

Sustainability Report 2018



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CEO Message

Perspectives from Cermaq's CEO, Geir Molvik.



The Sustainable Development Goals (SDGs) are our common agenda. In Cermaq's strategy, we have identified how we can contribute to these goals both by producing more high-quality healthy food and by working with others to improve our food systems and ocean management.

Cermaq's approach is based on the pillars of performance, transparency, and partnership. We believe a company that openly reports its results also has a better overview of its risk and opportunities, a stronger basis for dialogue with stakeholders, and a better ability to actually make progress on material topics.

Collaboration for Global Solutions

Our partnerships grow out of our operations, from the salmon industry, via the seafood industry, to the ocean businesses. In 2018, the *UN Global Compact Action Platform for Sustainable Ocean Business* was launched in New York with Cermaq as the first company to join. The platform has already made significant progress within its key focus areas: ocean business principles, opportunities, and governance. In parallel, the platform has engaged business, governments and other stakeholders to establish pathways for the growth of a sustainable blue economy. We are proud to build this initiative and contribute with expertise to ensure seafood is an integrated part of the solutions to the sustainable development goals.

Cermaq plays an active role in the Global Salmon Initiative (GSI) and Seafood Business for Ocean Stewardship (SeaBOS), which gather a broader group of companies from salmon industry and seafood industry. These partnerships both address specific challenges and improvement areas for the sector, and play into Cermaq's crucial role in the UN Action Platform for Sustainable Ocean Business, with Cermaq as the common denominator.

Continuously improving our operations

Sustainability is at the core also in our daily operations. Research plays an important role for continuous improvement, and our R&D organization focuses on fish health, technology, breeding, genetics, feed, and nutrition. The R&D team also has a critical role in bringing new knowledge into our operating procedures and to the people who are working on the front line in growing our fish.

Developments in our operations in 2018 also include:

- Cermaq adopted a fish welfare policy and based on this, we developed fish welfare indicators for our global operations.
- In British Columbia, Canada we contributed to an agreement between the provincial government and First Nations on the future development of salmon farming in the Broughton area.
- In Steigen, Norway, we opened a new processing plant, with state of the art technology.
- In Chile, we introduced new treatment procedure against SRS, based on our research findings that clearing infection can be achieved using far lower doses of antibiotics than those that were historically used in Chile.
- In Hamarøy, Norway, we started testing of a semi-closed containment system, but there is still a long way before we know if this is successful.
- The volumes produced from ASC certified sites continued to increase and were 35% of total fish harvested in 2018, and will continue to increase in future as fish in ASC-certified sites reach harvest size. Next year Cermaq Norway will reach 100 % certified volumes.

A bright market future for salmon

Prices have remained at a high level, as demand grows while global production capacity is limited by regulations and environmental factors. Production cost have increased in all regions in recent years, so cost control is key for long-term economic sustainability.

Sustainable growth is needed both to meet demand for salmon and as a contribution to meet global food demand. Aquaculture is today the only food production method capable of growing at required scales and speeds to meet the demand for aquatic foods over the next decades.

The EAT-Lancet commission report released in January 2019, pointed at the need for drastic transformation in our food system to keep production for healthy diets within planetary boundaries. All regions except East Asia Pacific consume less fish than the planetary health diet advises, and the Commission shows that shifting to the healthy reference diet will result in a substantial increase in demand for seafood.

Currently, Cermaq's main markets are USA, EU, Brazil, China, Russia and Japan, based on the customers' appreciation of our salmon from Norway, Chile and Canada, but also influenced by market restrictions. Current market restriction to Russia is limiting the most efficient supply to that market. Regardless, innovative development in transports of fresh salmon to distant markets is needed to meet global sustainability targets.

People Create Values

It is through the employees that the business achieves results, and Cermaq's results depends on the commitment and dedication from more than 4600 employees. Health and safety of people comes always first, and I am happy to see the progress we have made in occupational health and safety and the focus this has from both management and employees.

Every day, Cermaq employees produce healthy and delicious seafood with a limited climate footprint. Our farming operations belong in their local communities. That is where our value creation takes place and that is where our employees live. We produce fish in common waters, and our operations depend on and interact with the local communities. Partnerships is our approach also at the local level.

To the management of Cermaq Group AS

INDEPENDENT AUDITOR'S REPORT ON CERMAQ SUSTAINABILITY REPORT 2018

We have reviewed certain information in the Cermaq – Sustainability Report 2018, sections Report Foundation, Performance (excl. CDP Report 2018) and CEO Message (in total referred to as "the Report"), presented on www.cermaq.com. The Report is the responsibility of and has been approved by the management of Cermaq Group AS ("Cermaq"). Our responsibility is to draw a conclusion based on our review.

We have based our work on the international standard ISAE 3000 "Assurance Engagements other than Audits or Reviews of Historical Financial Information", issued by the International Auditing and Assurance Standards Board. The objective and scope of the engagement were agreed with the management of the Company and included those subject matters on which we have concluded below.

Based on an assessment of materiality and risks, our work included analytical procedures and interviews as well as a review on a sample basis of evidence supporting the subject matters. We have performed meetings with management and individual resources responsible for the preparation of the Report at corporate level. In our work, we have focused in particular on the key indicators (CEQ Indicators) and the energy and greenhouse gas emissions indicators presented in the Sustainability Report 2018 as well as indicators submitted to the Global Salmon Initiative (GSI) for 2018. We believe that our work provides an appropriate basis for us to provide a conclusion with a limited level of assurance on the subject matters. In such an engagement, less assurance is obtained than would be the case had an audit-level engagement been performed.

Conclusions

Based on our review, nothing has come to our attention causing us not to believe that:

- Cermaq has applied procedures to identify, collect, compile and validate information for 2018 to be included in the Report, as described in the Report.
- Information presented for 2018 is consistent with data accumulated as a result of these procedures and appropriately presented in the Report.
- Cermaq has applied a reporting practice for its sustainability reporting aligned with the reporting principles set out in the GRI 101 Foundation Standard of the Global Reporting Initiative (GRI) Sustainability Reporting Standards.
- The Report has been prepared in accordance with the GRI Standards – Core option.

Oslo, 8 April 2019
Deloitte AS



Kjetil Nevstad
State Authorised Public Accountant



Frank Dahl
Deloitte Sustainability

Key Figures 2018

Below you will find the key figures for the calendar year.

TOPIC	UNIT	2018	2017	2016	2015*	2014	2013	2012	2011
Sales									
Operating revenue	NOK bn	10	9.4	8	6.4	5.6	5.2	3.3	11.7
Sales volume	GWE '000 tonnes	173	158	137	163	138	142	121	109
Social									
Employees	#	4654	4177	3352	3928	4130	4357	3239	3038
Fatalities	#	0	0	0	0	1	2	0	0
Absentee rate	% of total working days	2.3%	2.2%	2.5%	2.6%	2.0%	2.8%	2.4%	3.0%
Injury rate (H2 value, TRI)	Injuries per million hours worked	8	8	9	10	18	50	35	35
Lost-time injury rate (H1 value, LTIR)	Lost-time injuries per million hours worked	6	5	6	7	11	24	13	26
Fish health									
Fish escapes	# of fish	33691**	212 562	426	7346	21	63 273	1	2
Fish mortality (ATS)	% mortalities	5.5%	5.3%	7%	6.3%	6.8%	6.4%	7.3%	8.4%
Sustainable feed use	Feed factor	1.23	1.21	1.26	1.31	1.25	1.26	1.23	1.24
Environment									
Biodiversity	Weighted fallow time between cycles (weeks)	19	21	17	31	13	18	18	14
Energy consumption	GJ	1,283,847	1,073,088	697,185	751,831	724,993	709,270	542,169	456,692
GHG emissions	tonnes of CO ₂ e	94,344	80,922	51,995	57,988	54,671	53,481	39,693	32,011
Governance									
Non-compliance with regulations	#	12	12	10	11	10	7	9	5
Local communities	% of sites committed to an Area Management Agreement	100%	100%	100%	100%	100%	100%	91.30%	88.4 %

* 2015: 15 months from 01.01.2015 to 31.03.2016 due to change in financial accounting year. Previous years are 12 months calendar year.

**2018 Escapes updated September 2019 after final harvest

Cermaq Indicators

Cermaq reports on a number of indicators considered material for Cermaq and the industry. The performance on these Cermaq-specific indicators in 2018 can be found below, together with an overview of all reported indicators.

Cermaq reports in accordance to a wide selection of sustainability principles. We measure our performance against these principles and seek continuous improvement.

Cermaq reports on topics that have been found material for our operations and to our stakeholders. How we define our material topics is described in further detail in our [Materiality Analysis](#). We use the Global Reporting Initiative (GRI) framework to identify specific indicators to report on for each material topic, and these are presented under [GRI Indicators](#). In addition, we have developed a separate set of material indicators which are made specifically for our operations. These can be found on this page.

Below you will find an overview of all Cermaq indicators reported by material topic for 2018, and our performance on each of the Cermaq specific indicators.

Overview of indicators

The list below provides an overview of all indicators reported by Cermaq in 2018, both GRI indicators and Cermaq specific indicators.

FOCUS AREA	MATERIAL TOPIC	INDICATORS
 <p>HEALTHY AND NUTRITIOUS FOOD</p>	<ol style="list-style-type: none"> 1. Product quality, health and safety 2. Fish health and welfare 3. Feed ingredients 	<ul style="list-style-type: none"> • Raw material ingredients • Customer health and safety assessment • Fish mortality • Medicine use • Vaccination program • Sea lice counts • Animal species and breed type • Non-compliance with product health & safety • Fines for product non-compliance
 <p>THRIVING OCEANS</p>	<ol style="list-style-type: none"> 4. Biodiversity and feed sourcing 5. Biosecurity 6. Blue economy 	<ul style="list-style-type: none"> • Feed sourcing and supplier assessment • Raw material ingredients • IUCN red list species with habitats in areas of operation • Wildlife interactions • Vaccination program • Fish escapes • Sea lice counts • Area Management Agreements • Economic value generated and distributed • Country-by-country financial and organizational data
 <p>PEOPLE LEADERSHIP</p>	<ol style="list-style-type: none"> 7. Safety & workplace 8. Community relations 9. Human Rights 	<ul style="list-style-type: none"> • Injuries, lost days, absence • Senior management hired from local community • Local community engagement programs • Local community complaints • Non-compliance with societal regulations • Incidents of violations involving indigenous peoples' rights • Economic value generated and distributed • Country-by-country financial and organizational data
 <p>RESPONSIBLE PRODUCTION</p>	<ol style="list-style-type: none"> 10. Value chain approach 11. Certifications 12. Beyond compliance: Responsible business conduct 	<ul style="list-style-type: none"> • Fallow time/benthic impact • Water withdrawal and recycled input materials • Non-compliance with environmental regulations • Whistle blowing



CLIMATE ACTION

13. Adaptation

14. Emissions

15. Innovation

- Training on anti-corruption
- Incidents of corruption
- ASC certification

- Financial implications, other risks and opportunities due to climate change
- Energy consumption
- GHG emissions (Scope 1, 2 and 3)
- Energy reduction initiatives

Cermaq indicators

This section presents the sustainability performance of Cermaq's operations in Norway, Chile and Canada in 2018 for each of the Cermaq specific indicators. The table below shows all Cermaq specific indicators reported by material topic in 2018.

MATERIAL TOPIC	INDICATOR	MATERIAL TOPIC	INDICATOR
Fish Health and Welfare	CEQ1 Fish Mortality	Biosecurity	CEQ2 Sea lice
	CEQ4 Medicine use		CEQ6 Area Management Agreements
	CEQ5 Vaccination program	Responsible production	CEQ 3 Fallow time
Feed sourcing and ingredients	CEQ 8 Raw Material Ingredients	Local communities	CEQ 11 Local Community Complaints
Biodiversity	CEQ 7 Escapes	Responsible business conduct	CEQ 12 Whistle Blowing Incidents
	CEQ 17 Birds and Mammals	Economic growth	CEQ 15 Country by Country Financial and Organisational Data
Certifications	CEQ 16 ASC		

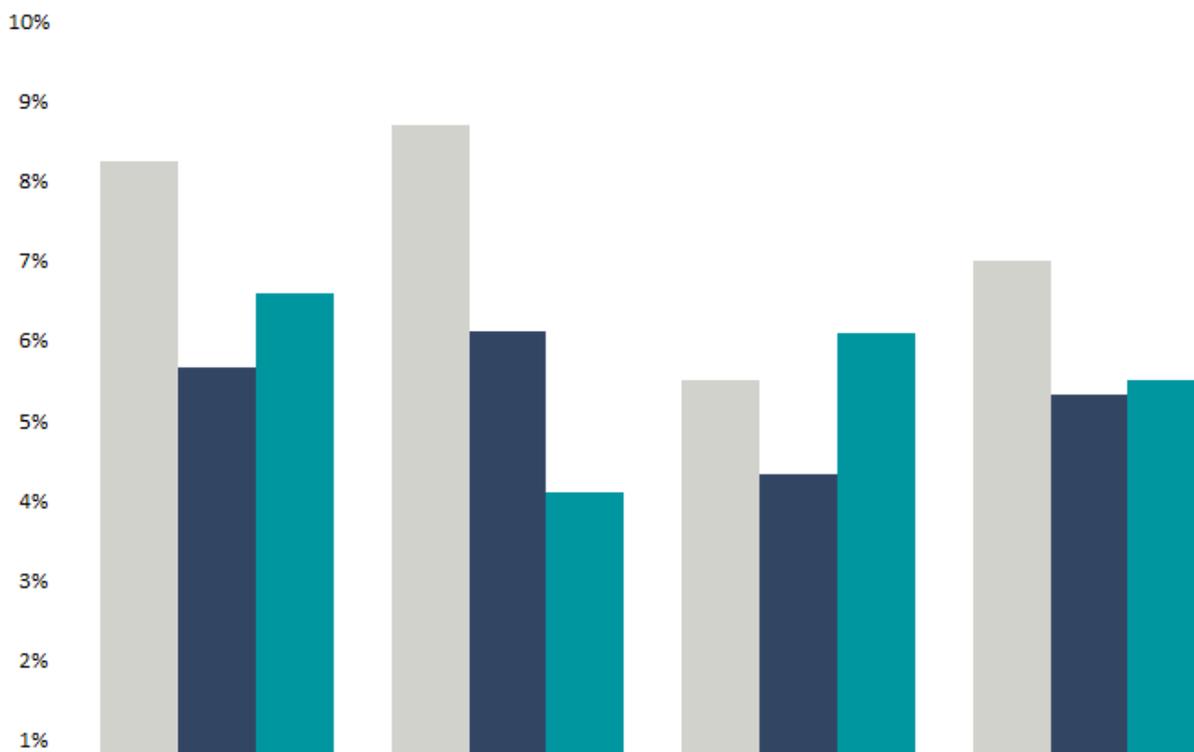
CEQ 1 FISH MORTALITY

Fish mortality is a key measure to evaluate fish health and welfare. To monitor fish mortality, a 12 months rolling rate was introduced in 2012. The rate measures number of fish mortalities for the last 12 months as a proportion of an estimated number of fish in the sea the last month. The benefit of a 12-month rolling rate is that long term trends are better represented. The indicator is a precise measure and a better "steering wheel" for management. Reduction of fish mortality is a key target in Cermaq and fish mortality is defined as a Key Performance Indicator. This means that it is followed up closely and reported monthly to the Central Management team and the Board of Directors.

The 12 months rolling fish mortality for Atlantic salmon was 5.5 percent at the end of December 2018 for Cermaq Group, compared With 5.3 percent in 2017. Cermaq Chile had a reduction of mortalities compared with 2017. Mortalities decreased from 6.1 percent in 2017 to 4.1 percent this year. Cermaq Norway had increased mortalities of 6.1 percent in 2018 compared to 4.3 percent in 2017 mainly due to cold water temperatures in winter 2018. Cermaq Canada's mortality rate was 6.6 percent, an increase from 5.7 percent in 2017. The increase in mortalities in Canada was largely due to more challenging biological conditions compared to 2017.

