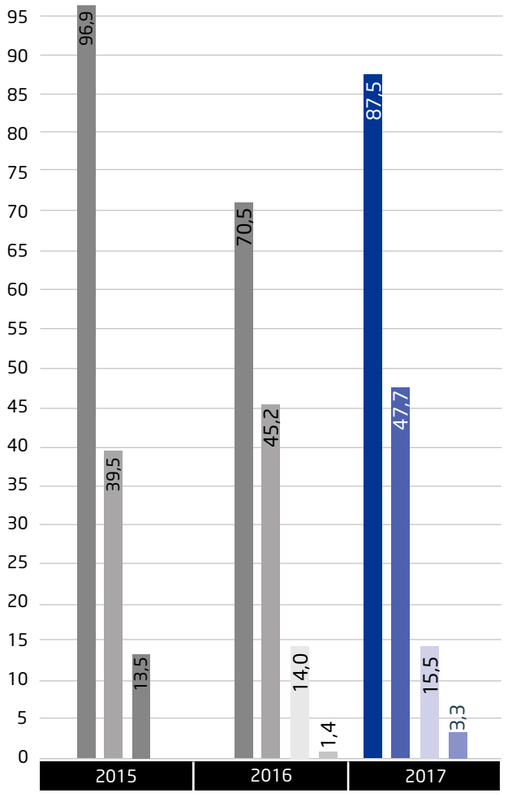
Operating revenue and **Operational EbIT**
NOK mill.



Balance sheet and **Equity**
NOK mill.



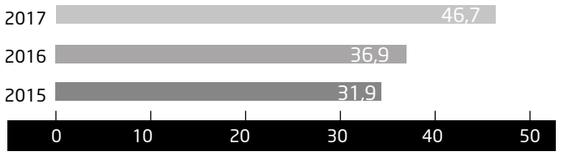
Harvest volume and value added products 2017



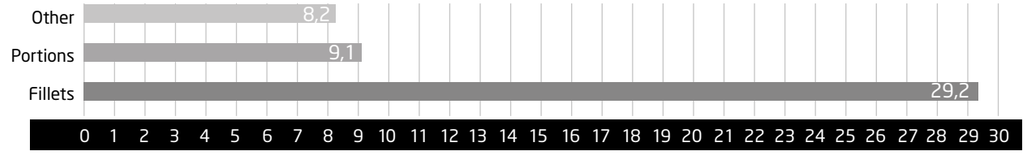
Harvest volume
1000 tons - gutted weight

SalMar Central Norway
SalMar Northern Norway
Arnarlax HF (34% share)
Scottish Sea Farms Ltd (50 % share)
SalMar Central Norway
SalMar Northern Norway
Arnarlax HF (34% share)
Scottish Sea Farms Ltd (50 % share)

Volume value added products
1000 tons – product weight



Value added products 2017
1000 tons – product weight



SalMar ASA

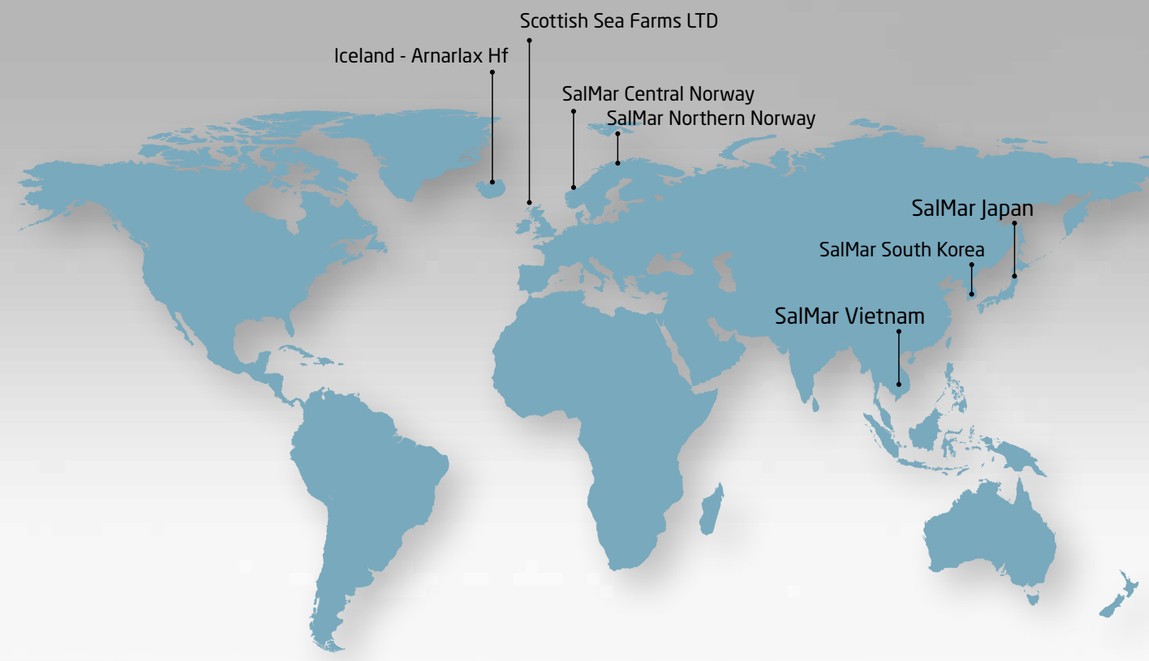
The salmon produced by SalMar is sold either through its own sales organisation or through close business associates. Systematic efforts in the area of traceability and control ensure that SalMar's salmon is of high quality in terms of both nutritional value and food safety. SalMar supplies a wide range of fresh and frozen salmon products.

In 2017, the business was organised into three companies handling biological production and one company handling processing and sales. SalMar ASA is headquartered in Frøya, Trøndelag, Norway.

In 2017, SalMar sold directly to over 40 countries. SalMar's most important regional market in 2017 was Europe, with Poland, Lithuania and Sweden as the largest national markets. The second largest regional market was Asia, where Vietnam, South Korea and Japan were major national markets. Over the past two years, North America – particularly the USA – has also become an extremely important market for SalMar.

SalMar around the world

Direct sales to approx. 40 nations worldwide!



For more information about the different legal companies in SalMar ASA, se Annual report 2017.

Leadership of the sustainability effort

The Group's CEO is ultimately responsible for SalMar's environmental footprint and for its efforts to increase its sustainability. SalMar has dedicated quality departments, which monitor and assess the work being done within this area. However, the activity is coordinated by management teams within the segments Fish Farming, and Processing and Sales. Systematic risk assessments are carried out at the overarching level and in all departments to ensure that SalMar as a group is able to implement necessary precautionary measures. This also includes climate-related risk. Management of each -department is responsible for ensuring that monitoring activities are performed and reported, and the quality managers at the various companies follow up and support departmental and operative leaders in this area. Quality managers and other quality assurance staff take an active part in regular management meetings at all levels in the company. Quality, safety, fish welfare and the environment are regular issues discussed
at these meetings.

Environment and climate policy

SalMar works systematically to implement initiatives to support the UN's goals for sustainable development. In 2018, the company will adopt a detailed sustainability strategy, giving priority to those areas in which SalMar can make a difference.

SalMar's facilities are situated in rural areas along Norway's coast, with clean water and good natural conditions for the salmon. Large and small coastal communities are important bases for SalMar's workforce and operations. The Group is conscious of the benefits it derives from the communities and environment along the coast. This recognition underpins SalMar's systematic efforts to fulfil its responsibilities as an employer, producer, supplier of healthy food, user of the natural environment and administrator of financial and intellectual capital.

SalMar takes a holistic view of its fish farming operations, and the organisation strives to be energy efficient and implement climate-friendly solutions. SalMar is the world's largest producer of organic salmon, but its conventionally farmed salmon is also produced in accordance with strict health, safety and environmental standards.

CDP reporting

SalMar is working systematically to minimise its carbon footprint. Each year, it produces an environmental balance sheet, showing the changes in its operations' impact on the environment. Carbon Disclosure Platform (CDP) has become the leading international system for climate and environmental reporting, encompassing strategy, climate and energy performance, initiatives and improvements. SalMar will also report to CDP for the year 2017. The company is in the process of setting more specific long-term climate goals.

Focus areas and targets

For SalMar, it is important to focus on the operational areas with the greatest potential for environmental impact. The potential for increased sustainability is greatest within the following parts of the value chain:

1. *Safety in the workplace*
2. *Preventing the escape of fish / limiting the number of escaped fish*
3. *Good fish welfare*
4. *Sustainable feed*
5. *Minimal emissions and good environmental conditions beneath and around the facilities*
6. *Food safety*
7. *Increased level of processing*

The table below shows all the aspects we have identified as having the highest level of materiality and have reported on in the period 2015-2017.

MATERIAL ASPECT	INDICATORS
• Safe food • Good fish welfare • Sustainable feed	• Compliance with product, health and safety regulations • Survival • Medication (antibiotics) • Lice numbers • Raw materials (FFDR, proportion of marine raw materials, etc)
• Impact on the external environment	• No. of escaped fish • Site environment (MOM-B status) • Raw material ingredients • Interaction with wildlife • Lice numbers
• Impact on the external environment • Workplace safety • Interaction with the local community • Human rights	• Fatalities, personal injuries, sickness absence • Compliance with social welfare regulations • Engagment in the local community • Financial value generated
• Increased level of processing • Certification schemes • Regulatory compliance	• Volume of goods processed • Overview of certifications • Incidence of corrupt practices • Compliance with environmental regulations
• Climate-related emissions	• Greenhouse gas emissions • Energy consumption • Energy conservation measures

To contribute to the development of a healthy corporate culture and maintain the company's integrity, the board has drawn up a code of conduct. All employees have been made aware of SalMar's ethical and social responsibility guidelines, which are the subject of discussion at annual seminars at the SalMar School. The code of conduct details SalMar's attitude to business ethics and corruption, the working environment and community relations. Routines for the notification of wrongdoing are highlighted during internal training sessions. A high ethical standard in all aspects of the business is non-negotiable, and forms the very foundation for SalMar's entire HSE strategy. SalMar's tenets describe the behaviours and actions required of all employees. At any given time, the SalMar culture is embodied and shaped by its employees. Their good attitudes and actions have always made a significant contribution to SalMar's success. The company's code of conduct and tenets can be found on SalMar's website: www.salmar.no.

The SalMar Standard

Stable environmental conditions are crucial to the health and welfare of the salmon being farmed. To protect the environment and facilitate long-term operations, extensive monitoring and R&D activities are undertaken. Every part of the operation is risk assessed in terms of sustainability, and appropriate measures are set out in procedures and instructions. To monitor compliance with the guidelines that have been drawn up for sound operations, measurements are taken and internal audits performed. SalMar has developed its own standard for best practice. *The SalMar Standard* sets the bar high, and the number of sites which meet it is -published in monthly KPIs.

Dialogue with stakeholders

SalMar has a number of different stakeholders, and is keen to maintain a good dialogue with all of them, for example, through face-to-face meetings, the media, annual reports, stock market notices, sustainability reports, adverts, R&D projects and our website www.salmar.no. Dialogue with stakeholders takes place both locally and at the corporate level. Understanding that we can only succeed if we work together and treat each other with candour and respect is an explicit part of

SalMar's principles for all dialogue.

The stakeholders to be included in SalMar's future sustainability reporting efforts are determined by the extent of their influence over the organisation. We aim to engage our stakeholders in an effective manner, while ensuring that they experience their contact with SalMar as providing added

value. Important steps in the process include winning acceptance for the issues selected, illuminating different perspectives with regard to impact, identifying challenges, accumulating external impressions and sharing knowledge.

The identification of stakeholders with whom SalMar will engage in dialogue results from several processes:

- Public authorities which administer the public interest in the area and grant licences to operate.
- Selection and approval of suppliers and engagement in R&D is determined by management teams in the various parts of the company.
- Identification of the NGOs with which SalMar will have direct contact is determined by Group Management.

The table below shows the various stakeholder groups that are included in SalMar's analyses.

Table 2: SalMar's stakeholders

SalMar's stakeholders			
Internal influence	Business associates	Customer groups	External influence
Employees	Suppliers of goods	Customers in Norway	Central government/regulatory authorities
Shareholders/investors	Suppliers of services	Customers abroad	Certification bodies
Group management	R&D partners	Customers organic products	Industry associations
		Customers with own standards	Local authorities (councils)
			Groups of local residents
			NGOs
			Research establishments

4. We care

Caring about our co-workers, business partners and local communities is one of SalMar's core values. SalMar employees shall show they care, and their actions shall be rooted in a sense of responsibility, consideration and a desire to do their best. That we care has a positive impact on our biological and financial key figures, our HSE performance and our relations with the rest of society. In this chapter we present the sustainability targets that cover the workforce and society. In addition, we present results associated with business ethics.

The workforce

In 2017, SalMar employed a total of 1,427 full-time equivalents, of whom 1,195 were permanent employees. This is 60 full-time equivalents more than in 2016. Women made up 25.3 per cent of the permanent workforce. The percentage of women is considerably higher at the Group's harvesting and processing facilities than at its hatcheries and fish farms. SalMar's workforce is made up of people from around 25 different countries. To ensure good integration and a shared platform for communication, the working language is Norwegian. English is used until the individual employee has a good command of Norwegian, and no one without adequate English is taken on.

In its code of conduct, the Group's policy with respect to the promotion of diversity and equality is clearly stated. SalMar accepts no discrimination of employees, shareholders, board members, customers or suppliers on the basis of ethnicity, nationality, age, gender or religion. Respect for the individual is the cornerstone of the company's policy. Everyone shall be treated with dignity and respect, and shall not be unfairly prevented from carrying out their duties and responsibilities. This attitude springs from acknowledgement that a relatively even gender balance and ethnic diversity contributes to a better working environment, greater adaptability and better results in the long term.

Two employee representatives sit on SalMar's board of directors. Further information about the board's membership may be found in the annual report.

Safety at work

Working at SalMar shall be safe. The company works systematically with risk management and training to protect its workforce. Nevertheless, the company experienced some serious incidents involving staff in 2017. A total of 24 lost time injuries (LTIs) were recorded in 2017. This is a slight decrease from the year before. There were 26 LTIs in 2016. The same positive trend can be seen in the H-figures (H1 = LTIs per million hours worked), which fell from 12.6 at the close of 2016 to 11.0 in 2017.

Continued focus on our internal industrial safety capability is important to reduce the number of personal injuries in 2018. All parts of the Group have an industrial safety representative, and two industrial safety inspections are carried out in each department every year. A total of 116 safety inspections were carried out throughout the Group in 2017. These have uncovered important areas for improvement to further reinforce workplace safety.

In close collaboration with external specialists (DNV), we developed and held training courses for our industrial safety representatives (so-called 40-hour courses) in 2017. This has boosted the quality of the training they receive and ensures the same good, company-specific training for all industrial safety representatives, irrespective of their position in the organisation or geographic location.

All serious accidents are investigated to prevent similar incidents occurring in the future. In collaboration with DNV, our central technical staff department have developed company-specific tools to enable it to investigate such incidents. Nevertheless, prevention remains the most important factor. At SalMar, we place great emphasis on ensuring that hazardous operations are well planned. Operational plans are drawn up before any work commences, and associated safe work analyses (SWA) are performed for those taking part. The focus on mapping of our overall risk picture is the most effective measure we can implement to reduce the probability of personal injuries occurring. In 2017, we worked systematically on risk assessments, and tools for risk planning, evaluation and assessment are now used systematically by the vast majority of the organisation. This work will continue in 2018 and will be completed for all levels and areas. Day to day, internal procedures, instructions and checklists are all drawn up on the basis the risk analyses performed.

HSE performance is followed up systematically through targets and action plans. On the basis of overarching targets, each individual division and department has defined its own local subtargets. Management has an obligation to monitor performance and evaluate progress, as well as the need for new measures and focus areas. All employees are covered by a company health service in the vicinity of their workplace. The Group ensures that everyone receives the training necessary to perform their tasks.

The Working Environment Committee also plays a key role in our HSE activities. The committee comprises selected representatives of management and nominated employees. The three elected industrial safety representatives from farming, processing and administration participate and represent all employees. The committee reports to the Group's governing bodies and the employees' trades union organisations.

	TARGET 2018	2017	2016	2015
No. of employees (full-time equivalents)	-	1 427	1 357	1301
Fatalities	0	0	0	0
Lost-time injuries (LTI)	0	24	26	45
H1 – No. of LTIs per million hours worked		11.0	12.6	21.8
Sickness absence (%)	< 4.5	4.8	5.2	7.5

Sickness absence
Sickness absence continued to be a key priority in 2017, as a result of which the goal of cutting the sickness absence rate to less than 5 per cent was achieved. The overall sickness absence rate came to 4.8 per cent in 2017, compared with 5.2 per cent in 2016. Short-term sickness absence rose slightly from 1.9 per cent in 2016 to 2 per cent in 2017. A high percentage of SalMar's workforce are engaged in industrial processing operations, and this segment pulls up the sickness absence figures. Nevertheless, the largest reduction in sickness absence in 2017 was achieved in the processing segment.

Training and arenas for development
New recruits to SalMar receive HSE training through induction courses, operational seminars and the SalMar School. All employees shall have received training in how to report wrongdoing or causes for concern within the company, and shall know that they are safe from reprisal if they do so. The procedure for reporting concerns is described in the management system, which is available to all employees.

The SalMar School is our arena for developing individual competence and our corporate culture. We discuss operational issues and hold seminars for all employees to create the world's best aquaculture company. In 2017, we continued to focus on dedicated arenas for leadership development through a series of management development programmes. Underpinning all our activities in this area, are our shared management principles and tenets – which enable us to develop even more SalMarites.

The level of risk associated with the work being performed every single day at SalMar means that training and having the right competence is vital. Training is provided internally and in the form of external courses. Day-to-day follow-up and on-the-job learning are, nevertheless, the most important sources for individual growth.

In 2017, we have worked on the systematisation of our competence. A separate module in our quality system has been developed, which keeps track of the various roles' training requirements and provides an overview of content and status. This has been implemented in our platform for corporate governance (called EQS) so managers always have an up-to-date overview of their specific areas. This has now become an essential tool in the ongoing management of the company and constitutes a good tool for monitoring and managing risk.

Employee empowerment
If SalMar is going to develop and constantly forge ahead, it is vital that all employees contribute their views and suggestions for new ways of doing things. To facilitate this, the various departments hold regular planning and review meetings. Large parts of the Group make use of a scheduled meeting scheme, which focuses on individual action plans and close follow-up of the individual employee.

Society
SalMar endorses wholeheartedly the principles set out in the Universal Declaration of Human Rights. Those aspects which relate to our operations, eg protection against discrimination and the right to form a trade union, are included in the Group's code of conduct and several other governing documents.

SalMar has a presence in local communities up and down the Norwegian coast, and is attentive to developments in villages and local districts. At the close of 2017, we had operations in 35 different municipalities. It is important for our employees that the local communities in which they live have the necessary infrastructures and opportunities for leisure activities. For SalMar, it is crucial that the Group is able to operate at locations offering good growing conditions for our fish stocks. SalMar is actively engaged in numerous local projects. It is also important for SalMar to participate in local arenas for the exchange of views and information, and to take part in planning processes. Salmon farming is still considered a 'young' industry, and it is important to ensure that local decision-makers and other local residents are informed about our operations and plans for development. Through active participation in business associations and the public debate, SalMar contributes to important sustainable development processes in Norway.

SalMar is conscious of its role in contributing to the training of skilled workers. SalMar companies therefore had a total of 33 apprentices on the payroll in 2017. We collaborate with the "blue" vocational and academic courses at both upper secondary schools and university colleges, including those provided under the auspices of the organisations Ungt Entreprenørskap and Blått Kompetansesenter, among others.

Establishment of the SalMar Salmon Centre
In the autumn of 2017, a new aquaculture experience centre, the SalMar Salmon Centre, opened in Finnsnes/Lysnes. SalMar wishes to increase the public's knowledge about the aquaculture industry, and the centre's target audience comprises local people, tourists, schoolchildren and members of the business community. Through a series of exciting experiences on land and at sea, the public will get an insight into a modern and sustainable industry. A visit to the SalMar Salmon Centre includes an interactive exhibition about fish farming in Norway, and visitors will see the high-tech solutions used to remotely feed the fish. They will also have the chance to take a trip out to one of the sea-going net pens, so they can see with their own eyes how the fish live. In addition, the centre features an ultra-modern kitchen with room for 24 participants. Here, visitors can learn how easy it is to prepare delicious salmon dishes.

Sponsorships and donations
To give something tangible back to the local communities in which the Group operates, SalMar supports a number of local clubs and voluntary associations through the SalMar Fund. On the whole, the fund gives priority to sporting and cultural initiatives, particularly those targeting children and young people.