FISH MORTALITY (ATLANTIC SALMON)

12 months rolling mortality rate - ATS

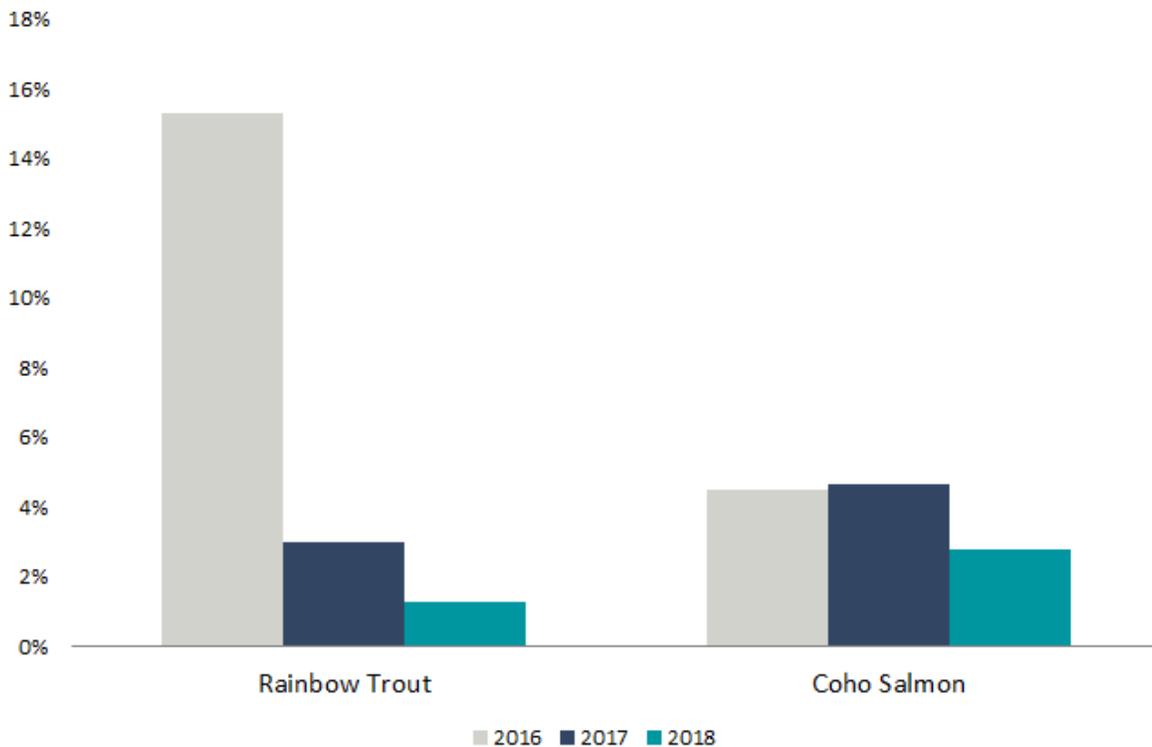




In addition to Atlantic salmon, Cermaq Chile is farming Coho salmon and Rainbow trout. At year-end 2018, the 12 month rolling mortality rate for Rainbow Trout decreased further from 3.0 percent in 2017 to 1.3 percent this year. The rolling mortality rate for Coho decreased to 2.8 percent (from 4.6 percent in 2017).

FISH MORTALITY (RAINBOW TROUT AND COHO SALMON)

12 months rolling mortality rate - RBT and COS



Cullings of fish below harvest size are programmed events with the main objective to preserve the fish health situation of a locality, usually triggered by the presence of a disease. Each country has their own set of rules, including the type of disease to be culled and the time schedule to reduce the possibilities of transmission to other farms and companies. Also, when needed, Cermaq’s Fish

Health team can propose culling events in order to maintain the general sanitary condition of an area.

During 2018, 19 sanitary cullings were reported in Cermaq Chile, where the fish were removed and transported to final disposal after rejection during split handling and complying with all local regulations. Cermaq Canada had one culling in September 2018 after recommendation by a veterinarian. Cermaq Norway reported no culling events in 2018.

The stocking density is compliant with national regulations, which are for Atlantic salmon 25 kg/m³ in Norway and 17 kg/m³ in Chile. Canada does not have a regulatory limit, however Cermaq Canada's normal stocking density is 20 kg/m³.

CEQ 2 SEA LICE

Controlling sea lice levels is a high priority in all regions where Cermaq operates because high levels of sea lice negatively impact the immune systems of the fish and directly affects fish health and welfare. Also the skin of the salmon can be damaged by sea lice and the skin is one of the most important barriers against other diseases. It is also a priority to keep lice levels low to ensure they do not negatively impact wild salmon stocks.

Lice occur naturally in the marine environment. There are two species of lice that affect farmed salmon: *Caligus sp.* and *Lepeophtheirus salmonis*. Infestation by either lice species may result in stress and reduced immune competence, making the fish more susceptible to other diseases and health challenges. Therefore, effective lice management is a very important measure in fish health work, and is a pre-requisite for sustainable aquaculture. The best sea lice management is preventive, reducing the parasitic levels in normal farming practices without handling the fish. Preventive measures are less stressful for the fish and do not involve chemical use. Non-medical treatments including lice skirts, cleaner fish, freshwater treatments, and thermal treatments were used in 2018. Chemical treatments include bath and in-feed treatment. Cermaq works continuously to enhance our sea lice management in all regions, with a focus on preventive measures.

LOCAL ACTION LEVELS (MEAN NUMBER OF LICE PER FISH)

In 2018, average sea lice counts were controlled below the local action levels in Cermaq operations in Chile and Norway. The local action levels in 2018 are provided in the table below.

CEQ 02 - Local Action Levels, mean Level of Lice per Fish

CHILE

NORWAY

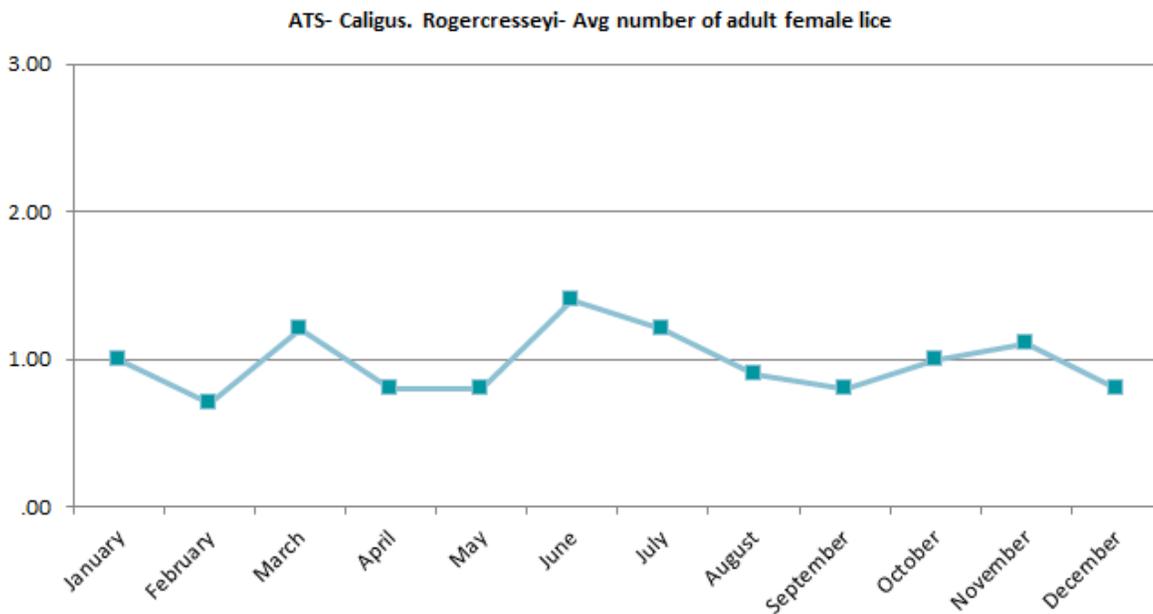
CANADA

	Ovigerous Females	Adult females	Total lice (mobiles + adult females)
2018	3	0.5	3

SEA LICE COUNTS CERMAQ CHILE

In Cermaq Chile the status of Caligus for Atlantic salmon and Trout has improved since the peak in April 2013. For Coho salmon, adult sea lice are not a challenge to the same degree as for Atlantic and Trout and the level remained low in 2018.

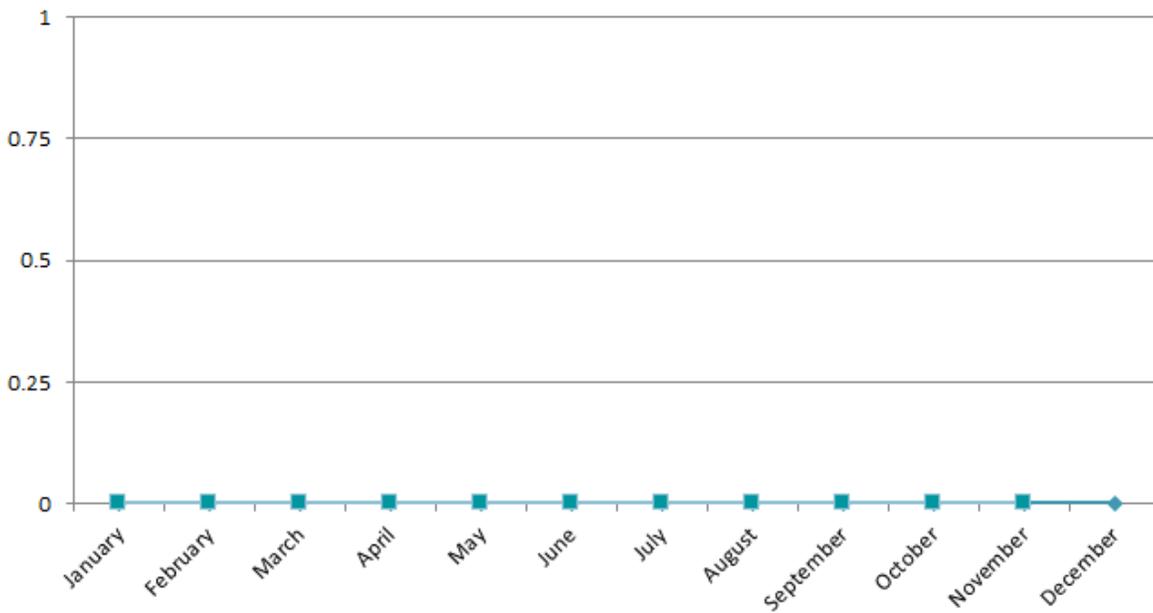
Average Sea Lice Counts Chile - Atlantic salmon



The sea lice counts for Atlantic salmon in Chile were on average 0.98 adult female lice in 2018 compared to 1.12 in 2017.

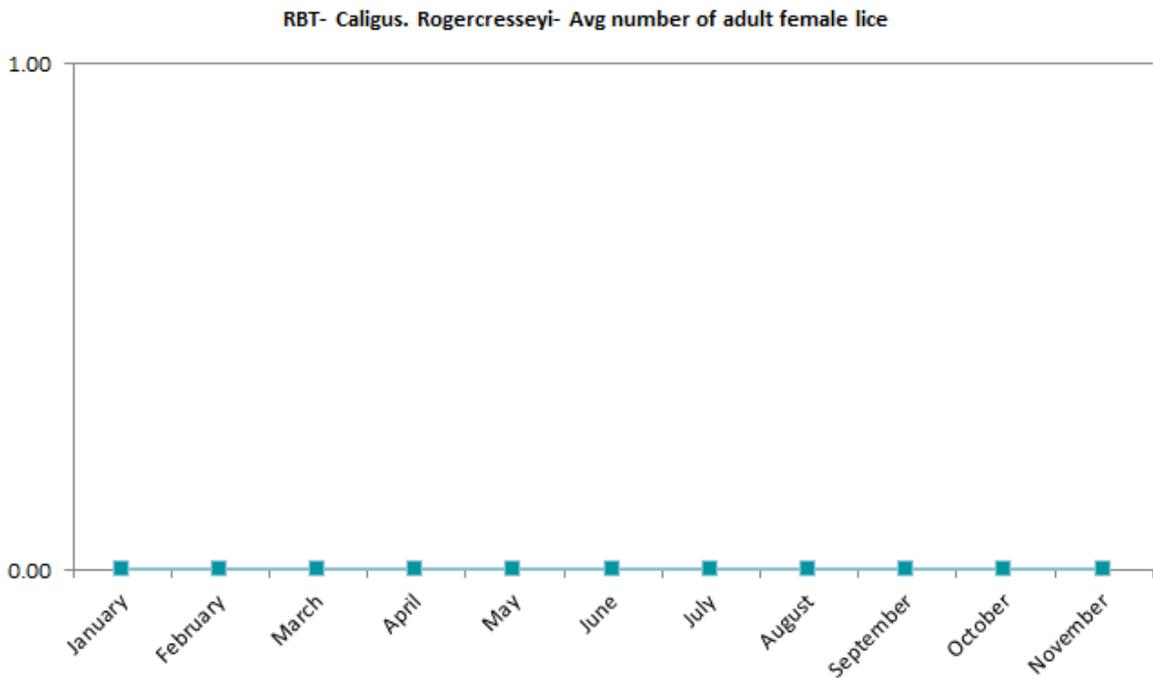
There were significantly lower counts in Q1 2018 compared to Q1 in 2017 (0.97 vs 1.01 lice per fish), with lower counts continuing from April onwards during Chile's autumn. The lowest average counts were in the first half of 2018, while sea lice counts in the October-December 2018 period were 0.97 lice per fish versus 0.77 lice per fish during the same period in 2017.

Average Sea Lice Counts Chile - Coho salmon



Coho salmon had an average of zero attached female salmon lice during all months of 2018.

Average Sea Lice Counts Chile - Rainbow Trout



The average adult female lice count for rainbow trout in all months of 2018 was 0 lice per fish, and the yearly average of 0 attached female lice was a decrease from the average of 0.41 attached female lice in 2017.

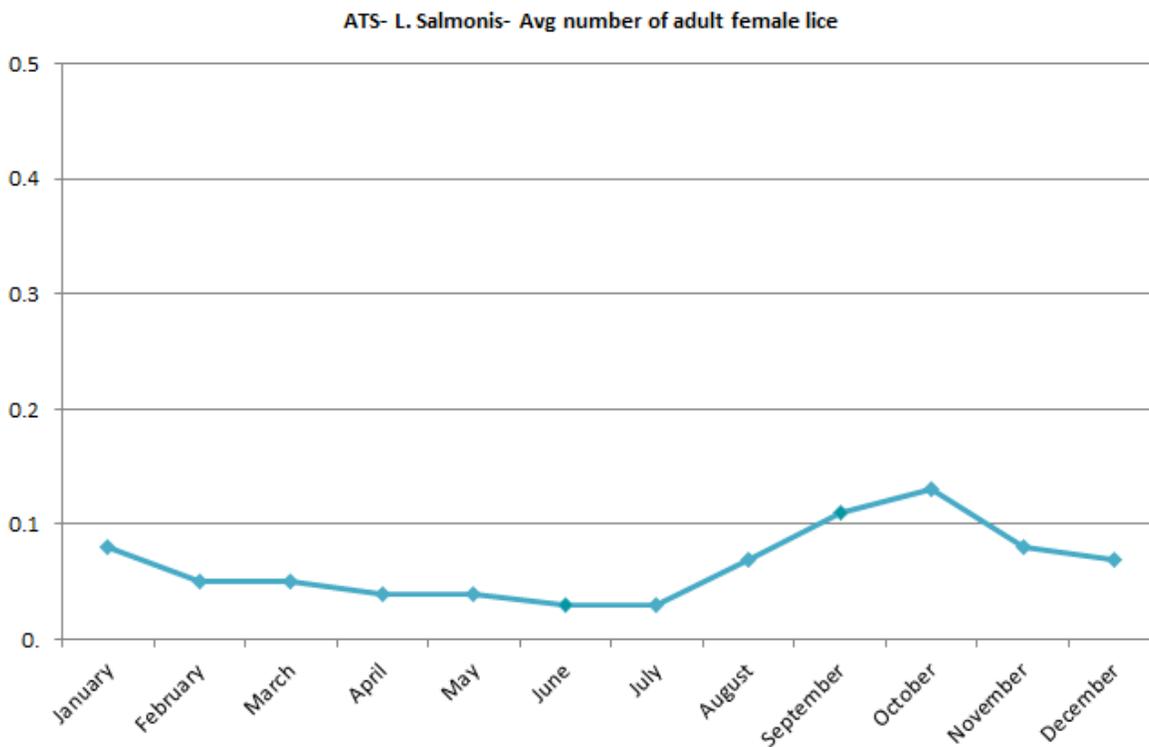
Sea lice counts Cermaq Norway

In Norway, the Norwegian Food Safety Authority (NFSA) has introduced ranking of regions

according to a traffic light system. The system is based on the average period of time where the sites in the region have had levels above the maximum allowed level of 0.5 adult female lice. Cermaq Norway’s operations are located in regions of Norway ranked as green traffic-lights.