Rosenborg partner
In 2013, SalMar became a sponsor of the football club Rosenborg Ballklubb (RBK). This partnership continued in 2017. In addition to profiling SalMar, the partnership includes a separate programme for children and teenagers, and the development of grassroots football clubs in Trøndelag. RBK has highlighted the partnership through the SalMar Sports Ground and the SalMar Academy. The objective is to help transfer competence from Rosenborg to grassroots clubs in Trøndelag County in the form of good training sessions to promote player and trainer development.

Business ethics, regulatory compliance and the reporting of wrongdoing
To date, SalMar has not received any reports of corruption or other violations of its code of conduct. Nor has any wrongdoing been reported internally.

Regulatory compliance
The aquaculture industry is strictly regulated and companies must comply with applicable laws and regulations. Here we report the number of regulatory violations that have resulted in fines (January to December). This includes all violations relating to products and food safety, environmental and social regulations that resulted in monetary fines.[1]

	Type of regulatory violation	NO. of violations	Fine (in NOK)
2017		0	0
2016		0	0

[1] *In accordance with the Global Salmon Initiative's methodology*

***SalMar Salmon Center** – a visit to the centre includes a interactive display about the norwegian aquaculture industry.*

5. The job we do today is vital to the success of us all

What counts is what the individual employee does today – every day. At SalMar we are very conscious that every action and every day is important, and that success depends on the individual and collective efforts of the entire workforce.

In this chapter we will present the day-to-day efforts being made to achieve the Group's sustainability targets for fish welfare and the external environment, and report on our current status.

Preventing the escape of fish

SalMar has a clear goal of zero escaped fish. Although there were no major incidents involving the escape of fish in 2017, seven episodes were recorded. In total, 1,950 individual fish escaped from the Group's fish farms. All the episodes occurred as a result of fish handling. Two episodes involved one fish, one episode involved three fish, one episode involved 5 fish, one episode involved 20 fish, one episode involved 1,901 fish, while one episode involved 20 lumpfish. These non-conformances have been dealt with internally and remedial measures implemented.

	TARGET 2018	2017	2016	2015
No. of escape incidents	0	7	6	2
No. of escaped fish	0	1,951*	5,859	2

* hereoff 20 lumpfish

Success in escape prevention efforts derives primarily from effective day-to-day operation of the sites. However, investments in R&D and more secure equipment have also played a part.

Our facilities have been upgraded and equipped to withstand the conditions prevailing at locations exposed to extreme weather conditions. The most important factor for preventing the escape of fish will, nevertheless, be the people performing their day-to-day tasks and handling the fish. For many years, competent co-workers have focused intently on preventing the escape of fish or at least keeping the number of escapees to a minimum. Daily inspections and checks of the facilities, as well as systematic follow-up of non-conformances and risk factors, are key elements in this effort. The careful planning of tasks and the sharing of information will also play an important role in maintaining this positive trend.

SalMar's Ocean Farm 1 facility, which has a rigid and escape-proof structure, is partly the result of the company's desire to lead the way in the development of tomorrow's fish farms.

Fish welfare

Fish health and fish welfare are two important focus areas at SalMar. SalMar's entire philosophy rests on the presumption that good health is a precondition for the salmon to thrive and achieve their maximum potential. This in turn is a precondition for achieving good financial results. In our view, the best indicator of fish welfare is the fishes' rate of survival from their transfer to the sea until harvesting (measured by generation). SalMar's target is for 95 per cent of the fish to survive this period. We are working systematically at the generational level and implement appropriate measures to reduce the mortality rate.

For annual reporting purposes, we use a 12-month rolling mortality rate. The table below shows the status from 2015 to 2017.

We know that smolt quality, infectious diseases and handling are the primary causes of mortality. In 2017, we made tangible progress in our efforts to improve smolt quality. We experienced issues with an infectious disease (Yersinia) that was not covered by our vaccination programme. However, effective vaccination against this disease was put in place during the year. We still need to work on ways of reducing mortality in connection with delousing.

	2017	2016	2015
12-month rolling mortality rate*	5,9%	5,4%	4,8%

** Calculated for the last 12 months as a percentage of the fish held in sea farms in the last month of the year (adjusted for harvest and mortality), in accordance with the Global Salmon Initiatives methodology*

Antibiotics

Use of antibiotics is a growing problem worldwide. To prevent the development of resistance it is important that all food producers do what they can to keep the use of antibiotics as low as possible. The Norwegian monitoring programme for antibiotic resistance (NORM-VET 2016) concludes once again that the use of antibiotics in the production of Norwegian salmon is extremely low. Indeed, it is far lower than for all other farmed livestock. Antibiotics were used at SalMar's Norwegian facilities on a few occasions to maintain fish health and comply with the provisions of the Norwegian Animal Welfare Act. This was made up of one treatment for broodfish and treatment at one of our smolt sites. Total use of antibiotics was 100,5 kg in 2017. This shows that the very low use of antibiotics continues (see table below). In addition, 2.1 kg of antibiotics was administered to lumpfish held in a dedicated production facility, due to bacterial infections. We are now working with a pharmaceuticals producer on the development of vaccines tailored to this species.

Use of antibiotics (g active ingredient) per tonne biomass produced (LWE) in 2015-2017 (incl. broodfish)

	2017	2016	2015
g active ingredient (API)/ tonne of biomasse produced (LWE)	0.61	0.21	0.17

Important steps to keep down the use of antibiotics include the vaccination of fish, ensuring good day-to-day fish welfare and upholding the zoning boundaries between generations of fish. Fig. 1 shows the sharp reduction in the use of active ingredients, as well as the growth in the volume of farmed salmon in Norway from 1981 until 2016.

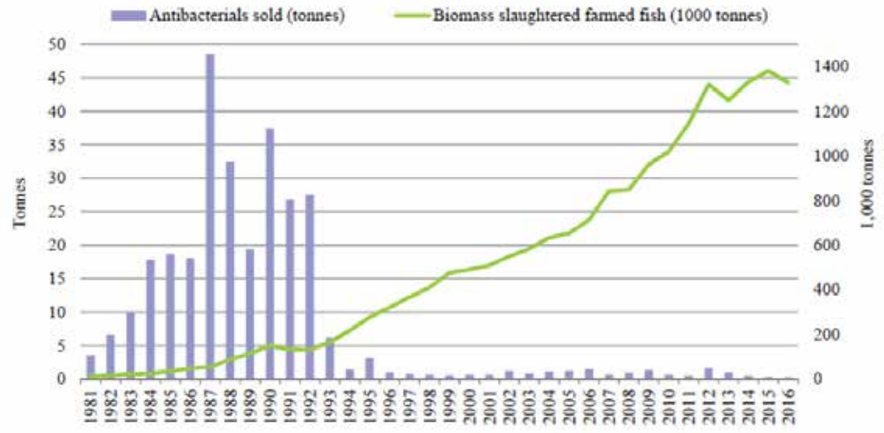


Fig. 1: Total sales (kg) of active antibacterial agents for farmed fish in Norway in the period 1981-2016 compared with the biomass produced (harvested) in the same period. (NORM/NORM-VET 2016)

Sea lice and delousing

In 2017, SalMar worked hard to keep lice numbers under control at our facilities and we experienced a far lower level of average lice infestation compared with 2016 (see fig. 3). This applies particularly to the Fish Farming Central Norway segment, where the problem was most serious in 2016. The downward trend appears to have continued into 2018. We have therefore achieved compliance with the regulations and are in a good position to implement further improvements. Our success can be attributed primarily to our considerable emphasis on preventive measures, including lice skirts, continued in-house production of lumpfish and use of non-medicinal delousing methods (IMM). We have established a substantial IMM capacity, allowing us to cut our use of medication considerably. The number of net-pen treatments using medication was reduced by 54 per cent from 2016 to 2017. The Central Norway segment used only IMM methods and did not carry out a single medicinal bath treatment. The trend continues in 2018. SalMar has not used feed-based chitin synthesis inhibitors in its efforts to combat sea lice in 2016 or 2017, in line with the Group's strategy regarding this product group.

SalMar participated in the development of "zero emission treatments" in 2017, and the results are promising. This means the application of medicinal bath treatments in a closed unit with no emissions to the surrounding environment of any kind.

As a consequence of increased handling in connection with the fight against sea lice, we experienced a higher mortality rate. This is a major focus of attention for us. The main strategy is to reduce the number of treatments through preventive measures, such as lice skirts, reduced cycle time and fallowing. The elimination of lice by means of in-house produced cleaner fish (lumpfish/ballan wrasse) is also an important weapon in our anti-lice armoury.

We are also working on tangible improvements in our technical equipment, to make its use less harsh and ensure better fish welfare. At the same time, we are working to develop effective tools (indicators) that can help us better predict the status of the fish's welfare.

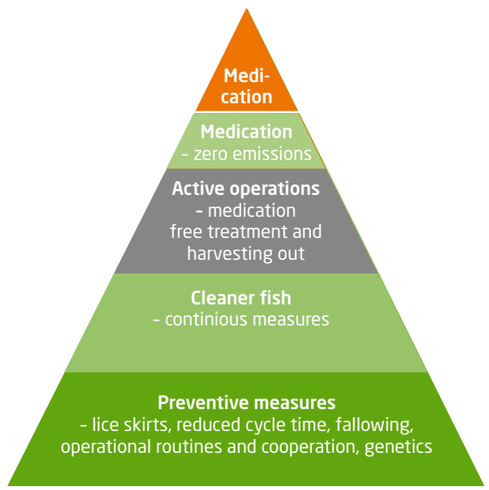


Fig. 2: Visualisation of the strategy to combat sea lice

Average no. of adult female lice per month

Fig. 3: Average no. of adult female lice per month at SalMar (ex. broodfish)

The maximum permitted number of lice is specified in each operating licence. As a rule, the limit is 0.5 adult female lice per fish. However, for certain types of licence and in certain areas the limit is set at 0.2 adult female lice per fish. Every fish farming operation reports its lice count to the authorities weekly, using the Altinn online interface.

Green licences

Following the Norwegian authorities' 2013/2014 round of licence allocations and at the close of 2017, SalMar had a total of 16 'green' licences. Eight of these are purchased 'Green-B' licences and eight are 'Green Converted' licences. The terms of the green licences set stricter limitations on the number of salmon lice and the number of medicinal delousing treatments, as well as a stronger focus on escape prevention. In connection with its green licences, SalMar has focused particularly on the use of cleaner fish, in the form of farmed lumpfish, to control sea lice levels, and the use of a more secure net-pen construction. We have also emphasised participation in a salmon surveillance project in Trøndelag's salmon rivers, in order to assist in the development of methods and expertise related to the tracking and mapping of escaped farmed salmon in rivers. So far, experience from the operation of these sites has been good. The technical equipment selected works in accordance with expectations with respect to escape prevention, and the focus in 2017 has been to optimise the use of lumpfish. A separate report has been published summarising SalMar's experience and evaluating the operation of its green licences.

Interaction with wildlife

Although SalMar places considerable emphasis on minimising its impact on wildlife, our presence does sometimes affect other animals. Here we report on the number of birds and marine mammals that have died as a consequence of our activities.

*Total no. of interactions divided by the total no. of sites from January to December **

	BIRDS		MARINE MAMMALS	
	Accidental mortalities	Intentional mortalities	Accidentall mortalities	Intentional mortalities
2017	0,43	0	0	0
2016	0,34	0	0	0

**Calculated in accordance with the Global Salmon Initiative's methodology*

Effective feed utilisation

Second only to the fish themselves, feed is the most important input factor in the production of farmed salmon. The nutritional value, consistency and taste of the feed are important. Equally important, however, is correct dosing to ensure that the feed is utilised as effectively as possible and keeps the fish healthy. SalMar has focused heavily on competence development and specialisation for those responsible for feeding the fish. In 2017, the SalMar Feed School held a series of seminars specifically for the staff who feed the fish. Further skills development and dissemination of best practices within the company is the objective.

Feeding is monitored using underwater CCTV cameras, and is adapted to the fish in each net pen. The benefits of correct feeding include optimal growth, a low feed factor, reduced emissions, fish that thrive and have a greater resistance to disease, low mortality, smaller variations in fish size, less harvesting waste and higher quality fish flesh. The equipment and the feed must be appropriate, but the competence that has been built up in SalMar with regard to feed and feeding is a significant factor for the achievement of good results.

Systematic monitoring of the feed's chemical, physical and biological quality

SalMar uses an all-round feed that optimises production and promotes good fish health. In other words, a high-value salmon feed that ensures good growth, a low feed factor and meets the fishes' nutritional needs. In 2017, almost 180,000 tonnes of dry feed pellets were used in SalMar's salmon farming operations. In addition, a modest volume of feed was used for the company's own production of lumpfish.

The biological value of the feedstuffs used in the hatcheries and marine-phase fish farms was verified through their fat, protein, phosphorous and fibre content. SalMar performs routine controls on the feeds' physical quality on receipt to identify non-conformances (dust & crumbs, floatability and oil ooze), and measurements indicate a stable level of dust and crumbs at less than 0.5 per cent in recent years. This shows that emissions caused by dust and crumbs are minimal.

Sustainable feed

The feed is formulated to meet the salmon's nutritional requirements, and raw materials are combined to achieve an optimal solution for fish health, effective growth, sustainability and price. No genetically modified raw materials are used in the feed, nor have any genetically modified raw materials been found in feed used by farmed salmon in Norway.

Use of marine raw materials in the feed

The Norwegian aquaculture industry uses fish meals and fish oils only from lawful and regulated fisheries. Today, the proportion of marine products in the feed stands at approx. 20-33 per cent. SalMar requires all its feed suppliers to buy marine raw materials that comply with the International Fish Meal and Fish Oil Responsible Supply Standard (IFFO RS)[2], are MSC-certified[3] or equivalent. This is to ensure the sustainability of the fisheries from which the ingredients derive. For 2017, 98 per cent of the marine raw materials used by our main feed suppliers were certified in accordance with the IFFO RS standard.

Low dependence on wild fish stocks

As a measure of feed sustainability, we have elected to present here the Fish Forage Dependency Ratio (FFDR). This quantifies our dependence on wild fish stocks as raw materials in our feed. This is done by assessing the volume of live fish from small pelagic fisheries that is required to make the amount of fish meal or fish oil needed to produce one unit of farmed salmon. The lower the FFDR we can achieve, the more salmon we can produce on the basis of a globally limited supply of marine raw materials. In addition, we continuously monitor and measure the feed factor (the amount of feed required to produce 1 kg of fish).

According to the ASC standard, feed is deemed to be sustainable if its FFDR (fish meal) is <1.2 and its FFDR (fish oil) is <2.25. In 2017, SalMar achieved an FFDR (fish meal) of 0.59 and an FFDR (fish oil) of 1.60, both these values are far below the ceiling specified in the ASC standard.

Fish Forage Dependency Ratio	**2017**	2016
FFDR (fishmeal) kg per kg salmon prod.	0,59	0,5
FFDR (fish oil) kg per kg salmon prod.	1,60	2,07

[4] Calculated in accordance with the ASC standard and using underlying figures from Skretting and EWOS.

In 2017, the largest sources of marine raw materials in the feed were blue whiting, bony fish, herring and whitefish offcuts. Overall, by-products (offcuts and trimmings) accounted for 30 per cent and 35 per cent, respectively, of the raw materials used by our two largest feed suppliers. This proportion has risen sharply in recent years. The feed companies' own sustainability reports document this in further detail.

Use of soya in the feed

Vegetable raw materials have become an important ingredient in fish feed. Vegetable-based proteins currently make up 35-45 per cent of the feed. At SalMar, we require our feed suppliers to purchase soya from sustainable sources that are certified in accordance with ProTerra, RTRS or equivalent environmental standard. This means that the soya is not farmed in areas threatened with deforestation, and has not been genetically modified. The Norwegian aquaculture industry currently purchases approx. 0.3 per cent of the world's soya production. To promote the sustainable farming of soya, SalMar's main feed suppliers in 2017, Skretting and EWOS, used only ProTerra-certified soya – the strictest certification scheme. In addition, they participate in several sustainability partnerships, including the Round Table on Responsible Soy, the ProTerra Network, the Roundtable on Sustainable Palm Oil, the Aquaculture Stewardship Council, IFFO's Responsible Supply Standard and the Global Salmon Initiative.

Emissions

Emissions of nutrient salts

The seabed beneath all sites is inspected regularly to see whether/to what extent the surroundings have been affected by our operations. This is done through MOM-samples[4] (Modelling – On-growing Fish Farms – Monitoring). In addition, monitoring of the feed's digestibility helps to indicate the scale of nutrient salt emissions from a particular site. In 2017, 82 per cent of our operational sites achieved a score of ≤ 2 in connection with MOM-B sampling undertaken during maximum production (89 per cent in 2016 and 80 per cent in 2015). This percentage relates to sites where conditions were designated "very good" or "good". Since we take account only of samples taken at maximum production, there will be some variation from year to year. We are working continuously to find the optimal locations for our farms, such that we can realise our objective of having all our operational sites with a MOM-B score of < 2. In 2017, we had several farm relocation processes underway. However, this is a challenging undertaking, and takes some time to achieve, since we are dependent on new locations being allocated and cleared. All sites had a satisfactory MOM-B score before the release of new fish stocks.

Together with the Norwegian Seafood Federation (Sjømat Norge), other fish farmers and research institutions, SalMar monitors large areas to see whether fish farming operations are having a regional impact. See chapter 7 *What we do today we do better than yesterday* for further details. The Institute of Marine Research's latest Risk Assessment of Norwegian Aquaculture (2017) states that emissions of nutrient salts create no risk of eutrophication along the Norwegian coast, although this may be an issue in certain sheltered areas. SalMar's facilities are not located in sheltered areas, but are largely sited in localities with extremely good water flow. The choice of location is the outcome of a thorough process, including checks that it does not conflict with protected areas or the interests of other stakeholders, etc.

Greenhouse gas emissions

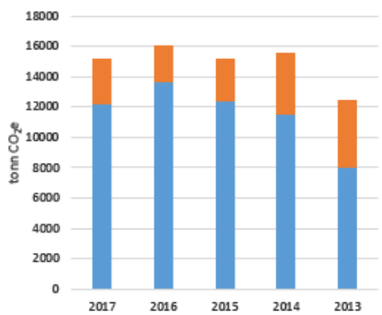
A lifecycle study performed by Sintef Fiskeri og Havbruk and SIK (Institutet för Livsmedel och Bioteknik i Sverige), shows that salmon production is considerably more climate-friendly than the production of beef and pork. Among other things, the study shows that the production of 1kg of farmed salmon generates half as many carbon-equivalent emissions as the production of 1kg of pork, and around one-seventh of the amount generated by the production of 1kg of beef.[5]

2013 has been chosen as the starting point for future efforts to monitor and reduce the impact on the climate of SalMar's operations. Changes in recent years have included the construction and start-up of a new factory in Frøya, and the aquisitionstart up of numerous undertakings.These changes are presented in the annual reports for the years in which they took place.

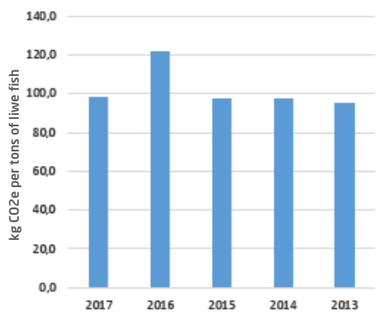
The climate balance sheet presents a general overview of the company's greenhouse gas emissions, translated into carbon equivalents (CO2e), and is based on reported data from internal and external systems. SalMar's energy and climate balance sheet has been drawn up by the company CO2focus AS, and the analysis is based on the recognised international GHG protocol[6].The emissions included are those over which SalMar has operational control and can implement measures to influence future emissions.The industry's largest source of emissions is the production of feed, in which respect we refer to the feed producers' reported targets and results. Table 4 below shows SalMar's direct consumption of fossil fuel and electricity, as well as overall carbon emissions. From 2016 to 2017 we see a decrease in the overall carbon emission level (-5,3%). This is derived from a decrease in emission related to fuel for boats, while we experience an increase in use of electricity. This is caused by introduction of electricity replacing diesel at several farming sites.

SalMar used 4 799 637 liters of fossil fuel (182 TJ) and 126 050 MWh energy (454TJ) in 2017.

Annul emission



Annual emission per tons of fish



Indirecte (Scope 2) - Electrisity
Direct (Scope 1) - Fossil fuel

Fig. 4: Total annual CO2 equivalent emissions and CO2 equivalent emissions per tonne live weight 2013-2017 (Scope 1 and 2).