Cermaq Norway’s yearly sea lice counts were low, with 0.06 lice per fish in 2018, unchanged from 0.06 lice per fish in 2017, both of which counts are well below regulatory limits. Cermaq Norway is now using the preventive sea lice measures of sea lice skirts and cleaner fish whenever possible.

Average Sea Lice Counts Norway - Atlantic salmon



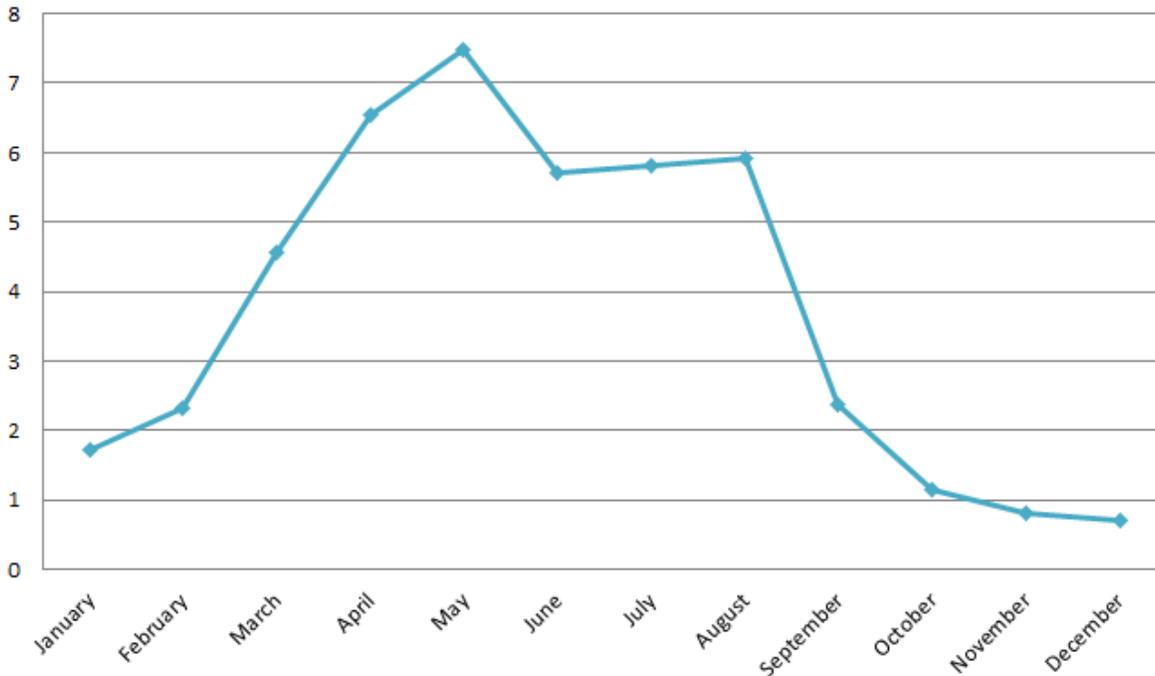
In 2018, continued use of non-chemical methods kept sea lice levels low and well-controlled in Cermaq Norway (0.06 Lice per fish in 2018 and 2017).

Sea lice counts Cermaq Canada

In Cermaq Canada, the sea lice levels increased in 2018, to an average of 3.8 average adult female lice and mobile lice from 1.2 average adult female lice in 2017 due to elevated sea lice levels at a few fish farms in Clayoquot Sound region; however, after treatment of fish and removal of fish from farms, sea lice levels in October-December 2018 were 0.89 adult female and mobile lice versus 1.90 adult female during the same period in 2017. Longer-term Cermaq has committed to a 12 million dollar state-of-the-art lice management barge that will be in place in 2019.

Average Sea Lice Counts Canada - Atlantic salmon

ATS- L. Salmonis Sum of average female and mobile lice



CEQ 3 FALLOW TIME

Cermaq complies with local and national environmental regulations related to effluents and waste, following time and benthic impact assessment. In 2018, all operations fully respected the following requirements defined in regulations.

Fallowing and benthos assessment is necessary to make sure that fish feces and feed pellets won't build up below or around farm pens, to monitor sea floor status and avoid any longer term or irreversible impacts. We monitor our fish feeding every day with underwater cameras to reduce spill of fish feed and reduce negative impacts of nutrient release, such as Nitrogen and Phosphorus. Also dissolved oxygen is measured on a daily basis at farm level to monitor the environmental condition needed to keep good health and welfare of our fish.

Fallow time is measured per week, from the last fish has been harvested and the first fish stocked in the next cycle. Fallow time respond to local regulations in Chile and Norway. There is no regulatory limit in Canada, but best management practice is used.

CEQ 03 - Average Achieved Fallow Time Between Production Cycles (weeks)

WEEKS	CERMAQ CANADA	CERMAQ CHILE	CERMAQ NORWAY
Statutory requirements	-	12	8
2010	22	24	29
2011	13	12	17
2012	24	12	17
2013	27	12	14
2014	17	12	10
2015	55	12	25
2016	18	12	21
2017	23	12	29
2018	23	12	22

Local authorities play an important role auditing all salmon farming companies. If a deviation is detected, Cermaq reports the non-compliances with environmental regulations under indicator 307-1.

In the last years Cermaq has performed trials of alternative fish nets that do not require copper based antifouling paint. Cermaq Canada has had successful evaluation of Kgrid nets, Chile has used EcoNets for farming, and currently Norway continues to transition to using nets made of ultra-high-molecular-weight polyethylene plastic. The main goals include reducing our impact on the environment, reducing handling of net exchange, and preventing predator attacks through stronger net alternatives.

CEQ 4 MEDICINE USE

Cermaq is working systematically with preventive health measures in all countries of operation. Key elements include screening programs for monitoring relevant pathogens from broodstock until harvest size fish, the systematic use of vaccines, feeding with functional feeds, monitoring of water quality, mapping stress in our farmed salmon, and a restrictive use of antibiotics.

The tools developed over several years and the generation of knowledge has allowed for better forecasting of disease events, lower risk of disease outbreaks, and secure fish health and welfare.

Despite preventive measures, sometimes treatment with medicine is necessary, and there are strict procedures in place for the use of medicine such as antibiotics and sea lice treatments. These chemical treatments are used strategically and only when strictly needed to avoid also the generation of resistance.

ANTIBIOTICS USE

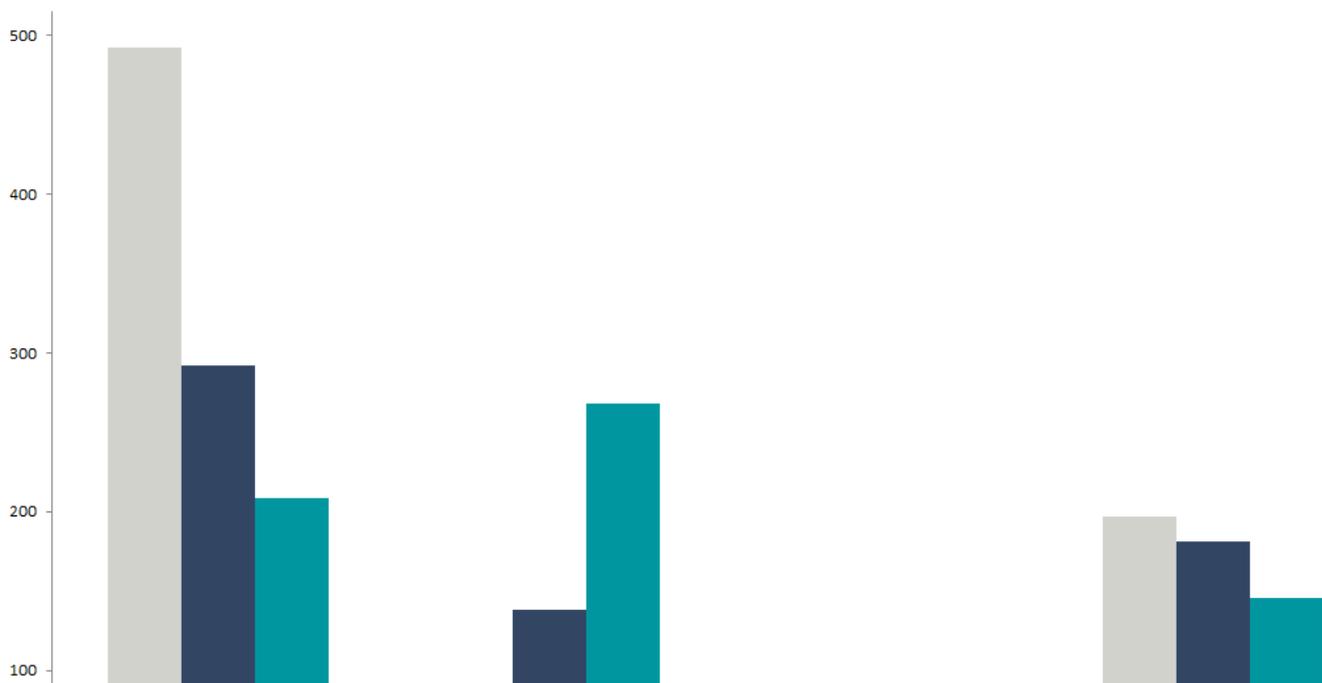
In Cermaq it is important that antibiotic treatments are held to a minimum, only when strictly needed to restore fish health and welfare. Our policy for the use of antibiotics is to limit the use to cases where:

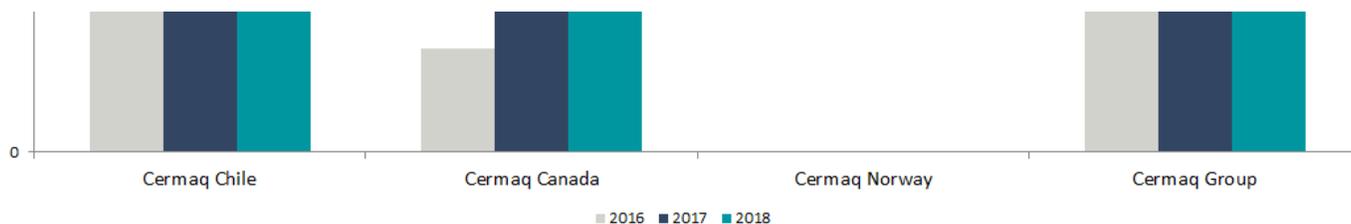
- Animal welfare is threatened by a bacterial disease
- A diagnosis of disease exist with a prescription of antibiotic by an authorized person
- The antibiotic has a proven therapeutic effect against the disease, and
- The antibiotic is approved for use in fish farming

Our calculation of antibiotics use is a ratio between the amount of active ingredients used by tons of live weight of fish produced. This ratio is hence affected by seasonal variations and unpredicted mortality events such as algae bloom mortalities.

CEQ 4 - Antibiotic used

Grams Active Pharmaceutical Ingredients (API) per tonne live weight (LWE) produced





In Cermaq Chile, the use of antibiotics per ton production decreased by 26% in 2018. The reduction was largely a result of new injection treatment techniques which require less medicine and better environmental conditions. Most of antibiotics delivered were to combat SRS (*Piscirickettsia salmonis*) and BKD (bacterial kidney disease). Finding a solution to the SRS challenge remains a key priority for Cermaq’s R&D team and work is underway to find effective vaccines for both diseases. [1]

In Cermaq Canada, mouth rot and SRS were the primary cause of antibiotic use in 2018. At the present there are few alternatives to treat fish for these diseases and our global R&D team is focusing their efforts to provide more tools and knowledge to find sustainable solutions. During 2018, mouth rot and SRS treatments to fish newly entered in the sea led to an overall increase of antibiotic use of 95% during 2018 compared to 2017. Overall numbers for 2018 were: Q1 2018 38 g/ton live weight equivalent vs 51g in Q1 2017, Q2 2018 66g/ton of live weight equivalent vs 30g in Q2 2017, Q3 2018 517g/ton live weight equivalent to combat SRS and mouth rot vs 362g in 2017, and Q4 583g/ton of live weight equivalent to combat SRS, mouth rot and algal blooms vs 150g in 2017.

As in previous years, the main reason for any use of antibiotics in our Norwegian operations in 2018 was mouth rot. The use has however been minimal, with the aim to ensure fish health and welfare, with only four farms receiving treatment during the entire year. The Cermaq R&D team are working to develop more optimal solutions to control mouth rot.

The positive developments in Cermaq Chile and Norway, together with a constant focus on a responsible use of antibiotics, led to a 20% reduction in antibiotics use at a Group level compared to 2017.

Grams Active Pharmaceutical Ingredients (API) per tonne live weight (LWE) produced

2014	9	279	5	147
2015	220	513	1	266
2016	65	493	0	197
2017	138	292	0.5	181
2018	268	215	0.3	145
Δ	+95%	-26%	-46%	-20%

Cermaq also reports antibiotic use online on a quarterly basis. In our quarterly sustainability report we provide the amount of active ingredient of antibiotic used by tonnage harvested, at the moment when the sites are fully harvested (*closed cycle*). This calculation follows the same measure used worldwide in the protein industry to allow for comparison with other protein producers, and hence differs from the calculation presented here (based on LWE produced per calendar year, instead of ton harvested per closed cycle of approximately 18 months).

SEA LICE TREATMENT USE

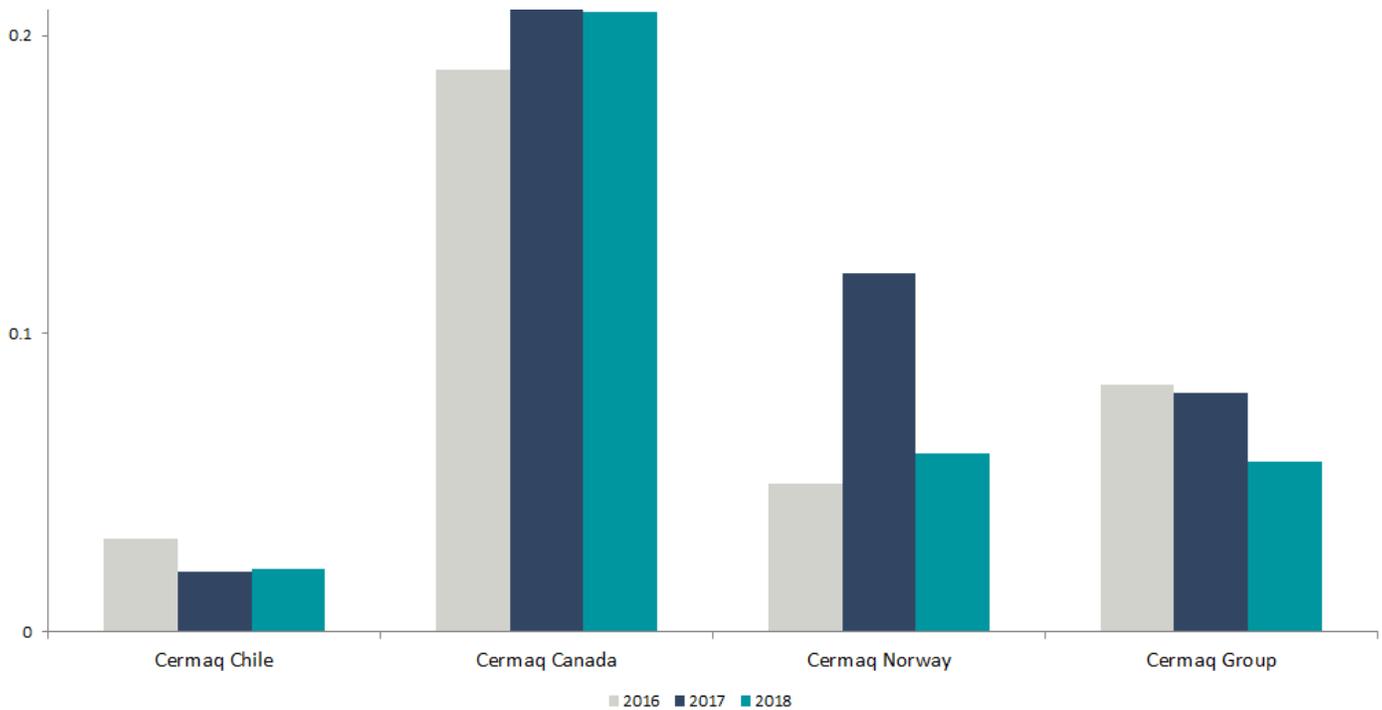
Sea lice is a challenge for the industry worldwide and each country has specific set of requirements with thresholds which determines the proper management. Cermaq has policies and procedures in place to ensure that all treatments are conducted in accordance with local regulations and area management plans. More details can be found under the indicator Sea lice counts (CEQ2).