[2] The Marine Ingredients Organisation http://www.iffo.net/
[3] Marine Stewardship Council http://www.msc.org/

[4] MOM-B test complies with Norwegian Standard NS9410. We use active sites in 2016, where samples at max. production were taken.

[5] Source: Carbon footprint and energy use of Norwegian seafood products SFH80 A096068
[6] The Greenhouse Gas Protocol, A Corporate Accounting and Reporting Standard and ISO standard 14064-I

Table 4 Energy and climate balance sheet

		2017	2016	2015
Energiforbruk				
Direct (Scope1) – Fossil fuels	TJ	182	195	173
Indirect (Scope 2) - Energy	TJ	454*	154	159
Total energy consumption	TJ	636*	349	333
Greenhouse gas (GHG) emissions				
Direct (Scope 1) – Fossil fuels	tCO_2e	12,158	13, 621	12 350
Indirect (Scope 2) - Energy	tCO_2e	3,019	2, 399	2 835
Total carbon emissions (Scope 1 and 2)	tCO_2e	15,177	16, 020	15 185
Upstream activities Scope 3[7]	tCO_2e	21,173	12, 310	11 149
Intensity				
Energy intensity	GJ/tonne live fish	4.13	2,65	2,14
GHG emission intensity	$kgCO_2e$/ tonne live fish	99	122	98

** The increase from 2016 to 2017 is due to change in methodology (from 2017 the use of waste heat is included it was 245 TJ)*
[7] Includes upstream emissions from Scope 3 over which we have operational control, ie emissions deriving from the haulage of live fish and company staff's business travel.

SalMar has an agreement with its main provider of energy, which guarantees that 87 per cent of the energy delivered derives from renewable sources (electricity with green certificates or waste heat).

Waste and recycling

All SalMar departments have a waste-management plan, which stipulates the receiving facilities approved for various types of waste. Packaging and used fish farming equipment, such as collars, nets and mooring devices are delivered to undertakings that reuse the materials.

6. The job is not done until the person you are doing it for is satisfied

Salmon production is a collaborative process, in which the individual elements are mutually dependent and understanding the customer – whether internal or external – is vital. In this chapter we will focus on SalMar's suppliers, products and markets. Food safety and more processing are focus areas for sustainable development at SalMar. Both issues will be discussed in detail in this chapter.

The value chain

The farming of fish is the part of the value chain in which SalMar has the greatest impact on the environment. Our efforts with respect to the environment and sustainability will therefore be focused primarily on our biological production. SalMar produces its own roe and smolt, but was still obliged to buy in some of its fish stocks in 2017. In addition to a strong internal focus on sustainable production, we therefore make demands on our suppliers.

The most important input factor, in addition to roe and smolt, is the feed that the fish eat. Since the largest feed suppliers in 2017, Skretting and EWOS, both publish their own sustainability reports, please refer to these for further information. For SalMar, an extremely important sustainability issue relating to fish feed is digestibility and nutritional value. The composition of the feed must ensure the effective utilisation of the raw materials, good fish welfare, good fish growth and thereby a shortermarine-phase production time and minimal emissions. In addition, it must contain high levels of important amino-acids and other nutrients.

Other important suppliers of significance to SalMar's environmental footprint include producers of equipment, electrical power, chemicals and packaging, as well as maintenance, wellboat and fish-health service providers. Several of the suppliers in the above-mentioned categories participate in sustainability improvement projects along with SalMar.

Certification

Proximity to markets and customers is important for SalMar. Our customers are global, and include exporters and importers of various sizes, as well as major processing companies and supermarket chains. Through the sale of our products, the Group has contacts in numerous countries worldwide.

SalMar is certified in accordance with the following customer and third-party standards: Global G.A.P., Debio, ASC, Kosher, BRC, IFS, HACCP and MSC (for the sales segment). This involves regular dialogue with both the certifying bodies and customers. The requirements for and follow-up of these certifications comes in addition to follow-up by the regulatory and government authorities. In 2017, a total of 159 audits of SalMar's operations were carried out by third parties.

The table below shows an overview of the certifications SalMar has obtained.

Global GAP	Debio	ASC	Kosher	BRC	IFS	HACCP	MSC
WHOLE VALUE CHAIN			PROCESSING				SALES

Aquaculture Stewardship Council (ASC) Standard)

The Aquaculture Stewardship Council (ASC) is an independent, international non-profit organisation, which was founded in the Netherlands by WWF and IDH (Sustainable Trade Initiative). The ASC Standard was drawn up after several rounds of discussions called the "Aquaculture Dialogues". Representatives from several aquaculture and fish processing companies, suppliers, supermarket chains, independent organisations, government and regulatory institutions, and various research establishments from around the world took part in the discussions. These efforts laid the foundations for the creation of the world's strictest sustainability standard, which was published in June 2012.

At the close of 2017, SalMar had a total of 18 fish farms with ASC certification, and expects to certify one more at the start of 2018. This means we have access to ASC certified fish from a stable number of sites.

The mission of the ASC Standard is to bring aquaculture one step closer to the sustainable, environmentally and socially responsible production of salmon. This is achieved through effective market mechanisms that create value along the entire value chain. By choosing ASC-certified salmon, consumers can be assured that they are buying salmon from a responsible farmer.

With more than 400 auditing criteria within seven main categories, the ASC Standard is difficult to achieve. It demands substantial resources with respect to documentation and reporting, before, during and after certification. In the past year, SalMar underwent 19 ASC audits, including both first-time audits and annual follow-ups. In addition, SalMar has been certified in accordance with the ASC's Chain of Custody scheme. Openness regarding our performance is a key aspect of the standard. Further details can be found on our website www.salmar.no, and the ASC's website www.asc-aqua.org. With effect from June 2017, a new and stricter version of the ASC Standard came into effect. Subsequently performed audits show that we have taken further steps on the road to becoming one of the world's most sustainable food producers.

Products

Local processing enables SalMar to offer a wide range of first-class, fresh, frozen and organic salmon products.

Salmon and health

Norwegian salmon contains a number of nutrients which make it an important component of a balanced diet. Norwegian salmon is a healthy and tasty food. Salmon is safe to eat, and is one of our most analysed foodstuffs.

The World Health Organisation (WHO) has published a thorough report on both the risks and benefits of eating salmon. The report concludes that eating oily fish, like salmon, reduces the risk of cardiovascular disease. It is the products' fat composition, with a high content of the omega-3 fatty acids EPA and DHA, but also vitamin D, Selenium and easily digestible proteins, which contribute to this health benefit. The report warns of higher mortality rates if too little seafood is eaten. The biggest challenge with respect to seafood consumption remains the fact that people in general eat too little of the important nutrients provided by fish. One salmon meal a week (150g) has proved sufficient to cover the body's recommended intake of the healthy fatty acids EPA/DHA.

The Norwegian Scientific Committee for Food Safety (VKM) makes recommendations to the Norwegian Food Safety Authority. The VKM has concluded that it is well documented that oily fish protects against cardiovascular disease, and has a positive impact on the neural development of babies, both before and after birth. The positive effects of eating seafood far outweigh any potentially negative impact.

The Norwegian Directorate of Health issues dietary guidelines to the Norwegian population. Other countries have similar bodies that advise their citizens. The Norwegian Directorate of Health recommends a varied diet, and oily fish, such as salmon, is an important part of a varied and balanced diet.

Food safety

SalMar's production is subject to Norwegian regulations for food production, and our facilities are regularly inspected by the Norwegian Food Safety Authority (NFSA). In 2017, we received a total of 63 visits from the NFSA. In addition, the Group has its own sampling programme, under which feed and finished products are analysed and tested for a number of factors. The NFSA's monitoring, performed by the National Institute of Nutrition and Seafood Research (NIFES), shows very little foreign matter in farmed fish, and no samples were found to exceed threshold values in the most recently published reports for 2015 and 2016. Further details regarding the nutritional content and status with respect to contaminants, etc, in Norwegian seafood, please visit the Seafood Data section on NIFES's website or search the Food Composition Table available from www.matportalen.no[8]. Both of these are official databases.

SalMar produces healthy and tasty foods that are easy to prepare. SalMar's products are based on first-class raw materials, and the quality is maintained right through the value chain until the salmon reaches the consumer. Thorough training at all levels with regard to procedures is important to maintain the high quality of SalMar's products. Production is organised such that the demands of different standards and customers are met. We perform regular internal audits, and welcome the public authorities, certification agencies and customers to carry out external audits and inspections. Food safety and the regulations relating thereto are taken extremely seriously.

In 2017, there were no violations of the regulations governing food safety.

Audits performed in accordance with customer and third-party standards are important to document that the products are safe and healthy for the consumer, and have been produced in accordance with the requirements and expectations demanded of modern food production. In 2017, 159 external audits of SalMar's sites/departments were carried out by the regulatory authorities, customers or third-party certification bodies. A further 64 internal audits were carried out during the year. Internal audits are an important tool for the prevention of risk. Company-specific checklists have been drawn up, which cover the most important requirements in all risk areas and from the most important stakeholders (regulatory authorities, certification bodies, customers and internal best practice).

SalMar has defined routines for the follow-up of customer complaints, and the Group has informed its customers of how they should proceed if a product they have bought does not meet their expectations. All products can be traced back through the production process, and a well-trained team is on hand to deal with any complaints from consumers. The complaints handling process is documented in a dedicated module in our quality system, and provides managers with an overview of the current status.

Pre-rigor filet

SalMar supplies both fresh and frozen pre-rigor fillets. SalMar's investment in pre-rigor filleting is an important strategy with respect to energy consumption, transport-related emissions, 100 per cent exploitation of the raw material and the creation of local jobs.

Pre-rigor filleting means that the fish is harvested and filleted the same day, before the fish goes into rigor mortis. This processing strategy enables delivery to the market 2-6 days earlier than has been the norm. This way of handling fish has a number of advantages:

- Fresher fish to the customer
- Firmer muscle texture, better colour, less gaping and lower drip loss
- Longer shelf-life in the market
- No need to store and mature the fish before filleting and boning

For more information on the environmental benefits of SalMar's investment in pre-rigor filleting, see chapter 8 Focus on the solution.

Organic salmon

SalMar is the world's largest producer of organically farmed salmon. Organic salmon is supplied year round, and production is vertically integrated from the broodfish and roe down to the finished processed products. Local processing means that we can deliver a wide variety of first-class fresh and frozen organic salmon products. SalMar supplies both pre- and post-rigor organic salmon. A high content of marine oils means that this salmon is an exceptionally good source of EPA and DHA. Developments have been extremely positive since the very beginning, and the market's demand for organic salmon is increasing.