CEQ 4 - Sea lice treatment used in feed

Grams Active Pharmaceutical Ingredients (API) per tonne live weight (LWE) produced.

0.3





In Canada, hydrogen peroxide baths in contained well boats as well as in-feed sea lice treatment are approved for use. Oral Emamectin is delivered through the fish feed and remains an effective alternative. Hydrogen peroxide helps to reduce the use of in-feed treatments. More information on permits for controlled use of environmentally safe hydrogen peroxide baths can be found on Cermaq Canada's public reporting page. Cermaq Canada is expecting the delivery of a Hydrolicer barge in Spring 2019 that will mechanically remove and collect sea lice. This equipment will be fundamental in the integrated pest management strategy being employed by Cermaq Canada to manage sea lice levels on its fish. Also, research into alternative strategies such as local cleanerfish and physical removal is ongoing. The use of in-feed treatments remained low in Cermaq Chile in 2018 due to good environmental conditions. In Norway, use of in feed treatments was lower than in the previous year.

In 2017, the amount of Active Pharmaceutical Ingredients (grams API) per tonne live weight (LWE) used for in-feed treatment was 0.06 for Norway, 0.02 for Chile and 0.21 for Canada. For Canada and Norway, the use decreased by 22% and 48% respectively, compared with 2017. In Chile, the in-feed use increased by 3% from 2017.

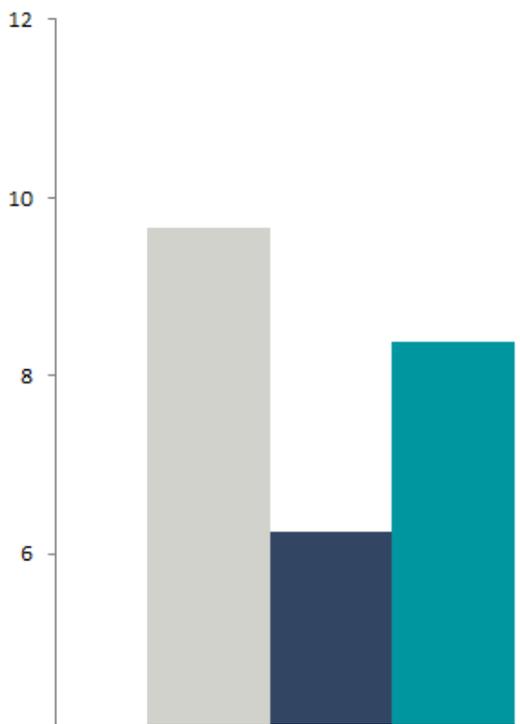
Grams Active Pharmaceutical Ingredients (API) per tonne live weight (LWE) produced.

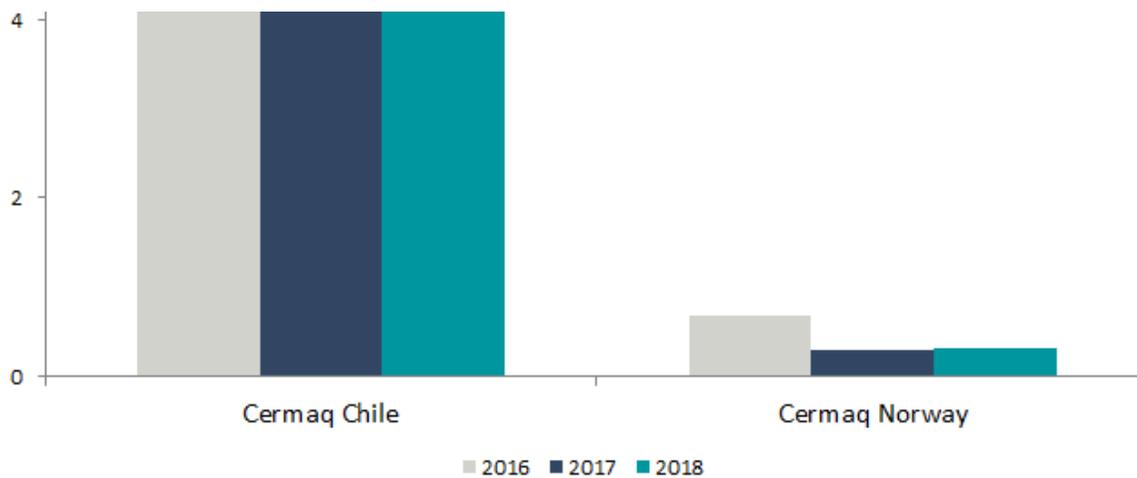
	CERMAQ CANADA	CERMAQ CHILE	CERMAQ NORWAY	CERMAQ GROUP
2014	0.139	0.017	0.103	0.063

2015	0.271	0.015	0.092	0.083
2016	0.189	0.031	0.050	0.083
2017	0.270	0.020	0.120	0.080
2018	0.208	0.020	0.062	0.057
Δ	-22%	+3%	-48%	-29%

CEQ 4 - Sea lice treatment used in bath

Grams Active Pharmaceutical Ingredients (API) per tonne live weight (LWE) produced





The use of sea lice bath treatment for Chile increased to 8.39 gAPI/tonne LWE for 2018, which is an increase from 2017, and largely due to continuing successful efforts to control sea lice levels. Sea lice load pressure increased in regions X and XI, and there was low efficacy of bath treatments against adult sea lice and the absence of a product with high efficacy against juvenile parasites.

For Norway the sea lice bath treatment use was 0.32 gAPI/tonne LWE, which is an increase of 9% compared with 2017. Cermaq Norway has continued its strong focus on preventive sea lice management in the past year, with measures such as cleaner fish and skirts used wherever possible. Also hydrogen peroxide is used, which requires handling of the fish, but where the active ingredients is broken down into water and oxygen and hence has very limited environmental impacts. Increasing sea lice resistance to chemical treatments is a concern for the industry in Norway and for Cermaq Norway it is a goal to strengthen preventive management and non-chemical alternatives further, while maintaining a strong focus on fish health and welfare, including reducing stress on the fish.

Grams Active Pharmaceutical Ingredients (API) per tonne live weight (LWE) produced

	CERMAQ CANADA	CERMAQ CHILE	CERMAQ NORWAY	CERMAQ GROUP
2014	0.00	6.04	0.98	3.46
2015	0.00	4.46	2.67	3.10
2016	0.00	9.67	0.67	3.95

2017	0.00	6.24	0.30	3.64
2018	0.00	8.28	0.32	4.72
	0%	+34%	+9%	+30%

Δ

CEQ 5 VACCINATION PROGRAM

Preventive fish health is an effective approach to strengthen animal welfare and resistance to environmental and biological challenges. Preventive measures include broodstock and fish screening for viral and bacterial diseases to reduce transmission, using genetically resistant fish by means of natural breeding techniques (QTL), functional feed and the use of vaccines.

The vaccines available in Norway, Canada and Chile are related to the particular needs of each country. The vaccines used, are those assessed as effective for the species and for the disease in each specific region. Examples of diseases we vaccinate against are IPN, Vibriosis, ISA, BKD, Furunculosis, SRS, IHN and Enteric Red Mouth Disease. Vaccination is delivered mostly in the hatcheries by injectable vaccines. The objective is to protect the fish for the challenges faced during sea water farming. After the vaccination the smolts will have time to obtain immunity and thereby be protected against disease at the moment of stocking.

The fish can also be vaccinated to prevent disease in the fresh water phase or it can receive a booster. The goal of boosters is to increase the first immune response or the first defenses gained by the very first vaccination, allowing for a faster and stronger response against the disease. Cermaq's global R&D team has a particular focus on developing effective solutions for SRS and mouth rot/ Tenacibaculum.

In Chile, Cermaq has finalized trials on different new vaccines against SRS, and is currently using a live IP-vaccine and booster vaccine that show good effect. Cermaq works actively with vaccine suppliers to develop new vaccines. A new experimental SRS vaccine with good laboratory results will be tested in 2019 in our R&D station Colaco under field condition, and another prototype SRS vaccine is in the early development stage. An oral BKD vaccine has been approved for use in region XII in Chile. Additionally, Cermaq is continuing research on new vaccine candidates against Tenacibaculum bacteria, which cause disease in Canada and Norway.

Vaccination program in Cermaq (2018)

The following figure includes all the diseases for which vaccines are delivered by country of origin.

CEQ5 VACCINATION PROGRAM			
	Canada	Chile	Norway
SRS		X	
Furunculosis	X	X	X
Vibriosis	X	X	X
Coldwater vibriosis	X	X	X
Winter ulcer*	X		X
IPN		X	X
ISA		X	
Enteric Red Mouth	X		
IHN	X		
BKD		X	

* Experimental trial for *Moritella viscosa*.

CEQ 6 AREA MANAGEMENT AGREEMENTS

Area based management agreements are of great importance for effective and preventive fish management. Area Management Agreements can be a voluntary measure, such as a best management practice, or it can be a national wide requirement, formalized under a written area management agreement between stakeholders in a defined area.

Regardless of the origin of these agreements, the agreements are tailored to the local situation and, typically, may include topics such as following and sea lice management strategies

and, typically, may include topics such as tailoring and sea lice management strategies, vaccination programs, containment and contingency plans, recapture management plans and disease control strategies in farmed and wild fisheries.

In 2018, all Cermaq sites operated under area based management agreements or were located in areas fully controlled by Cermaq.

CEQ 7 ESCAPES

Cermaq has comprehensive procedures for preventing and managing fish escapes. Fish escapes are regarded as serious incidents which receive special attention from Cermaq management and the Board of Directors. Fish escapes may typically occur if nets are damaged, because of weather conditions, after handling of the nets for bath treatments, or as a consequence of predator attacks. An early detection of a fish escape allows to recover the salmon and reduce the impact of the escape event.

Measures include fish escape prevention plans in all regions, contingency plans, and monitoring activities. In Cermaq Chile, monitoring is in place for the entire network installation by use of remotely operated vehicle (ROV), to assess the status of nets and detect any holes to prevent escapes. Other measures include regular inspections of infrastructure, reporting to learn from previous escapes, implementation of and training in procedures securing the facility in case of escapes, and recapture of escaped fish. In Norway, Cermaq has an emergency cooperation with farmers in the county of Finnmark in case of an escape. Inspections are performed by the authorities in all regions with regards to escape prevention.

Cermaq Canada has tested multiple types of nets, including polyester, high-density polyethylene, and KGrid netting, Cermaq Chile has tested and used rigid plastic monofilament Econets for farming and currently Norway is using nets made of plastic (Dyneema Polyethelyne). These stronger nets prevent larger interaction with predators, ruptures, and possible fish escapes. They also do not use copper based paint to reduce negative impacts on the environment.

Number of escaped fish by region

YEAR	CERMAQ CANADA	CERMAQ NORWAY	CERMAQ CHILE	GRAND TOTAL
2014	21	0	0	21

2015	2	500	6844	7346
2016	1	425	0	426
2017	0	0	212562	212562

2018	10	5813*	27868	33691*
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In 2018, there were two fish escapes in Cermaq Chile, leading to 27868 fish escaping. One escape was due to a ripped net during the net changing process while the second escape was due to a net tear caused by a sea lion attack during the night. In Norway, there were three escape events recorded in Q3 2018 where a total of 5813 fish escaped. 46 fish escaped in Nordland due to a tear in a net, while 5765 fish escaped due to a fire and a further two escaped fish were caught by a fisherman in Finnmark and identified as Cermaq fish through gene analysis. In Canada, 10 fish escaped during the transfer to a sea site in 2018.

In Norway, Cermaq has introduced DNA traceability for its smolt, enabling to determine whether an escaped salmon is farmed by Cermaq or another company. The first smolt of this kind was transferred to sea in 2015. This DNA traceability allowed the identification of two fish that were caught by a local fisherman in Norway in 2018 as Cermaq fish.

*Cermaq Norway Escape numbers and annual total updated September 2019 after final harvesting

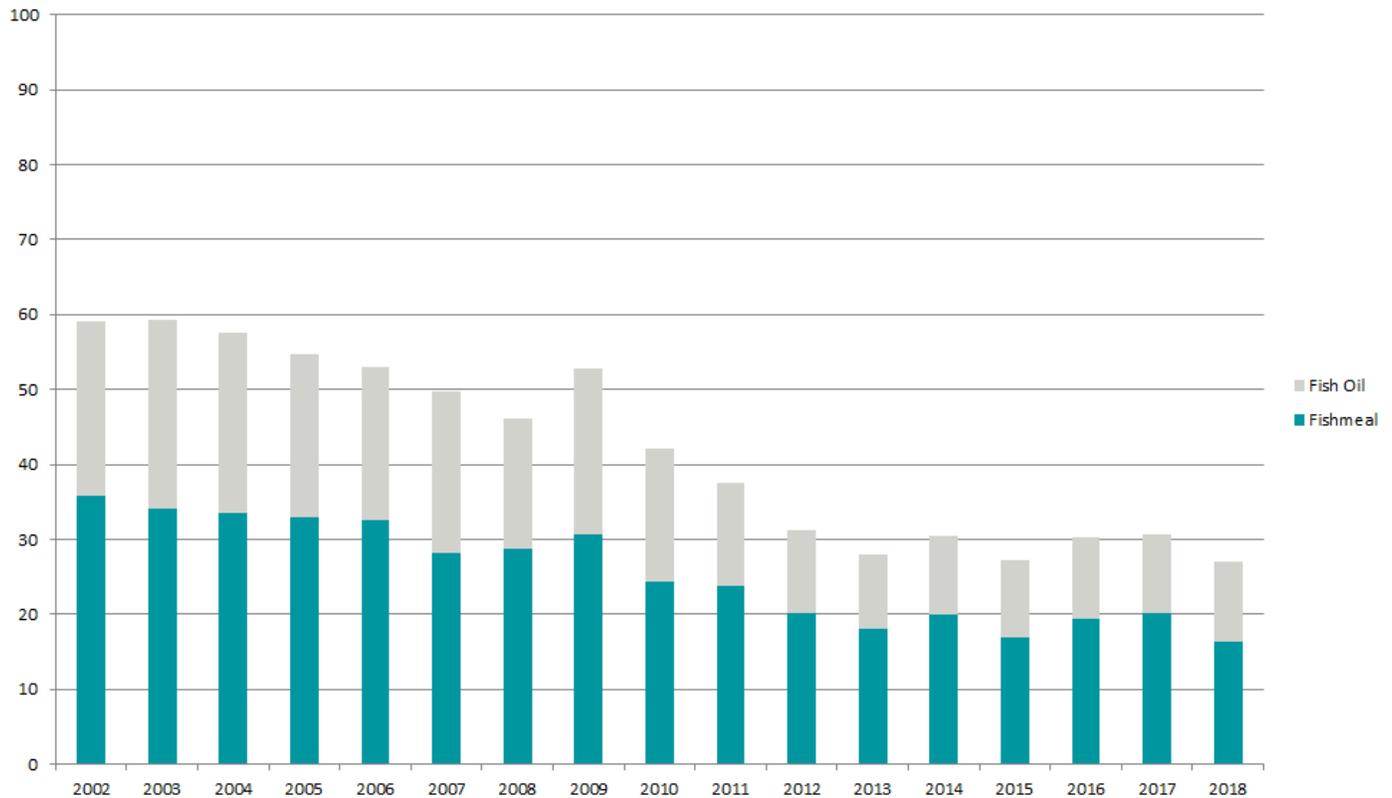
CEQ 8 RAW MATERIAL INGREDIENTS

At a global level, EWOS is the main feed supplier of Cermaq's farming operations and hence this indicator is based on EWOS data.

Forage fishery dependency has been a challenge for a growing fish farming industry. Salmon needs marine ingredients to grow healthy and to keep a good content of omega-3. Since 2010, the use of fish trimmings and byproducts in fish feed has increased from around 20% to over 30%. While use of trimmings has increased, in 2018 the total marine index for EWOS decreased to 27.1 percent

of trimmings has increased, in 2018 the total marine index for EWOS decreased to 27.1 percent compared to 30.7 percent in 2017. The specific content of marine ingredients in our EWOS feed varies within specified limits depending on price and availability of alternative raw materials.

Marine content in salmonid feeds



Notes: 2011-2018 figures are excl. EWOS Vietnam

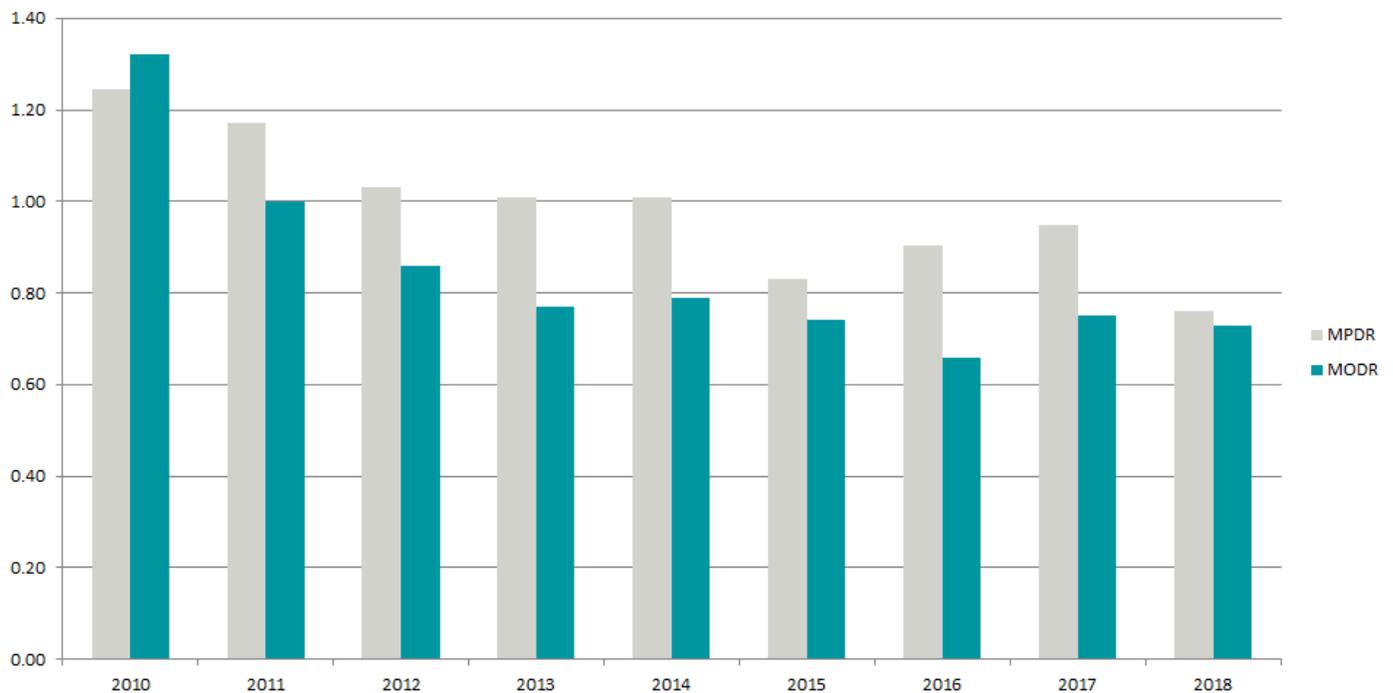
In the FAO report “The State of World Fisheries and Aquaculture 2018” (SOFIA 2018), it is reported that fish meal and fish oil inclusion rates used in feed for salmon aquaculture has been decreasing overall since 1990. At the same time aquaculture production at a global level has grown but not the capture production from forage fisheries, indicating that the dependency between these two activities are decoupling. Efficient use of marine ingredients, byproducts and replacement with plant ingredients has allowed salmon production to increase while keeping its good quality and the advantages relative to other proteins. Specifically in the past years EWOS and other feed suppliers have introduced new ingredients and lowered the marine content in its feed. Research into 'marine independence' provides the knowledge for further significant reduction in the future if necessary, for example using insects, yeast, or algae in salmon feed. Under this scenario aquaculture is increasingly decoupled from fishery activities.

The marine nutrient dependency ratio (MNDR) is the ratio of each marine-derived nutrient used to

feed salmon divided by the amount of each marine nutrient produced as a result of salmon farming (Crampton et al., 2010). Thus, it estimates the amount of marine protein and oil produced in salmon farming relative to the marine protein and oil consumed in the form of forage fish. The marine protein dependency ratio (MPDR) is the calculation made for proteins and the marine oil dependency ratio (MODR) is for oils and fats. Dietary protein sources and oils or lipids from all capture fish, shellfish or zooplankton are classified as marine sources. (Nofima Report 36/2014).

Efficient use of marine ingredients is important, and farmed salmon is well known to be very efficient in its feed conversion. For example in 2018, EWOS estimated a MPDR of 0.76 (compared to 0.95 in 2017 and 0.90 in 2016), which means that the build-up of marine proteins by salmon has been higher than the amounts received through the feed. For marine oil the development is similar. EWOS used less marine oil in the feed (0.73) than the amount produced by the salmon. For comparison EWOS used 0.75 units of oil in 2017 and 0.66 units in 2016. Farmed salmon is now a net producer of marine protein and oils.

Estimated Marine Nutrient Ratios



Note: The figures are excl. EWOS Vietnam

The following list shows the countries of origin for many of the fish species used in fishmeal and fish oil purchased by EWOS and used in Cermaq's production.

Country of origin

FISH SPECIES	COUNTRY
Anchovy	Chile, Peru
Blue whiting	Denmark, Faroe Islands, Iceland, Ireland, Norway
Capelin	Iceland, Norway
Gulf menhaden	USA
Herring (Araucanian)	Chile
Jack mackerel	Chile
Sand eel	Denmark, Norway
Sardine	Chile, Mauritania, Mexico, Panama
Sprat	Denmark, Norway

Cermaq has strict requirements of its feed suppliers, and encourages certified sources of ingredients. As stated on their web page, EWOS prioritizes the use of feed ingredients that are judged to be sustainable based upon sources such as IMARPE and Sernapesca in South America, ICES in Europe, and National Marine Fisheries Service, Gulf States Marine Fisheries Commission, and Atlantic States Marine Fisheries Commission in the USA. EWOS is a strong supporter of the IFFO Responsible Supply Standards, and in line with Cermaq's requirements, EWOS does not accept IUU/illegal fishing as sources for the fish oil or fish meal they purchase. In 2018, nearly all of EWOS' 700 raw material suppliers signed their Supplier Code of Conduct, which gives expectations to suppliers with respect to key aspects of environmental and social impacts.

EWOS participated in the development of the RTRS and ProTerra standards for responsible soy and also supports the FEFAC guidelines for responsible soy. In 2014, both EWOS and Cermaq signed The New York Declaration on Forests aiming at stopping deforestation and focusing especially on soy and palm oil.

EWOS source soy products from Brazil, their main supplier, that are certified to ProTerra, RTRS or equivalent. Use of soy products from other countries can be approved given evidence that they are

responsibly sourced or that the suppliers have development programs in place to achieve credible third-party certification.

The table below shows the fish species and category of raw material used for salmonid feed primarily, but also raw materials used for other fish species like pangasius and tilapia. In 2018, EWOS' use of marine ingredients derived from fish trimmings and by-products was 31 percent (a decrease from 33 percent in 2017).

Overview of fish species used to make fishmeal and fishoil for EWOS group feed 2018

CATEGORY	SPECIES	CATEGORY %	TOTAL %
Fish trimmings & byproducts	Herring (Atlantic)	40.9	12.8
	White fish	23.2	7.2
	Atlantic mackerel	4.6	1.4
	Capelin	5.9	1.8
	Sardine	2.7	0.8
	Various species	22.7	7.1
Fish trimmings & byproducts Total		100	31.2
Forage Fish	Blue Whiting	28.6	19.7
	Anchovy	19.8	13.6
	Gulf menhaden	9.2	6.3
	Sardine	4.2	2.9
	Sand eel	6.3	4.3
	Capelin	5.4	3.7
	Jack mackerel	2.1	1.4

Herring (Araucanian)	5.1	3.5
Sprat	5.7	3.9
Others	13.6	9.4
Forage Fish Total	100	68.8
Other Marine Ingredients	0	0
Other Marine Ingredients Total	0	0
		100%

Notes: Species that individually make up less than 2% of the mix have been grouped together under 'various species'. Countries making up less than 2% of the total fish meal + fish oil are not listed.

More information on EWOS feed ingredients, sourcing and sustainability management is available in the EWOS sustainability report on their webpage.

CEQ 11 LOCAL COMMUNITY COMPLAINTS

We recognize that our operations impact our neighbors and local communities in various ways, and we take care to register all complaints to our operations in order to address the root cause and make improvements. Cermaq operates in remote areas and engages closely with local communities. In order to operate sustainably we need to have a respectful interaction with our local communities for a long term period.

There were no community complaints reported in 2018, unchanged from 0 community complaints reported in 2017.

CEQ 12 WHISTLE BLOWING INCIDENTS

Whistle blowing is regarded as positive in Cermaq Group because we get the opportunity to correct any incidence of wrong doing. Cermaq's current whistle blower channel for external stakeholders was established in 2014, with appropriate routines, procedures and technical specifications.

Whistle blowing can be done from our public internet web site

Whistle blowing can be done from our public internet web site.

In 2018, a total of 10 whistle blowing incidents were reported (internal and external). For comparison, there were 15 cases of whistle blowing incidents in 2017. The reports were assessed and closed in accordance with procedures.

Below are the whistle blowing incidents recorded in Cermaq by country for the past three years.

	2016	2017	2018
Cermaq Norway	1	4	4
Cermaq Chile	4	7	2
Cermaq Canada	2	4	3
Cermaq Group HQ	0	0	1
Cermaq Group	7	15	10

CEQ 15 COUNTRY-BY-COUNTRY FINANCIAL AND ORGANISATIONAL DATA

Transparency regarding organizational ownership, management and operations, is regarded as important to fight corruption and to demonstrate responsible business conduct. The table below shows Cermaq's financial and organizational data for each country in the Group.

COUNTRY	REVENUES BEFORE TAX	INCOME TAX PAID	INVESTMENTS	COMMUNITY INVESTMENT	FINANCIAL ASSISTANCE RECEIVED FROM GOVERNMENT	NUMBER OF EMPLOYEES
Cermaq Group HQ	-41	3	0	0	1.7	44

Cermaq Norway	1527	312	586	1.8	0	539
Cermaq Chile	362	102	393	0.5	8.1	3835
Cermaq Canada	438	131	158	0.6	0	236
Total	2286	547	1136	3	10	4654

Numbers in mill. NOK

Period accounted for is 01.01.2018 to 31.12.2018.

CEQ 16 ASC CERTIFICATION

The Aquaculture Stewardship Council (ASC) aims to be the world's leading certification and labelling program for responsibly farmed seafood. The ASC's primary role is to manage the global standards for responsible aquaculture, which were developed by the WWF Aquaculture Dialogues.

As of December 2018, Cermaq had 42 ASC certified sites. Of these 18 were in Norway, 13 in Canada and 11 in Chile.

ASC works with aquaculture producers, seafood processors, retail and foodservice companies, scientists, conservation groups and consumers to:

- Recognize and reward responsible aquaculture through the ASC aquaculture certification program and seafood label.
- Promote best environmental and social choice when buying seafood.
- Contribute to transforming seafood markets towards sustainability.

Cermaq aims to certify its farming sites to the salmon standard for responsibly farmed salmon from the Aquaculture Stewardship Council (ASC). Ongoing certifications can also be found on ASC's website. The table below provides an overview of all ASC certified sites in Cermaq as of 31 December 2018.

COUNTRY	SITE NAME	FISH SPECIES	PRODUCTION CAPACITY
Norway	Anevika	ATS	5400

Germaq | Germaq Indicators

	Nordnes	ATS	3480
	Store Lerresfjord	ATS	3480
	Oksøya	ATS	5400
	Veggfjell	ATS	5400
	Skinnstakkvika	ATS	3120
	Ytre Koven	ATS	3600
	Sommarbuk	ATS	3480
	Rivabukt	ATS	3480
	Tuvan	ATS	3480
	Martnesvika	ATS	5400
	Storholmen	ATS	5600
	Olderfjord	ATS	4800
	Jernelva	ATS	2100
	Komagnes	ATS	5800
	Langøyhovden	ATS	1190
	Svartfjell	ATS	3370
	Dypeidet	ATS	1840
Chile	Punta Isla	RBT	2886
	Desembocadura Gajardo	ATS	5236

Germaq | Germaq Indicators

	Yelcho	COS	5250
	Calen 2	COS	4050
	Estero Navarro	ATS	5236
	Canal Bertrand	ATS	3584
	Linlinao	COS	2621
	Punta Darsena	ATS	4000
	Darsena Norte	ATS	3750
	Surgidero Furia	ATS	3750
	Aguantao	COS	2621
Canada	Bare Bluff	ATS	2640
	Dixon Bay	ATS	2650
	Mussel Rock	ATS	2050
	Brent Island	ATS	3000
	Venture Point	ATS	3393
	Raza Island	ATS	2700
	Westside	ATS	2460
	Maude	ATS	2640
	Burwood	ATS	2640
	Sir Edmund Bay	ATS	2640
	Ross Pass	ATS	2450

Millar Channel	ATS	2900
Saranac	ATS	2640

Note: Production capacity is in tons as maximum allowed biomass by farming site during one farming cycle. The production capacity is granted from 2015 until 2021, depending on the issue date of the certification

A certified farming site must comply with several requirements, including 150 sustainability criteria such as wildlife interactions, sea lice counts, fish escapes and unexplained loss among others. Some indicators such as wildlife interactions and sea lice counts must be reported and be publicly available. This information is provided in the [Cermaq ASC Dashboard](#).

Advantages of ASC salmon

ASC certification can help consumers make positive environmentally and socially responsible choices when buying seafood. It gives at-a-glance reassurance that the seafood comes from a farm which uses responsible farming methods that minimize environmental and social impacts. It lets consumers enjoy seafood with a clear conscience; they know where it's come from and how it's been produced. It ensures transparency, so that seafood products are traceable from farm to fork.

CEQ 17 BIRDS AND MAMMALS

Cermaq recognizes the potential for fish farming operations to impact biodiversity, either directly or indirectly. We operate in areas with rich biodiversity where several species of plants and animals interacts with our farming activities. Also in Chile salmonids are non-native fish species where our operations could have an impact on biodiversity.

Cermaq does not operate any sites in any protected areas as defined by the International Union for Conservation of Nature (IUCN) or National legislation. Birds and mammals mortalities is reported by accidental and intentional events and has been calculated as a total number of interactions divided by the total number of active sites from January to December 2018, following the definition set by the Global Salmon Initiative (GSI).

ACCIDENTAL

INTENTIONAL

	Birds	Mammals	Birds	Mammals
Chile	0.05	0.02	0	0
Norway	0.81	0	0	0
Canada	0.75	0.19	0	0

A requirement of the Aquaculture Stewardship Council, wildlife interactions on ASC certified sites are covered by public reporting within 30 days of any death of birds or marine mammals, whether unintentional or intentional. ASC requirements also include a requirement of no mortalities of endangered or red-listed marine mammals or birds as defined by IUCN or national endangered species list.

Cermaq will continue to install preventive measures and monitoring to reduce the number of interactions with wildlife. Please consult Cermaq's ASC dashboard for reports of incidents with wildlife on ASC certified sites in each region.

GRI Indicators

Cermaq reports on topics that have been found material for our operations and to our stakeholders, and use the Global Reporting Initiative (GRI) Standards as the framework.

How we define our material topics is described in further detail in our [Materiality Analysis](#). We use the GRI Standards as the framework to identify specific indicators to report on for each material topic, and these are presented on this page. In line with best practice, Cermaq has chosen to use the GRI Standards for the 2018 GRI report, which has been prepared in accordance with the Core level. In addition, we have developed a separate set of material indicators which are made specifically for our industry and our operations. These can be found under [Cermaq Indicators](#).

Here you will find the GRI indicators categorized in General Disclosures, Economic, Environmental and Social indicators for our operations in Norway, Chile and Canada for 2018.

GRI General Disclosures

1. ORGANIZATIONAL PROFILE

102-1 NAME OF THE ORGANIZATION

Cermaq Group AS

102-2 ACTIVITIES, BRANDS, PRODUCTS, AND SERVICES

Farming and sales of Atlantic salmon, Coho salmon and trout, under the brands Cermaq, Mainstream and Cultivos Marinos.