In 2009, SalMar was certified for the farming, processing and sale of organic salmon, and the Group's first organic salmon was harvested in March 2011. Today, SalMar has five licences for the production of organic salmon, and it is produced by the subsidiary SalMar Farming AS in Møre & Romsdal. To qualify as organic, the salmon must be produced within the framework of the EU's regulations, and must be approved by Norwegian organic foods certification body DEBIO.

Sashimi quality

Since 2011, SalMar ASA has produced finely sliced, sashimi-quality fish. Every single salmon is handpicked, and only the best boneless pieces of salmon are used. After slicing, the fillets are packed within 1-4 hours to ensure maximum freshness and taste.

The objective is to offer a salmon product that maintains the same quality and taste as it had on the day it was caught right up until its use-by date – normally 11 days. To maintain this level of quality, a unique packing, transport and refrigeration process is used. The majority of fish products are transported under ice in polystyrene boxes. These are difficult and expensive to dispose of. In contrast, Our sashimi-quality products are transported in recycled cardboard boxes that are chilled using dry ice, which ensures optimal temperature control. The dry ice evaporates slowly, and the cold is transferred directly to the product. This ensures that the product is kept below zero degrees until it arrives at the supermarket. To prevent frost damage, Frøyas' salmon is protected by a layer of cardboard, which ensures that the salmon does not come into contact with the dry ice. As the dry ice evaporates, the salmon maintains a constant temperature that keeps its freshness.

Our sashimi-quality salmon use 40 per cent less plastic in its packaging than competing products, and takes less space in the supermarket chiller cabinet. For consumers, this efficient packaging results in less refuse and more space in their refrigerators.

[8] *https://sjomatdata.nifes.no/#search/ and www.matvaretabellen.no http://www.matportalen.no/verktoy/tilsynsresultater/trygg_oppdrettsfisk-2*

7. What we do today we do better than yesterda

Our processes must be continually developed and improved if the company is to reach its objectives. Further development and growth is closely linked to collaboration with SalMar's stakeholders. In this chapter we focus on our R&D projects and on third-party collaborations to increase sustainability, and we provide some examples of the work being done.

Research and Development

Norway's aquaculture industry has experienced fantastic growth and development. This has been possible because of the industry's unquenchable desire to improve and develop new, safer and more efficient ways of producing salmon. In such a perspective, research and development (R&D) is essential, and the industry has depended on close cooperation with the public authorities, educational and research establishments, and industry bodies. SalMar is an important contributor to the development of the industry, and gives high priority to the advancement of knowledge within its areas of operation.

The extent of involvement in R&D has been growing, both through trade associations and through internal efforts with development licences and related projects. In 2017, SalMar has continued to focus on lice control and the welfare of its fish stocks, and this has been reflected in our R&D activities. We remain committed to helping the industry gain as much sector-specific knowledge as possible and effectively mobilise its shared resources.

SalMar's contacts with the NTNU have been growing in scope in recent years, which the company considers to be only natural. We also have close contacts with the University of Tromsø, and are in the process of firming up plans for future joint efforts. We are keen to help in the education of tomorrow's scientists, and students constitute a considerable resource who demonstrate a strong commitment to the aquaculture sector.

The NTNU's Taskforce Salmon Lice research programme was set up in 2016, partly at the initiative of SalMar. The taskforce is a collaborative effort between the NTNU and many aquaculture industry organisations. The objective is to take a broad look at the problems caused by salmon lice. The programme got well underway in 2017, and SalMar is participating actively in several of its subprojects. The NTNU has created five doctoral research positions, with postgraduate and undergraduate students attached to each one.

Endowment of an aquaculture professorship

In collaboration with the NTNU, SalMar has endowed a new professorship within the field of aquaculture cybernetics. The professorship is intended to promote cross-functional research linking the areas technical cybernetics, biology and aquaculture. It will act as a knowledge base for and link between the aquaculture industry and the academic world. In addition to SalMar, Kongsberg Maritime is an important partner in this effort. The new professorship will also contribute to the recruitment of more students to the field of aquaculture, thus securing the industry's access to highly qualified technological expertise. This professorship will strengthen the NTNU's position as one of the world's leading universities for aquaculture and aquaculture technology.

"I am pleased that SalMar is taking an important social responsibility for the development of aquaculture into a more forward-looking and knowledge-driven industry. The professorship will build a bridge between Norway's leading cybernetics research and educational community and the world's foremost centre of expertise in the field of sea-based salmon farming. Together, we will contribute to the development of knew knowledge and solutions that ensure better fish welfare, more effective operations and greater sustainability in the aquaculture industry," said Gunnar Bovim, rector of the NTNU.

We have also continued our close collaboration with the feed industry, where a lot of exciting developments are being made at the moment, including new raw materials and a great deal of new knowledge. In 2017, we undertook several new field trials, which have given us new insight into specific issues relating to feed and feeding. These are key issues on which the focus will increase in the years ahead.

Our commercial PhD continues to make good progress, and is closely monitoring our activities in the area of fish health and PD infections. This work will conclude in 2019.

Active use of R&D licences

SalMar has been actively engaged in partnerships with R&D establishments for many years. This also includes collaboration on the operation of R&D licences. The scale and professionalism relating to important development tasks has increased, and continues to increase. SalMar sees itself as a professional, but demanding partner, whose aim is to ensure that the results of any trials are as relevant as possible, and that plans and protocols take account of the practical realities of fish farming. SalMar has dedicated personnel who organise and assist research establishments in their efforts, at the same time as operational staff gain more and more experience in how best to safeguard research results under busy day-to-day operating conditions. Proximity to the research, with opportunities to influence both its planning and areas of focus are important sources of motivation for SalMar. The development of vaccines, optimisation of medication, feeding and nutrition, and technological issues relating to large-scale operations are examples of important areas for further research.

Increased focus on genetics

SalMar has a growing focus on breeding and genetics through the 'Rauma Broodstock'. At the close of 2016, we entered into a new collaboration in support of our increased focus on genetics. Over the next few years, we will increase the strength and structure of the team working in this strategically important area. We will have more to report in the years ahead, but in 2016 we conducted successful trials relating to natural resistance to PD infections and growth in general. The change in focus and intensity of our efforts in this area is a natural consequence of the Group's desire to control the value chain and safeguard the continued development of our products and the long-term future of our business.

R&D – escape of fish

Partnership for wild salmon

SalMar cares about wild salmon, too. And we are keen to ensure that aquaculture can coexist with those who make their living from wild salmon fishing. SalMar is involved in several projects to monitor the influx of escaped fish in the country's salmon rivers. The largest of these projects aims to monitor the status of wild salmon and record escaped farmed salmon in the Orkla, Gaula, Nidelva, Stjørdalselva, Verdalselva and Skauga rivers in Mid-Norway[9]. In addition to SalMar, the partners in the project are the organisation Elvene Rundt Trondheimsfjorden (ERT), while the Norwegian Veterinary Institute acts as project manager. The material collected is made available to the

Table 5. Catch results from the period 2011-2017 in the rivers around Trondheimsfjord (ERT). The percentage of the catch tested and the percentage classified as farmed salmon, based on scale analysis .

	Part of catch sampled	Part of catch categorized as farmed salmon, average
2017	39.3 %	0.2 %*
2016	41.1 %	0.3 %
2015	39.3 %	0.6 %
2014	34.3 %	1.0 %
2013	46.2 %	1.6 %
2012	48.9 %	0.4 %

** The rivers with the highest percentage of farmed salmon were the Orkla, with 0.3 % (2 fish) and the Stjørdalselva, with 0.42 % (3 fish). The Gaula, Nidelva, Skauga and Verdal rivers had zero recorded farmed salmon.*

Norwegian Institute for Nature Research (NINA), the Norwegian Environment Agency and the County Governors' environment departments. Students at the University (NTNU) have also become interested in the material, and are currently examining the possibility of using it in master's level dissertations on wild salmon. Scale samples from all fish caught in the rivers are sent for analysis to the Norwegian Veterinary Institute, and the results are distributed electronically as they are obtained via SMS and the internet. If a large number of farmed salmon is identified in the wild breeding population, the project will – in collaboration with the regulatory authorities – assess whether it is possible to implement remedial measures. As the Table shows, its documentet low numbers of farmed fish (0.2 % in 2017) in the rivers investigated.

In Troms, we are participating in the Wild Salmon Industry Collaboration Project through Dyrøyseminar/Nordavind Utvikling. The project covers the following rivers and watercourses: Vardnesvassdraget, Tennelva, Ånderdalsvassdraget, Grasmyrvassdraget and Salangsvassdraget. In 2018, the project will be extended to additional watercourses in Troms. The purpose of the project is to monitor the status of the rivers and implement measures to increase the number of wild salmon in them. In addition, we work closely with Laukhelle Lakselv in Senja with respect to monitoring and emergency preparedness. The same applies to Målselv.

With regard to advice and practical initiatives relating to wild salmon, we also work with NINA, Ferskvannsbiologen and Skandinavisk Miljøundersøkelser AS.

In 2018, along with the Norwegian Seafood Federation and other industry players, SalMar will be operationalising methods to trace the source of escaped farmed salmon. This will be achieved using a combination of geoelement markers (traces in fish scales) and DNA (tracing of the parent fish's DNA). These techniques will make it possible to trace escaped farmed fish back to their owner. Efforts to achieve this capability have been underway for several years.

OURO is a joint industry initiative which was set up in 2015 in response to statutory regulations requiring action to reduce the genetic impact of farmed salmon on wild fish stocks by culling all escaped farmed salmon in rivers in which their numbers are unacceptably high. Culling was carried out in 52 rivers in 2017 and 37 rivers in 2016. The OURO initiative's activities are funded by the aquaculture industry. (http://utfisking.no)

Plastic pollution

Pollution of the seas, and plastic pollution in particular, is a major problem. It has been described by some as the fastest growing threat to the environment after climate change. SalMar recognises this and wishes to help reduce the amount of plastic waste polluting the oceans, primarily through further improvements in its own waste handling and reductions in any microplastic emissions from its own operations.

SalMar is working on several initiatives to reduce the volume of its plastic waste:

- We ensure that obsolete plastic equipment is recycled by delivering it to established return schemes and collecting other waste for delivery to municipal waste handling systems.
- We contribute to increased reuse and recycling in general, and of plastic materials in particular.
- We support measures that help to increase our knowledge of the presence and consequences of microplastics and nanoplastics in the sea (eg from feeding equipment at fish farms).
- We contribute to beach cleaning/collection of plastic waste through funding, lending boats for use during clean-up operations, as well as participating ourselves.
- We work with the Norwegian Seafood Federation and other initiatives to reduce pollution of the seas, in particular by plastic waste.