102-3 LOCATION OF HEADQUARTERS

Dronning Eufemias gate 16, 0102 Oslo, Norway

102-4 LOCATION OF OPERATIONS

Cermaq has significant operations in three countries, in Norway, Canada and Chile. For more information read about [our organization](#).

102-5 OWNERSHIP AND LEGAL FORM

Cermaq Group AS is a fully owned subsidiary of Mitsubishi Corporation.

102-6 MARKETS SERVED

Cermaq sells its salmon products globally, where the main markets are USA, EU, Norway, Canada, Brazil, Chile, Japan, China and Russia.

102-7 SCALE OF THE ORGANIZATION

Cermaq operates in three countries, subsidiaries and associated companies of significant size are:

- Parent company Cermaq Group AS
- Cermaq Holding AS
- Cermaq Norway AS
- Cermaq Canada Ltd.
- Southern Cross Seafoods S.A.
- Mainstream Chile S.A
- Cermaq Chile S.A.
- Salmones Humboldt SpA
- Agraindustrial Santa Cruz Ltda.

The GRI report covers Cermaq's aquaculture operations.

Key figures

102-8 INFORMATION ON EMPLOYEES AND OTHER WORKERS

Workforce

102-9 SUPPLY CHAIN

Cermaq's value chain

102-10 SIGNIFICANT CHANGES TO THE ORGANIZATION AND ITS SUPPLY CHAIN

On 1st of December 2016 Cermaq's Chilean operations were merged with Salmenes Humboldt, a salmon farming company fully owned by Mitsubishi Corporation, and the company is operating under the name Cermaq Chile S.A.

No significant changes in the operations or its supply chain occurred in 2017.

Cermaq's Alsvåg processing facility was closed on 1 February 2018 and sold to Viking Innovation, which took over the facility on 27 April 2018. The new processing plant in Steigen was officially opened in September 2018.

102-11 PRECAUTIONARY PRINCIPLE OR APPROACH

Cermaq follows a precautionary approach to the management of all risk areas (including sustainability) through its annual risk assessment process and reporting model. In the model, responsibility and tasks for risk mitigating activities related to any identified material risks are allocated. Furthermore, the company's guidelines for ethical and corporate responsibility explicitly state that "If doubts arise as to whether an activity is permitted or justifiable on the basis of the ethical and corporate responsibility guidelines, the person in question should seek advice from his/her immediate superior."

Cermaq is closely following up risks in its farming operations through monthly and quarterly reporting, including external sustainability reporting each quarter since 2016. Risks are assessed and followed up by management.

One of Cermaq's five values is 'Long term perspective' supporting the view that long term profit comes before short term gain because Cermaq's success is defined by value creation over time and lasting customer satisfaction.

102-12 EXTERNAL INITIATIVES

Global initiatives

102-13 MEMBERSHIP OF ASSOCIATIONS

Norwegian Seafood Federation (Sjømat Norge, formerly known as FHL); British Columbia Salmon Farmers Association (BCSFA); Canadian Aquaculture Industry Alliance (CAIA); Salmon Chile, Global Salmon Initiative (GSI); UN Global Compact; Annonsørforeningen (ANFO).

2. STRATEGY

102-14 STATEMENT FROM SENIOR DECISION MAKER

Please see the [CEO comments](#) to the GRI report

3. ETHICS AND INTEGRITY

102-16 VALUES, PRINCIPLES, STANDARDS, AND NORMS OF BEHAVIOR

The following codes and guidelines have been implemented and are widely distributed throughout the Cermaq Group. They are also available on our web page.

[Cermaq values](#)

[Ethical and Corporate Responsibility guidelines](#)

[Whistle blowing guidelines](#)

4. GOVERNANCE

102-18 GOVERNANCE STRUCTURE

The general meeting is the highest governance body in Cermaq Group AS (“Cermaq”). The General meeting of Cermaq elects the shareholder elected directors, the auditor and also approves the annual accounts and the board remuneration. In addition, three directors of the Board are elected by and amongst the Norwegian employees.

The Board sets the strategic direction for the company and resolves budgets, annual goals and guidelines for the operations of the company. Further, the Board monitors the company’s management and operations, resolves matters outside the ordinary course of business and appoints the CEO. The Board established a remuneration committee in 2016 to develop recommendations to the Board in matters concerning remuneration. The Board did not have any other sub-committees in 2018. The CEO is responsible for the daily management and operations of the company and reports to the Board.

Environmental and social topics are followed up by Cermaq’s global Sustainability Functional Team (SFT), which is chaired by the Head of Sustainability and Risk, and which has the Chief Legal Counsel (member of the Cermaq management team) as sponsor. Material issues and sustainability reports are reviewed by the SFT before providing recommendations to the Cermaq management team, who has the decision making authority.

5. STAKEHOLDER ENGAGEMENT

102-40 LIST OF STAKEHOLDER GROUPS

The stakeholder groups are described under [Stakeholder engagement](#)

102-41 COLLECTIVE BARGAINING AGREEMENTS

[Workplace](#)

102-42 IDENTIFYING AND SELECTING STAKEHOLDERS

The stakeholder identification process is described under [Stakeholder engagement](#)

102-43 APPROACH TO STAKEHOLDER ENGAGEMENT

The approach to stakeholder engagement is described under [Stakeholder engagement](#)

102-44 KEY TOPICS AND CONCERNS RAISED

An overview of key topics and concerns are available under [Stakeholder engagement](#)

6. REPORTING PRACTICE

102-45 ENTITIES INCLUDED IN THE CONSOLIDATED FINANCIAL STATEMENTS

The GRI report covers Cermaq's aquaculture operations. Entities included are presented under 102-7.

102-46 DEFINING REPORT CONTENT AND TOPIC BOUNDARIES

Materiality assessment and targets for key topics are discussed and reviewed by the Global Sustainability Functional Team and approved by Cermaq management. The data for Cermaq's sustainability report is collected through the consolidation system Intelex.

Each operating company provides its data into the system following the four eyes principle, with separate individuals entering and approving the data. The data is quality assured both at regional level and by Cermaq Group, who consolidates the report. Quality control of key performance indicators is furthermore conducted monthly and quarterly and the reports are reviewed by Cermaq management. Material indicators are subject to external assurance by Cermaq's auditor on an annual basis. For deviations from target, follow up actions are required.

[Cermaq's Materiality Assessment](#)

102-47 LIST OF MATERIAL TOPICS

[Cermaq's Materiality Assessment](#)

102-48 RESTATEMENTS OF INFORMATION

Cermaq has decided to continue to publish the GRI report by calendar year also in 2018, while the financial accounts are reported in accordance with the Mitsubishi Corporation fiscal year, from April to March. Please consult the 2018 financial accounts for any further restatements.

102-49 CHANGES IN REPORTING

Cermaq's 2018 GRI report is prepared in accordance with the GRI Standards to a Core level. Until 2015, Cermaq reported in accordance with GRI G4 Comprehensive level.

Since 2016, Cermaq reports its financial accounts in accordance with the Mitsubishi Corporation fiscal year, from April to March, which means that the financial and sustainability accounts are published separately. The GRI report continues to be reported by calendar year to allow for inclusion in benchmarking processes and timely release relative to other industry and sustainability reports.

Cermaq Chile and Salmones Humboldt merged in December 2016. In this GRI report, all data reported also include Salmones Humboldt operations as an integrated part of Cermaq.

102-50 REPORTING PERIOD

Cermaq's GRI reporting period follows the calendar year 2018, from January to December 2018. Since 2016, Cermaq follows the Mitsubishi accounting year from April to March and will release its financial accounts separately. Some parts of the GRI general disclosures hence refer to information that will be released with the

financial accounts in autumn 2019.

102-51 DATE OF MOST RECENT REPORT

The previous GRI report was published in April 2018 and is available on www.cermaq.com.

102-52 REPORTING CYCLE

In 2018, Cermaq followed an annual GRI reporting cycle from January to December.

102-53 CONTACT POINT FOR QUESTIONS REGARDING THE REPORT

Please contact: Lise Bergan, Director Communications and Corporate Affairs. E-mail: post.group@cermaq.com

102-54 CLAIMS OF REPORTING IN ACCORDANCE WITH THE GRI STANDARDS

This report has been prepared in accordance with the GRI Standards, Core level.

102-55 GRI CONTENT INDEX

[GRI Content Index](#)

102-56 EXTERNAL ASSURANCE

Cermaq is of the opinion that an external assurance process increases the quality and credibility of our GRI report. The GRI report for 2018 is Cermaq's 9th externally assured report. It is assured by Deloitte, our financial auditor in all the operating regions.

We engaged Deloitte AS to conduct a review, in accordance with assurance standard ISAE 3000 "Assurance Engagements other than Audits or Reviews of Historical Financial Information" established by the International Auditing and Assurance Standards Board, to provide a limited level of assurance on the Cermaq AS Sustainability Report 2018. Deloitte has selected a number of indicators subject to assurance based on Cermaq's material aspects. The material indicators are verified each year, whereas less material indicators are assured on a less frequent basis. All regions are included in the Scope of the assurance engagement.

All sustainability indicators are reported in the external sustainability software Intalex. During the assurance process, the operating companies are required to document supporting "evidence" of the reported data into the reporting system. The text commenting on results is subject to assurance as well as the GRI-data in general.

[Assurance letter for 2018 report](#)

GRI Economic Indicators

201-1 DIRECT ECONOMIC VALUE GENERATED AND DISTRIBUTED

Cermaq supports local communities with both financial and in-kind contributions. However, socio-economic

benefits are most obviously manifested through payments to suppliers, employees, local authorities and payment of dividends to shareholders.

The table presented below quantifies the overall economic value generated and distributed through Cermaq's activities.

NOK 1,000		2018	2017	2016*	2015**	2014
Direct Economic Value Generated						
Revenues		9,957,819	9,436,557	8,003,918	8,198,678	5,616,143
Economic Value Distributed						
Operating costs	Cost of materials	-3,392,293	-3,042,347	-3,218,779	-4,674,997	-2,446,471
	Other operating expenses	-2,820,032	-2,500,962	-1,947,827	-2,268,208	-1,705,250
Employee wages & benefits		-1,113,408	-1,001,379	-889,812	-1,001,214	-740,036
Payments to providers of capital	Interest expense	-139,489	-55,576	-116,554	-124,407	-104,752
	Dividend payment	-823,000	-404,000	0	0	0
Payments to government	Income tax expense	-547,047	-438,864	-683,529	15,254	-21,158
Community investments		-2,872	-2,736	-2,549	-3,135	-4,520
Sub total		-8,838,141	-7,445,504	-6,859,050	-8,053,572	-5,022,187
Economic Value Retained		1,119,678	1,991,053	1,144,868	145,106	593,956

* 2016: 12 months from 01.01.2016 to 31.12.2016. 2016 figures include Salmenes Humboldt for 9 months (April-Dec.) except for Community investments and Payments to government.

** 2015: 15 months from 01.01.2015 to 31.03.2016 due to change in financial accounting year. Previous years are 12 months calendar year.

201-2 FINANCIAL IMPLICATIONS AND OTHER RISKS AND OPPORTUNITIES DUE TO CLIMATE CHANGE

201-2 Financial Implications and Other Risks and Opportunities Due to Climate Change

Climate change has the potential to significantly impact the salmon farming industry, and risks related to e.g. extreme weather conditions and natural events are assessed as a high risk area for Cermaq Group. Climate change impacts may also affect the industry's feed supply due to a decrease in agricultural production, changes in forage fisheries, replacement of species or changes in amount of inclusion. Climate change adaptation is hence an increasingly important aspect of Cermaq's risk management.

The industry also sees opportunities related to climate change. The results from scientific studies show that farmed fish has a relatively low carbon footprint compared to other protein sources, such as beef and pork (e.g. FAO 2014: "The State of World Fisheries and Aquaculture" and the GSI sustainability report 2017). The world's population is growing and demands more protein. Farmed salmon represents a solution to the challenge of climate change by providing a low-impact protein source.

Below is an overview of key risks and opportunities related to climate change for Cermaq Group, including their implications and management.

PHYSICAL RISKS AND OPPORTUNITIES

Changes in weather patterns

Increased frequency of extreme weather events may cause storms, mudslides and/or flooding, resulting in damage to hatcheries and fish farm sites with sea water cages. This may have consequences related to the safety of employees, increase the risk of fish escapes and influence insurance costs.

In Cermaq's operations, extreme weather such as storms and currents are experienced in all regions quite regularly. Norway experienced historically high electricity prices in summer 2018 due to an extended period of drought which left hydroelectric reservoirs unable to produce power. In British Columbia, challenging environmental conditions were experienced the past years by rising seawater temperatures, algae presence and low dissolved oxygen. In Chile, several algae blooms were reported in February and March 2016 due to high seawater temperatures, higher solar radiation and sea water salinity, which resulted in a significant loss of biomass in the industry. These events occurred during a strong "El Niño" - Southern Oscillation event, which has an erratic behavior that affects global weather patterns and which also has been reported to be influenced by climate change.

Impacts on feed ingredients

Climate related challenges could impact the availability and price of raw materials (both marine and terrestrial) for feed produced which means higher feed costs for salmon farmers.

Risks related to change in mean (average) temperature

Warmer seawater temperatures could affect aquaculture in temperate zones, making it impossible to farm some species. The Marine Climate Change Impacts Partnership (MCCIP) publishes information about risks connected to warmer water temperatures, such as an increase in disease-causing pathogens.

Higher temperatures also may lead to the introduction or displacement of new fish species and the risk of new sanitary challenges. Several fish parasites have shorter live cycles in warmer temperatures, which could increase the loads and which in turn may impact fish health and welfare. (Source: Impacts of climate change on fisheries and aquaculture: synthesis of current knowledge, adaptation and mitigation options. FAO Fisheries and Aquaculture Technical Paper No. 627 Rome, FAO, 2018: 449-461)

Risks related to ocean acidification

Ocean acidification due to increased levels of CO₂ poses a risk to marine life, and may affect the environmental conditions for salmon production and the availability of marine ingredients in the salmon feed. As pointed out in an analysis made by Kroeker et al (2013), in general heavily calcified organisms, including calcified algae, corals and mollusks are the most negatively impacted, whereas crustaceans, fish, fleshy algae, seagrass and diatoms are less affected or may even benefit from acidification. Some fleshy algae and diatoms may benefit, although marginally, from the same conditions. Algae blooms are known to have negatively impacted salmon farming sites in Canada and Chile and pose a risk to fish health and welfare. (Source: *Impacts of ocean acidification on marine organisms: quantifying sensitivities and interaction with warming*, *Glob Chang Biol.* 2013 Jun; 19(6): 1884–1896).

Opportunities related to change in mean (average) temperature

Increasing sea water temperatures could enhance the growing conditions for salmon farming, allowing for faster growth rates and reduced production costs. A report from MCCIP explains opportunities connected to growth and type of species cultivated. Rising sea water temperatures could increase growth rates for some fish species (e.g. Atlantic Salmon), and new species could be cultivated (e.g. Sea Brass and Bream). Increase in water temperature may lead to the displacement of local species or introduction of new species.

Changes in sea water temperatures could allow for new salmonid farming sites located farther north than before. However a UNFAO report released in 2018 noted that relocation to areas with cooler/deeper water could bring new safety risks.

Financial implications of the physical risks and opportunities

Financial implications related to physical risks are increased fish mortality, physical destruction of aquaculture facilities, loss of stock, spread of disease, higher cost in disease prevention and increased feed costs. Changes in sea water surface temperatures could impact the conditions for fish farming. In extreme cases, higher sea water temperatures may cause physiological stress to the fish, reduce seawater oxygen levels and cause harmful algae blooms that increase the risk of mortality and fish health issues, which all have negative financial impacts. Increased water temperatures may also lead to increased sea lice load and hence higher treatment costs. Challenges in the feed supply chain due to climate related issues may lead to lower availability of feed and increased costs.

Higher temperatures in some regions could mean faster growth, which results in decreased production costs for our fish farming operations. However, because the optimal water temperature for growing salmon is 12 to 14 degrees, if temperatures rise above 15 degrees, growing conditions become suboptimal and can increase risk of diseases, prompt algal blooms and lead to longer production cycles. Additional stress to fish can also

lead to lower feed conversion rates.

How we manage the physical risks and opportunities

Risks connected with extreme weather events are mitigated through applying site-specific risk assessments for elements such as weather patterns and temperatures, and implementing specific protocols and climate change adaptation measures.

Changes to sea water surface temperatures are in some ways mitigated by the geographic diversity of Cermaq's operations. Evaluating further expansion potential is a part of the management's yearly strategic process reviews.

REGULATORY RISKS AND OPPORTUNITIES

Emission reporting obligations

There is a general trend towards regulation related to carbon footprint disclosure at point of sale. This may affect all products marketed in the EU.

Carbon taxes

CO2 regulations and increased tax on fossil based fuel and energy represent a risk of higher operational costs.

General environmental regulations

Changes in environmental regulations may pose a risk, such as emissions regulations for production sites, increased taxation on energy and fuel and increased reporting demand.

General environmental regulation opportunities

Any new regulations are an opportunity if the organization is well prepared. Immediate compliance can be a competitive advantage.

Financial implications of the regulatory risks and opportunities

Cermaq expects financial implications on different levels: increased operational costs and resources for reporting and labelling purposes; and possible inability to comply with new legislation. Ultimately this could interfere with the access to international markets for our products.

Investment in time and efforts to comply with new regulations and follow-up and reporting procedures are financial implications of pursuing the opportunities.

How we manage the regulatory risks and opportunities

Regulatory risks and opportunities are monitored and Cermaq's sustainability functional team discusses new regulations and initiatives and their impact on our business. Compliance with regulations is followed up in the quarterly sustainability reporting process.

202-2 PROPORTION OF SENIOR MANAGEMENT HIRED FROM LOCAL COMMUNITY

Cermaq bases its operations on local recruitment of senior management, and in 2018 the proportion of management hired from local communities averaged 67 percent, down from 69 percent in 2017. Senior management includes the management team reporting directly to a Chief Operating Officer, and people reporting directly to Group Management team.

International assignments are seen as positive for personal development in a multinational organization like Cermaq, and employees are encouraged to gain international experience to help share knowledge between our operations and to develop our corporate culture.

PROPORTION OF LOCAL HIRES AND FEMALE MANAGERS		CERMAQ GROUP AS	CERMAQ NORWAY	CERMAQ CHILE	CERMAQ CANADA	CERMAQ GROUP INCL. CERMAQ AS
2016						
Total size of management group	#	6	9	12	10	37
Number of local hires	#	3	4	9	8	24
Number of female management hires	#	0	1	2	2	5
% of senior management hired from local community - local hires	%	50%	44%	75%	80%	65%
Proportion of female managers	%	0%	11%	17%	20%	14%
2017						
Total size of management group	#	6.	8.	11.	7.	29.
Number of local hires	#	4.	2.	9.	6.	20.
Number of female management hires	#	0.	1.	2.	1.	4.
% of senior management hired from local community - local hires	%	66%	25%	82%	86%	69%
Proportion of female managers	%	0%	13%	18%	14%	14%
2018						
Total size of management group	#	6.	8.	11.	8.	33.
Number of local hires	#	4.	2.	9.	7.	22.
Number of female management hires	#	0.	1.	2.	2.	5.
% of senior management hired from local community - local hires	%	66%	25%	82%	88%	67%
Proportion of female managers	%	0%	13%	18%	25%	15%

The proportion of female managers in Cermaq increased to 15 percent in 2018. Note that Cermaq Group AS management team also includes the managing Directors of Cermaq Norway, Cermaq Canada and Cermaq Chile.

205-2 COMMUNICATION AND TRAINING ON ANTI-CORRUPTION POLICIES AND PROCEDURES

Cermaq’s ethical and corporate guidelines are available to all employees and governance body members, and are communicated to all new employees. The Guidelines prohibit any form of corruption. Anti-corruption training is delivered regularly.

In 2018, 88 percent of managers and administrative employees in Cermaq Canada received anti-corruption training, in Cermaq Chile 81 percent received training and in Cermaq Norway 100 percent received training. In Cermaq Group AS, 61 percent of managers and administrative employees received anti-corruption training.

Anti-corruption expectations to Cermaq’s suppliers were also developed through the establishment of the Cermaq Supplier Code of Conduct in 2014, which is communicated and was updated in January 2017 on Cermaq’s website.

205-3 CONFIRMED INCIDENTS OF CORRUPTION AND ACTIONS TAKEN

There were no confirmed incidents of corruption in Cermaq Group in 2018.

FP 9 PERCENTAGE AND TOTAL OF ANIMALS RAISED AND/OR PROCESSED, BY SPECIES AND BREED TYPE

Gutted weight (GWE) is a measurement of fish production. It is a calculation where the biomass in tons of closing stocks of live fish is added with the biomass in tons harvested, subtracted by the opening stock in tons of live fish for a specific period of time. This biomass determination is corrected by a 1.2 factor in order to determine the live weight of the biomass or LWE.

Our key performance indicators on medicine use in our annual reports are ratios of amount of active ingredients by LWE.

The salmonid species and tonnes produced (LWE) are summarised in the table below.

FISH PRODUCTION 2018	UNIT
Atlantic salmon	Tonnes (LWE)

Cermaq Chile		83,600
Cermaq Canada		24,271
Total ATS		185,580
Coho salmon	<i>Tonnes (LWE)</i>	
Cermaq Chile		30,643
Rainbow trout	<i>Tonnes (LWE)</i>	
Cermaq Chile		2,676
Total all species	<i>Tonnes (LWE)</i>	218,899

Fish production is the increase of tonnes in biomass produced within a year, which also considers the amount in tonnes of biomass harvested in the same period.

Atlantic salmon production (LWE) increased in Norway compared with the 2017 production, to 77,708 tons. Production in Chile and Canada decreased in 2018 by 12,415 and 822 tons, respectively. Also during 2018, there was an increase of Rainbow Trout production of 238 tons LWE in Chile to 2,676 tons total, while Coho salmon production decreased by 1,142 tons for 30,643 tons total produced during the year.

GRI Environmental Indicators

301-1 MATERIALS USED BY WEIGHT OR VOLUME

301-2 RECYCLED INPUT MATERIALS USED

The disposal of products and packaging materials is a steadily growing environmental challenge. Establishing effective recycling and reuse systems to close product cycles can contribute significantly to increase material life cycle, resource efficiency and it can decrease costs.

All Cermaq operations shall comply with local and national environmental regulations related to effluents and waste handling. The waste handling procedures vary with the local infrastructure in place. Recycling and reuse of packaging materials should always consider that human health is first and for Cermaq it is priority to couple smart use of materials with food safety of our final products.

The work to strengthen our reporting in this area will continue going forward. This indicator provides insight into what extent our materials are collected and successfully converted into useful materials for new

production processes, as well as to what extent we have designed products and packaging capable of being recycled or reused.

In 2018, 85% of the input materials (by tonnes used) were recycled at a Group level. Input packaging used was 3348 tonnes of materials at a Group level, while for output packaging it was 3738 tonnes.

Cermaq reported input materials used that were recycled, including plastics and wood pallets (used in the transportation of fish feed), cardboard for final product elaboration and wood pallets for storage in processing plants.

Materials used by weight or volume

PACKAGING SOURCE	MATERIAL TYPE	PACKAGING TYPE	TOTAL USED (TONNES)	DESCRIPTION
Output packaging	Plastic	6-PS	1915	Product boxes
Output packaging	Wood	Pallets	1390	Product pallets
Output packaging	Paper/cardboard	Cardboard	171	Product Packaging
Output packaging	Plastic	4-LDPE	262	Plastics used in final products
Input packaging	Plastic	1-PET	6	Containers
Input packaging	Plastic	4-LDPE	356	Feed bags
Input packaging	Plastic	5-PP	162	Supersacs & film feed packaging
Input packaging	Wood	Pallets	2711	feed pallets
Input packaging	Paper/cardboard	Paper	4	Paper packaging
Input packaging	Plastic	7-Other plastics	97	Supersacs feed packaging
Input packaging	Other	Other	11.5	Cans

Recycled input materials used

RECYCLED INPUT MATERIALS USED	CERMAQ NORWAY	CERMAQ CHILE	CERMAQ CANADA
Plastic 1-PET	0%	0%	0%
Plastic 4-LDPE	0%	100%	0%

Plastic 5-PP	0%	0%	0%
Plastic 2-HDPE	0%	100%	0%
Other Plastic	100%	100%	0%
Wood	0%	100%	0%
Paper/cardboard	0%	100%	0%

Note: Norway, Chile and Canada report total of materials used by type of packaging for those materials which are in recycling programs.

302-1 ENERGY CONSUMPTION WITHIN THE ORGANISATION

The total energy use in Cermaq (including Cermaq Group AS) increased 19.6 percent in 2018 compared with the previous year. This increase in energy use was mainly due to an increase in use of diesel generators due to environmental conditions.

Energy Consumption by Type (GJ)

	ENERGY SOURCE	2018	2017	2016	2015	2014	2013	2012	2011
Non-renewable fuel consumed									
	Diesel	904,767	663,087	421,584	444,214	437,163	406,220	275,985	251,353
	Fuel Oil	0	2,724	17	20	26	60	17	52
	Crude Oil	428	780	713	567	561	2,643	286	0
	Gasoline/ petrol	31,119	39,299	38,261	51,288	49,305	53,556	44,368	46,203
	LPG	40,162	39,639	0	0	0	0	0	0
	Natural gas	81	148	75	82	64	96	122	115
	Propane	16,166	13,375	6,554	6,457	10,104	11,859	8,050	7,805
Total non-renewable consumption		992,725	758,827	467,205	502,627	497,224	474,433	328,828	305,529
Renewable fuel consumed									
	Biofuel	8383	5688	4904	4939	4,301	3,282	2,620	3,296

Total renewable consumption	8383	5688	4904	4939	4,301	3,282	2,620	3,296
Electricity purchased for consumption	282,739	308,348	225,076	244,265	223,468	231,555	210,720	147,867
Total electricity consumed	282,739	308,348	225,076	244,265	223,468	231,555	210,720	147,867
Total energy use (GJ)	1,283,847	1,073,088	697,185	751,831	724,993	709,270	542,169	456,692
Δ YoY	19.6%	53.9%	-7.3 %	3.7 %	2.2 %	30.8 %	19%	

Note: Total includes Cermaq AS, Cermaq Chile, Cermaq Norway and Cermaq Canada. Diesel energy calculation includes both diesel fuel and 95 percent of biodiesel blend.

Energy consumption and emissions are calculated by country and is not calculated based on fish species in Chile. Norway and Canada only produce Atlantic salmon. In Chile, Coho salmon typically requires less energy use due to a shorter life cycle and consequently less GHG emissions.

Cermaq reports to the Carbon Disclosure Project (CDP) and more details can be found in our CDP reports available on our webpage.

302-2 ENERGY CONSUMPTION OUTSIDE THE ORGANISATION

Feed is the main input when producing salmon and trout and feed costs constitute approximately 50 percent of the purchasing costs related to fish farming in Cermaq. EWOS continues to be our main feed supplier and below is an overview of the energy consumption for EWOS in 2018.

EWOS Energy Consumption by Type (GJ)

		2018	2017	2016	2015	2014	2013	2012	2011
<i>GRI Energy Type</i>	<i>Energy Source</i>								
Indirect	Electricity	450,586	364,783	436,744	474,333	505,043	456,881	537,515	474,800
Direct	Biomass (from 2018)	-	-	30145	101586	101290	20130	20131	20172

Direct	Diesel	788	2,826	2,186	2,644	1,307	3,233	7,921	14,293
Direct	Fuel Oil	119,284	144,337	146,254	175,309	197,720	233,992	207,179	154,293
Direct	Gasoline/ petrod		0	0	0	0	36	94	188
Direct	LPG	134	69,069	62,895	100,680	70,925	240,741	147,598	67,471
Direct	Natural gas	336,500	361,125	282,620	295,878	350,957	232,342	312,292	442,852
Direct	Propane	0	1,262	1,256	1,266	1,111	1,121	1,115	1,569
Direct	Biofuel (wood)	54,476	36,620	49,374	59,914	41,510			
Total direct + indirect		961,768	980,022	1,064,474	1,229,511	1,272,863	1,243,686	1,280,194	1,232,238
Δ YoY		-2%	-8%	-13%	-3%	2%	-3%	4%	

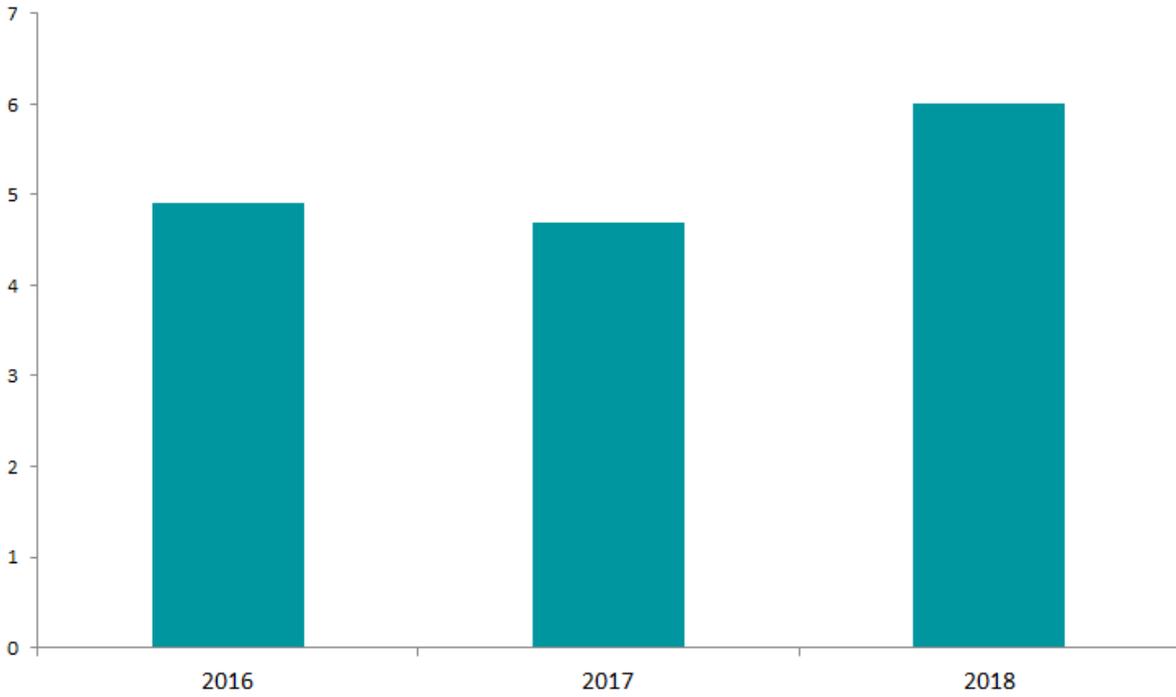
**Biofuel use is reported by EWOS for the first time in 2014*

302-3 ENERGY INTENSITY

The most relevant energy intensity ratio within salmon farming is to express the energy used in terms of tons of fish produced (GJ/tonne fish Production LWE). This provides a measure of the energy efficiency within the organization. However, some of the energy use is fixed and does not vary with production (e.g. housing facilities at sea sites and energy used in administrative buildings and processing plants). This means that in years with fewer fish in the sea the energy consumption per ton of production will be influenced in a negative way by the fixed consumption.

All energy sources listed in 302-2 are included in the following graph, where the amount of Gigajoules (GJ) used by tonne fish production (LWE) at a Group level is shown.