In addition, SalMar is carefully monitoring the situation with respect to our own products. We support ongoing research into the impact of nanoplastics on food safety and are participating in the development of new knowledge in this field.

Our impact on coastal locations

SalMar is taking part in a major research project entitled Environmental Responses to Organic and Inorganic Effluents from Aquaculture (ERA). The project is led by the Institute of Marine Research and includes a large team of Norwegian and international scientists. The objective is to gain new insight into our impact on coastal locations, which are often a mix of hard and soft seabeds. New knowledge and documentation are required, since the bulk of the previous research has been done on locations in fjord systems, which have quite different environmental conditions than those found in more open coastal waters. An extremely large data set has been collected at a total of 46 stations. The project now possesses the largest volume of material globally that examines the link between aquaculture and the environment over an entire generation. Its focus is to:

1. Develop models that can predict the effect of aquaculture on the marine ecosystem.
2. Develop new tracking methods that can trace emissions from aquaculture out into the marine environment.
3. Measure the effect of today's aquaculture on the structure and function of hard, mixed and sandy seabed sediments.

In 2018 several publication from the project will be released.

Technology and people

In conjunction with suppliers and research institutions, SalMar is involved in several projects to reduce the risk of fish escaping. These projects cover both the development of new technologies and operating procedures. SalMar works closely with AquaCulture Engineering (ACE), and is involved in several projects being undertaken at our sites. See below for more information about ACE. With respect to suppliers, our work with Aqualine to develop safer net pens based on an integrated design concept is of particular importance.

Through the Ocean Farm 1 facility, see Chapter 3, many new technological principles are being tested in a full-scale pilot. Among other things, the facility itself will be equipped with new types of sensors, which will make new data available to our operators.

Environmental documentation

Through its membership of the Norwegian Seafood Federation, SalMar has participated in several environmental documentation projects. These projects aim to document the environmental impact caused by salmon farming. This type of documentation is a precondition for an objective and rational assessment of current operations, and as a scientific basis for determining how the industry can develop in the regions concerned. So far, SalMar has been involved in documentation projects in the counties of Møre & Romsdal and Trøndelag. The projects involve several R&D institutions.

Onshore power and the electrification of the aquaculture industry

SalMar is striving to make the aquaculture industry more environment friendly, and has set itself to become more energy efficient. Use of onshore power at its sea farms and electrically powered boats are two examples of the projects we are working on.

In recent years, SalMar Farming has been working on a project to run electrical cables from onshore out to our sea farms. We now have 22 sites that are supplied with electrical power from onshore. This has resulted in a substantial reduction in diesel consumption. In addition to a decrease in emissions, this is an important initiative with respect to occupational health and safety, not least as regards noise from the diesel generators.

In 2016, SalMar Farming put the world's first completely electric aquaculture workboat into operation. The Elfrida is a 13.5m catamaran that was built in Frøya by Ørnli Slipp. Siemens supplied the battery pack, which is based on many years' experience from hybrid offshore vessels and electric ferries. The workboat operates at one of our sites, Kattholmen, and expands the range of applications for electrically powered vessels.

ACE AquaCulture Engineering

ACE, AquaCulture Engineering, was established in 2006 and manages three R&D licences on behalf of Sintef Ocean. In April 2009, ACE and SalMar signed a cooperation and operation agreement, under which SalMar Farming AS undertakes the commercial operation of the licences in association with its own sites.

ACE focuses on the aquaculture industry's main challenges, eg lice, escapes, HSE and emissions, by uniting research establishments, suppliers and producers in large-scale projects, whose main aim is to develop and test new aquaculture technologies. Users are often national and international scientists and others who wish to perform practical experiments and tests under controlled conditions that are as realistic as possible.

[9] *Joint project between Elvene Rundt Trondheimsfjorden (ERT) and SalMar ASA. www.vetinst.no*

8 . Focus on the solution

Any employee faced with a challenge or difficulty has a responsibility to help come up with a solution. Every challenge represents an opportunity for progress. In this chapter we highlight some examples of internal development projects.

Increased sustainability through increased secondary processing

SalMar aims to produce a high proportion of processed products by increasing its output of filleted rather than whole fish. Since SalMar was founded in 1991, harvesting and processing have played a key role in the Group's strategy, and the figures show that the company has steadily increased its output of processed products. This has reduced transport and energy consumption, increased the potential for secondary processing and provided more employment opportunities in Norway – all of which contribute to greater sustainability.

InnovaMar, one of the world's most innovative and cost-effective facilities for the landing, harvesting and processing of salmon, went into operation in 2011. Located in Frøya, Trøndelag, the plant covers 17,500 m2 and also houses SalMar's head offices. SalMar also has the Vikenco harvesting and processing facility in Aure, Møre & Romsdal.

In 2017, SalMar decided to build a harvesting and processing facility in Northern Norway in order to handle and exploit the growing volume of salmon produced by our fish farming segment in the region. The precise location of the new facility is expected to be decided in 2018.

	2017	2016	2015
Volume of processed products (1,000 tonnes product weight)	46,7	36,9	31,9

InnovaMar comprises two departments (harvesting and processing), and a great deal of effort has been made to challenge traditional solutions. Innovative production technologies increase the quality of the final product, reduce costs and improve working conditions for the staff. The plant can produce around 150,000 tonnes of salmon per year.

Finished products are prepared online as pre-rigor items, which affords great savings in the form of a reduced need for handling and input factors. Online production avoids the need to keep whole fish in containers filled with ice/slush in cold storage for 2-6 days. It also reduces the amount of labour and trucks needed for their internal handling and transport. The product is kept in production zones only for as long as it takes to process the finished item from whole fish. This avoids any increase in the temperature of the raw material, which is already chilled from the harvesting plant, and saves further use of ice to reduce the temperature of the finished item to the desired 2oC level. In addition to environmental benefits, online production of pre-rigor fillets is also advantageous with regard to increased freshness and maximum exploitation of the raw material. SalMar aims to turn as much as possible of the salmon into pre-rigor fillets.

Full exploitation of the raw materials and reduced emissions

Exporting pre-rigor fillets instead of whole fish reduces the weight by around 40 per cent, and consequently the need for transport. Increased processing therefore results in fewer heavy goods vehicles on the road and fewer emissions. Since fillets are cut before distribution to the market, we live up to the principle of supplying the right quality to the right customers. Any fillets downgraded due to quality issues will be transformed internally into appropriate 'secondary products'.

By-products (head, spine, offcuts) are exploited to the full. All offcuts from the production of fillets at SalMar's InnovaMar and Vikenco facilities are sent for further processing at Nutrimar, resulting in 100 per cent of the raw materials being utilised. From InnovaMar, the raw materials go directly to Nutrimar via a system of conveyer belts/pipes, which ensures a high degree of freshness and usable volume when processing this raw material. It also means that there is practically no need for input factors relating to its transport and handling.

Nutrimar was set up in 2007. Its objective was to take better care of the raw material produced by SalMar AS. Traditionally, acid was added to much of the waste raw material from salmon harvesting plants and then sold on as low-grade ensilage.

Today, Nutrimar accepts and processes 100 % of the production waste from InnovaMar. The unit also accepts all the production waste from the Vikenco harvesting plant.

The raw material comprises day-fresh guts, heads, spines and offcuts from harvesting and processing. The products currently produced include oil, protein concentrate and meal. All these products are sold as ingredients in the commercial production of animal feeds, including fish feed
and petfood.

Nutrimar modernised and improved its production facility in 2017. The upgraded factory will pave the way for the production of even more high-value oils and proteins for both human and animal consumption.

For further details, see **www.nutrimar.no.**

nutrimar

Reduction of food waste

SalMar leads the way by focusing intently on reducing food waste through the development of better packing and packaging solutions. We participate in national and international projects to develop and implement new solutions for effective, quality-preserving production, packaging and distribution. This is all part of our efforts to boost sustainability by reducing environmental impacts caused by food waste, materials consumption and transport through the value chain.

Product development and new packaging solutions

We are focusing on the further development of packaging solutions, including a switch to new more environment-friendly materials, the reuse of materials and the addition of other desirable properties. This includes a diversification from the traditional use of expanded polystyrene.

A large proportion of SalMar's pre-rigor finished products are currently packed in reusable boxes. This affords savings in the form of a reduced need for ice and the discarding of polystyrene boxes. SalMar is working actively to increase the proportion of products transported in reusable boxes, and efforts are underway to identify optimal packaging solutions for the export of pre-rigor fillets. Reusable boxes, ice-free shipments and packaging technology that provides complete bacteriological security are also included in this project. The project encompasses recyclable cardboard packaging and ice-free transport. Removing the ice will reduce the weight and volume of the consignments, and thereby the emissions generated in connection with their transport.

Focus on shelf-life and quality

We are also focusing on new and improved solutions that can extend the products' shelf life. In 2017, for example, we increased our use of the Keep-It®shelf-life indicator on our products. This is an indicator that shows the temperature and the product's remaining shelf-life. This is a device that really focuses the attention of all links in the value chain (from the factory to the customer), thereby helping to increase the shelf-life of the product and reduce food waste.

We are currently working on new projects that aim to visualise the quality of the product in the package, using new technological solutions. The objective is to be able to document additional quality attributes through simple technological solutions. In this area, we are participating in a major EU project as the only representative of the aquaculture industry.
Foto: Keep-it Technologies® AS

Sustainable smolt production

As at 2017, SalMar has seven salmon hatcheries, the largest of which are:

SalMar Settefisk, Senja: Located in Tranøy, the facility was completed and officially opened in the spring of 2017. It is one of the most modern facilities of its kind in the world, and is licensed to consume 1,500 tonnes of feed and has a capacity of around 17,000 m3 of water. In the autumn of 2017, the facility delivered 3.8 million smolt. It plays a key role in SalMar's efforts to become self-sufficient in smolt in Troms and Finnmark.

SalMar Settefisk, Follafoss: This facility was established in 1985. Over the years, it has been substantially expanded and modernised. In 2017, three new RAS departments were opened. Today, Follafoss is an ultra-modern production facility, licensed to consume 2,400 tonnes of feed and produce 20 million smolt each year. Further expansion is scheduled for completion in 2019. Exploitation of alternative energy resources is crucial for the facility.

Substantial investments are being made to make smolt production as sustainable as possible. Here are some of the areas which SalMar Settefisk is working on.

Focus on survival

Robust and viable smolt are one of the most important prerequisites for high performance in the marine phase and a high-quality end product. SalMar aims to achieve a survival rate of more than 95 per cent, from the time the smolt are transferred to the sea farms until they are harvested. The hatcheries are measured on the smolt survival rate 90 days after transfer to the sea farms. Recent generations of smolt have achieved a 96.7 per cent (16G), 97.5 per cent (15-G) and 95.2 per cent (14-G) survival rate, respectively. Underyearlings in the 17G cohort have achieved a survival rate of 99.2 per cent.

To achieve a high survival rate, SalMar's hatcheries work systematically on improving smolt quality. Particular attention is paid to stable, high-quality water, good environmental conditions in the fish tanks, optimal oxygen conditions, good sorting routines, temperature control and general fish health. As part of this effort, a dedicated production biologist has been employed to focus intently on fish welfare and work with internal and external partners.

Recirculating aquaculture technology (RAS)

All our most modern hatcheries are equipped to use recirculating aquaculture technology (RAS), with approx. 97 per cent purification and reuse of the production water. This means that a RAS facility with the capacity to produce 15 million smote uses as little water as a standard water throughput facility hatchery producing around 1 million smolt. Water consumption has therefore been reduced more than 10-fold. Today, around 40 per cent of SalMar's biomass is produced in RAS facilities. Since all new capacity is built using this technology, this figure will increase as time goes by.

Because RAS technology enables a large production volume with little water consumption, it also affords unique opportunities for controlling and managing water quality. This applies particularly to the optimisation of the water temperature without using large amounts of energy for heating. RAS facilities are an important factor in reducing the company's water and energy consumption.

Exploitation of local energy and water resources

As part of our energy efficiency efforts, we use local water-borne energy resources where possible. We have such solutions at two of our hatcheries. Follafoss, our largest hatchery, is located in Verran and uses heat exchangers to exploit the energy from the waste water produced by the cellulose plant MM Karton FollaCell AS, which is located right next door. Energy corresponding to around 20 million kWh is extracted in this way, which reduces SalMar's energy consumption by the same amount.

The hatchery's production water is obtained from the Follafoss Power Plant. A turbine has been installed in the supply pipe to the hatchery. As a result, up to 1.5 MW of electrical power is derived from the water supply before the water is used for fish production.

Our Kjørsvikbugen hatchery in Aure makes use of the water used to cool Statoil's methanol production at Tjeldbergodden. Some 20 m3 of waste water heated to 18oC is used to heat SalMar's facility. This provides around 48 million kWH of energy per year.

Utilisation of sludge as a resource

SalMar's hatcheries are required to treat their waste water before its discharge and have established a variety of processes to utilise the resultant sludge as a resource.

In Senja, an ultramodern drying facility has been installed. As a result, all the sludge produced by the facility is dried to a 95 per cent solid, which is then delivered to a third party for use in the production of soil improvement agents that can be found on sale in the retail sector.

At Follafoss, the sludge is separated from the water using sedimentation. It is then delivered to a third party, which sanitises it by adding it to livestock manure. The resulting product is spread on fields as a soil improvement agent/fertiliser.

The Eik hatchery is preparing to start deliveries to a local biogas plant. After it has been allowed to sediment out, the sludge will be converted into methane in the biogas facility.

Escapes

SalMar has a policy of zero tolerance for fish escapes. In 2017, there were no escape incidents. The focus of attention is to have technically updated facilities, with effective backup security systems in compliance with applicable regulatory requirements.

In-house production of cleaner fish

SalMar is making extensive use of so-called 'cleaner fish' to control sea lice numbers. SalMar's facility at Langstein in Trondheimsfjord produces cleaner fish that are then transferred to our sea farms. Based on our positive experience so far, this use of cleaner fish will continue. The facility was expanded in 2017 and will boost production capacity with effect from the spring of 2018. Havlandet Marin Yngel has been contracted to produce ballan wrasse on our behalf. This will provide us with a new weapon in our battle against sea lice, particularly during the hot season. As part of the effort to provide better fish health and improve the welfare of the lumpfish, every fish is vaccinated before being transferred to a sea farm.

Innovation linked to feed and feeding

Throughout 2017, we have worked hard to optimise the feeding process at our fish farms. We continue to focus intently on optimising the way the fish are fed during their first 12 weeks in the sea, and on maximising feed availability during this period. This is important to produce a healthy and robust fish.

In 2017, we continued our efforts relating to remote feeding centres. At the close of the year, we had three feeding centres, each of which remotely handles the feeding process at several sites from their control rooms. We have one at Lysnes in Senja, one in Fosen and one in Smøla. At Lysnes, we have also obtained approval for the establishment of a teaching and demonstration licence in connection with this feeding centre.

The introduction of remote feeding has increased the attention paid to the feeding process, and is considered to be a 'green' initiative, since it provides good fish growth, a short cycle time and effective MAB and site capacity utilisation. From a competence point of view, it has also allowed greater attention to be paid to those employees who perform one of the most important core functions at SalMar. The company is currently working to facilitate their access to real-time data and develop customised optimal reporting and analysis tools.

SalMars site at Follafoss uses waste heat from the neighbour company which reduces the electricity consumption.

SalMar Settefisk dep. Senja was opened spring 2017 and is one of the most modern smolt facilities in the world.

Construction work at SalMars site for cleaner fish at Langstein.

GRI-Index

Each year, SalMar reports on its activities in the field of corporate social responsibility and sustainability on the basis of the guidelines issued by the international organisation, the Global Reporting Initiative (GRI). Reporting takes place via this report, SalMar's annual report and other information published on our website.

The sustainability reporting for 2017 includes data for a number of 'Standard Disclosures' from GRI's guidelines. All core elements are included, as well as a number of other indicators. An overview of which indicators the report covers is presented in the table below. The report is not externally evaluated.

The report's contents in relation to the GRI Index

GENERAL DISCLOSURES (GRI 102)			Deviates from GRI-requirements
Organizational profil			
102-1	Name of the organization	Salmar ASA	
102-2	Activities, brands, products, and services	Farming of Atlantic salmon, conventional and organic, as well as rainbow trout. High-profile product: Frøyas.	
102-3	Location of headquarters	Kverva, 7266 Kverva, Norway	
102-4	Location of operations	Pages 18 -19	
102-5	Ownership and legal form	Salmar ASA is a public limited company that is listed on the Oslo Stock Exchange. See the 2017 annual report for further details.	
102-6	Markets served	Pages 18 -19 Annual report, note 23 to the consolidated financial statements.	
102-7	Scale of the organization	Pages 14-16 Annual report, pages 4-7	
102-8	Information on employees and other workers	Pages 23-24	partly
102-9	Supply chain	Page 33	
102-10	Significant changes to the organization and its supply chain	Pages 12-13 and 42-43 Annual Report Page 12-15 and 45-46	
102-11	Precautionary Principle or approach	Page 20	
102-12	External initiatives	Pages 6-7 and 33-34	
102-13	Membership of associations	Norwegian Seafood Federation, Confederation of Norwegian Enterprise (NHO), OrAqua – Organic Aquaculture, Federation of European Aquaculture Producers (FEAP),	
Strategy and Analysis			
102-14	Statement from senior decision-maker	Page 6-7	
Ethics and Integrity			
102-16	Values, principles, standards, and norms of behavior	Pages 23-24 www.salmar.no – Corporate Governance	
Governance			
102-18	Governance structure	Page 20 Annual report, pages 31-39	
102-19	Delegated authority	Page 20	
102-20	Executive-level responsibility for economic, environmental, and social topics	Page 20	
Stakeholder engagement			
102-40	List of stakeholder groups	Page 229	
102-41	Collective bargaining agreements	79.6 % of the workforce	
102-42	Identifying and selecting stakeholders	Page 22	
102-43	Approach to stakeholder engagement	Page 22	
102-44	Key topics and concerns raised	Page 22	
Reporting Profile			
102-45	Entities included in the consolidated financial statements	Page 4 and the annual report Annual report, note 6 to the consolidated financial statements	
102-46	Defining report content and topic Boundaries	Pages 20-21	
102-47	List of material topics	Page 21	
102-48	Restatements of information	N/A	
102-49	Changes in reporting	Page 4, none	
102-50	Reporting period	Page 4	
102-51	Date of most recent report	2016	
102-52	Reporting cycle	Annual	
102-53	Contact point for questions regarding the report	Page 4	
102-54	Claims of reporting in accordance with the GRI Standards	Page 46	
102-55	GRI content index	Pages 46-47	
102-56	External assurance	Page 46	
Management Approach (GRI 103)			
103-1	Explanation of the material topic and its Boundary	Pages 21-34	partly
103-2	The management approach and its components	Page 22-32 Annual report, pages 27-29	partly
103-3	Evaluation of the management approach	Page 22-32 , Annual report, pages 27-29	partly
Environmental (GRI 300)			
301	Materials used by weight or volume	Pages 34-35	
302-1	Energy consumption within the organization	Pages 30-32	partly
302-3	Energy intensity	Pages 30-32	
302-4	Reduction of energy consumption	Pages 30-32, and 39-43	partly
303-3	Reductions in energy requirements of products and services	Pages 42-43	partly
305-1	Direct (Scope 1) GHG emissions	Pages 31-32	
305-2	Energy indirect (Scope 2) GHG emissions	Pages 31-32	
305-3	Other indirect (Scope 3) GHG emissions	Pages 31-32	
305-4	GHG emissions intensity	Pages 31-32	partly
305-5	Reduction of GHG emissions	Pages 31-32	
306-3	Significant spills (Fish escapees)	Pages 24 and 26	
Social (GRI 400)			
403-1	Workers representation in formal joint management –worker health and safety committees	Pages 23-24	partly
403-2	Types of injury and rates of injury, occupational diseases, lost days, and absenteeism, and number of work-related fatalities	Pages 23-24	partly
404-2	Prandrams for upgrading employee skills and transition assistance prandrams	Page 24	partly
404-3	Percentage of employees receiving regular performance and career development reviews	Page 24	partly
Society			
205-3	Confirmed incidents of corruption and actions taken	Page 24 , Annual Report p. 29	partly
Customer health and safety (GRI 416)			
416-2	Incidents of non-compliance concerning the health and safety impacts of products and services	Pages 34-36	

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