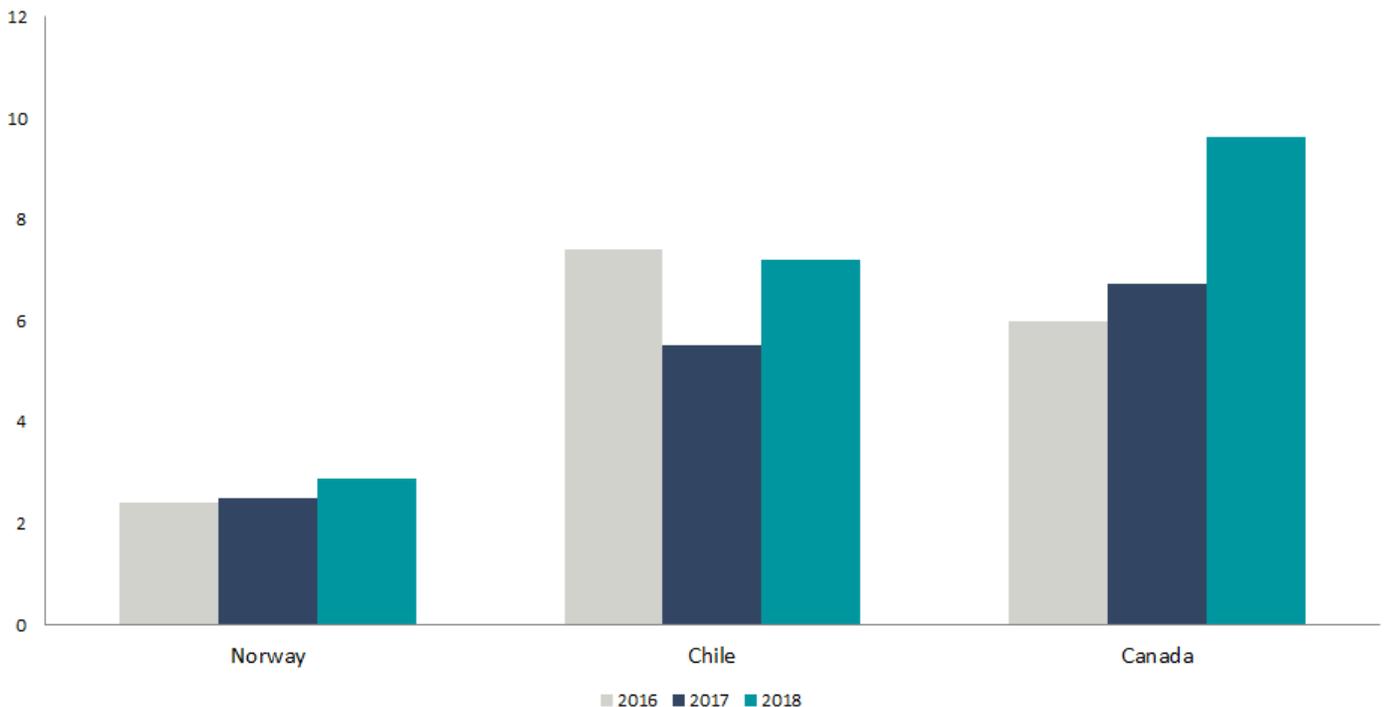
Cermaq Group Energy Intensity (GJ per tonne LWE)



At a group level the energy use increased to 6.0 GJ per ton of LWE produced from 4.7 GJ per ton produced LWE in 2017, mainly due to an increase in diesel fuel used in 2018. Our total energy use increased by 19.6% at a Group level.

The energy intensity by country shows a similar trend with energy use in Canada increasing by 43.1%, energy intensity in Norway increasing 15.7% and energy intensity in Chile increasing 30.9%.

Energy Intensity by country (GJ per Tonne LWE)



302-4 REDUCTION OF ENERGY CONSUMPTION

Cermaq has a number of initiatives to reduce energy consumption, with some examples provided in the table below. Canada's initiatives this year focus mainly on improving the energy efficiency of its land-based sites both with more efficient technology and lighting changes. Cermaq Chile has implemented technology lighting upgrades to sea sites and hatcheries, integrated sea sites to save generator use, and implemented water use recycling systems. In Norway, Cermaq has installed heat recovery technology in a hatchery, purchased a hybrid-drive service boat, converted to updated energy-saving equipment, and given personnel instructions on how to drive boats at lower speeds to conserve fuel.

A sample of initiatives per country are provided in the table below.

	ENERGY SAVED	TYPE OF ENERGY SAVING INITIATIVE	ENERGY SAVING INITIATIVES
Canada	n/a	Installation of energy-saving Equipment and retrofitting systems	<ul style="list-style-type: none"> • Implementation of efficiency systems in aeration and bloom mitigation technology (estimated reduction of over 25% of energy use) • Installation of variable frequency drives at 3 on-grid freshwater facilities (estimated reduction of electrical consumption by 5-10%) • Retrofit of lighting with LED lights at all on-grid hatchery sites (estimated savings of 5-10% on electrical consumption for lighting)
Chile	n/a	Conversion and retrofitting equipment, renewable energy installation, energy efficiency training	<ul style="list-style-type: none"> • LED lighting system with energy saving installed in interior lights and spotlights on sea platforms • LEDs adopted for use for lighting in hatcheries and land-based facilities • Silage systems in almost all seawater sites attached to platform and or/feeding platform thereby using only one generator. • Multiple hatcheries have adopted a water use recycling system, thereby decreasing water use associated with pumps.
Norway	36.000 GJ/year	Heat recovery from water	Freshwater site at Forsan uses recovery systems, to significantly reduce heating in the production of smolt. The system uses the heat of the waste water, to increase the water temperature. Continued in 2018 from previous year.
	11.605 GJ/year	Heat recovery from air	Continuation from previous year— Freshwater site at Forsan uses recovery systems from air, to significantly reduce heating in the production of smolt. Systems are implemented to allow exchange of exhaust air with fresh air within the facility, in order to control humidity. Implementation of LED lights in the hatchery for energy consumption reduction.
	29325 liters of fuel/year	hybrid diesel-Electric service boat	We have invested in a service boat with hybrid

		technology. This will provide energy savings in fuel consumption as well as a reduction of 79 tonnes of CO2 and 808 kg of NOX. The boat was in service during 2018.
10938.1 GJ	Conversion from diesel generators to grid power	<p>Connction of the below sea sites to power grid through sea cables in 2017. Estimated annual savings</p> <ul style="list-style-type: none"> • Oksøy: 384 325 kWh/year • Kråkevik: 614 610 kWh/year • Slettnes: 810 204 kWh/year • Skinnstakkvika: 614 610 kWh/year • Ytre Koven: 614 610 kWh/year • Total: 3 038 358 kWh/year (10 938.1 GJ/year)
n/a	Recycling	Freshwater site at Forsan uses recycling technology to significantly reduce pump use and freshwater use in the production of smolt.
n/a	Changes in personnel behavior	Sailing/driving boats at lower speeds to reduce fuel consumption and switching lights in barges.

304-4 IUCN RED LIST SPECIES AND NATIONAL CONSERVATION LIST SPECIES WITH HABITATS IN AREAS AFFECTED BY OPERATIONS

Below is an overview of IUCN red list species in or in the vicinity of Cermaq’s operations. Cermaq works continuously to ensure good environmental practices on its farms to minimize negative effects on biodiversity. Any incidents with birds and mammals are publicly reported on Cermaq’s ASC dashboard on www.cermaq.com, and in the GSI sustainability report for all Cermaq operations.

CHILE

The Chilean Ministry of Environment provides a list of 3500 species, with the conservancy state by species, of those there are 100 Chilean native mammals categorized critical endangered (CR), endangered (EN), vulnerable (VU), near threatened (NT), least concern (LC), and data deficient (DD). Within this there are 40 cetacean species included, of which 13 are listed as Data Deficient species.

The following list includes all species of cetaceans, mapped by the Chilean Ministry of Environment and categorized as CR, EN, VU, NT and LC by the IUCN red list, which are located in the regions were Cermaq Chile operates. DD species were not included in the following lists.

Marine mammals

SCIENTIFIC NAME	COMMON NAME	CLASSIFICATION
Balaenoptera borealis	Ballena sei, Rorcual boreal	EN
Balaenoptera musculus	Ballena azul	EN
BalaenopteraphysalusBallenafin		FN

SCIENTIFIC NAME	COMMON NAME	CLASSIFICATION
<i>Cephalorhynchus eutropia</i>	Delfín chileno	NT
<i>Eubalaena australis</i>	Ballena franca austral	LC
<i>Megaptera novaeangliae</i>	Ballena jorobada	LC
<i>Physeter macrocephalus</i>	Cachalote gigante	VU
<i>Tursiops truncatus</i>	Delfín nariz de botella	LC
<i>Ziphius cavirostris</i>	Ballena picuda de Cuvier	LC
<i>Balaenoptera acutorostrata</i>	Ballena minke	LC
<i>Delphinus delphis</i>	Delfín común	LC
<i>Grampus griseus</i>	Falso calderón	LC
<i>Hyperoodon planifrons</i>	Ballena nariz de botella del sur	LC
<i>Lagenorhynchus cruciger</i>	Delfín cruzado	LC
<i>Stenella attenuata</i>	Delfín manchado esbelto	LC
<i>Stenella coeruleoalba</i>	Delfín listado	LC
<i>Steno bredanensis</i>	Delfín de pico áspero	LC
<i>Cephalorhynchus commersonii</i>	Commerson's dolphin	LC
<i>Ziphius cavirostris</i>	Ballena picuda de Cuvier	LC
<i>Balaenoptera edeni</i>	Ballena de Bryde	LC
<i>Feresa attenuata</i>	Orca pigmea	LC
<i>Globicephala macrorhynchus</i>	Calderón de aletas cortas	LC
<i>Globicephala melas</i>	Calderón negro	LC
<i>Kogia breviceps</i>	Cachalote enano de cabeza corta	LC
<i>Phocoena dioptrica</i>	Marsopa anteojo	LC
<i>Phocoena spinipinnis</i>	Marsopa espinosa	NT
<i>Stenella longirostris</i>	Delfín de pico largo	LC

The next list provides the Carnivorous mammals with habitat in the sea or fresh water where Cermaq Chile operates.

Carnivorous mammals

SCIENTIFIC NAME	COMMON NAME	CLASSIFICATION
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Arctocephalus philippii	Juan Fernandez fur seal	LC
Lontra felina	Chungungo	EN
Southern Pudu	Pudu	NT
Lontra provocax	Huillín	EN
Ommatophoca rossii	Foca de Ross	LC
Otaria flavescens	Lobo marino común	LC
Mirounga leonina	Elefante marino	LC
Hydrurga leptonyx	Foca leopardo	LC
Arctocephalus tropicalis	Lobo fino subantártico	LC

Birds

SCIENTIFIC NAME	COMMON NAME	CLASSIFICATION
<i>Anas platalea</i>	Pato cuchara	LC
<i>Anas specularis</i>	Pato anteojillo	NT
<i>Ardea cocoi</i>	Garza cuca	LC
<i>Asio flammeus</i>	Nuco	LC
<i>Asthenes anthoides</i>	Canastero del sur	LC
<i>Calidris canutus</i>	Playero ártico	NT
<i>Coscoroba coscoroba</i>	Cisne coscoroba	LC
<i>Cygnus melanocoryphus</i>	Cisne de cuello negro	LC
<i>Gallinago paraguaiae</i>	Becacina	LC
<i>Gallinago stricklandii</i>	Becacina grande	NT
<i>Heteronetta atricapilla</i>	Pato rinconero	NT
<i>Ixobrychus involucris</i>	Huairavillo	LC
<i>Larosterna inca</i>	Gaviotín monja	NT
<i>Larus modestus</i>	Gaviota garuma	LC
<i>Merganetta armata</i>	Pato cortacorrientes	LC
<i>Numenius borealis</i>	Zarapito boreal	CR
<i>Pelecanoides garnotii</i>	Yunco	EN
<i>Phalacrocorax bougainvillii</i>	Guanay	NT

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<i>Phalacrocorax gaimardi</i>	Lile	NT
<i>Pluvianellus socialis</i>	Chorlo de Magallanes	NT
<i>Pterodroma externa</i>	Fardela blanca	VU
<i>Puffinus creatopus</i>	Fardela blanca	VU
<i>Rallus antarcticus</i>	Pidén austral	VU
<i>Spatula platalea</i>	Pato cuchara	LC
<i>Spheniscus humboldti</i>	Pingüino de Humboldt	VU
<i>Spheniscus magellanicus</i>	Pingüino de Magallanes	NT
<i>Eudyptes chrysocome</i>	Pingüino de penacho amarillo	VU
<i>Eudyptes chrysolophus</i>	Pingüino macaroni (VU)	VU
<i>Pygoscelis papua</i>	Pingüino papúa	LC
<i>Strix rufipes</i>	Concón	LC
<i>Sula variegata</i>	Piquero	LC
<i>Tachyeres patachonicus</i>	Quetru volador	LC
<i>Tachyeres pteneres</i>	Quetru no volador	LC
<i>Thalassarche chrysostoma</i>	Albatros de cabeza gris	EN
<i>Thalassarche melanophris</i>	Albatros de ceja negra	LC
<i>Anas bahamensis</i>	Pato gargantillo	LC
<i>Chloephaga melanoptera</i>	Piuquén	LC
<i>Chloephaga rubidiceps</i>	Canquén colorado	LC
<i>Fregata minor</i>	Ave fragata grande	LC
<i>Fregetta grallaria</i>	Golondrina de mar de vientre blanco	LC
<i>Fulica cornuta</i>	Tagua Cornuda	NT
<i>Fulica gigantea</i>	Tagua gigante	LC
<i>Larus serranus</i>	Gaviota andina	LC
<i>Laterallus jamaicensis</i>	Pidencito	NT
<i>Nesofregetta fuliginosa</i>	Golondrina de mar de garganta blanca	EN
<i>Pandion haliaetus</i>	Aguila pescadora	LC
<i>Phoenicoparrus andinus</i>	Parina grande	VU
<i>Phoenicoparrus jamesi</i>	Parina chica	NT

<i>Plegadis chihi</i>	Cuervo de pantano	LC
<i>Plegadis ridgwayi</i>	Cuervo de pantano de la puna	LC
<i>Pterodroma defilippiana</i>	De Filippi's Petrel	VU
<i>Pterodroma longirostris</i>	Fardela Blanca de Más Afuera	VU
<i>Vultur gryphus</i>	Cóndor	NT
<i>Basilichthys australis</i>	Pejerrey	NT
<i>Orestias laucaensis</i>	Karachi	NT
<i>Trichomycterus laucaensis</i>	Bagrecito	NT
<i>Trichomycterus rivulatus</i>	Bagre de la Puna	NT

Fish

SCIENTIFIC NAME	COMMON NAME	CLASSIFICATION
<i>Micropogonias manni</i>	Huaiquil	LC
<i>Mugil cephalus</i>	Lisa	LC

In Chile, Cermaq uses predator nets at farms to avoid marine mammals and birds entering into the farm site and to prevent attacks that are stressful for the fish. In Chile, farming companies are required to report immediately to The Undersecretary of Fisheries and Aquaculture (Subpesca) the culling of any marine mammal at the farm.

Stronger nets have been tested in order to reduce the interaction with wildlife, including stainless steel nets and PET monofilament nets. Both nets are more resistant to strain and to external forces, keeping their shape and reducing the risk of accidental entrapment. Nets for birds are installed at the farm sites to protect the fish, which are constantly assessed to check their structural function.

NORWAY

In Norway, several species are included on the IUCN red list. From all species a total of 13 birds, 1 mammal, 9 fish, 4 algae, 2 mollusks, 1 vascular plant and 3 coral species appear on the national conservation list with habitats in our area of operations. Of them the 13 species of birds and 1 Mammal species are considered to interact closely to our farming sites. The 14 species are categorized as critical endangered (CR) with 1 species, 5 endangered (EN), 3 vulnerable (VU) and 5 near threatened (NT).

The lists below provide the common name, scientific name and the risk category classification for each species.

Birds

SCIENTIFIC NAME	COMMON NAME	CLASSIFICATION
<i>Uria aalge</i>	lomvi	CR
<i>Rissa tridactyla</i>	krykkje	EN
<i>Uria lomvia</i>	polarlomvi	EN
<i>Alca torda</i>	alke	EN
<i>Sterna hirundo</i>	makrellterne	EN
<i>Fulmarus glacialis</i>	havhest	EN
<i>Cephus grylle</i>	teist	VU
<i>Fratercula arctica</i>	lunde	VU
<i>Gavia adamsii</i>	gulnebbloom	NT
<i>Larus canus</i>	fiskemåke	NT
<i>Somateria mollissima</i>	ærfugl	NT
<i>Oceanodroma leucorhoa</i>	stormsvale	NT
<i>Stercorarius parasiticus</i>	tyvjo	NT

Mammals

SCIENTIFIC NAME	COMMON NAME	CLASSIFICATION
<i>Lutra lutra</i>	oter	VU

CANADA

In Canada, there are 146 species related to the general geographical location of Canadian operations, the ocean and/or farming operations. Of them, 15 are mammals, 5 reptile species, 7 fish and 126 birds. Many of the species have a broad distribution in the environment and may not interact directly with the facilities, however they were included into this manner.

however they were included into this mapping.

The list below include the scientific name, the common name and the risk category for the species which are in the Endangered, Near threatened and Vulnerable categories in the vicinity of Cermaq Canada’s operations (Least concern and Data deficient were not included with a total of 87 bird species).

Marine mammals

SCIENTIFIC NAME	COMMON NAME	CLASSIFICATION
<i>Enhydra lutris</i>	Sea otter	EN
<i>Spilogale gracilis</i>	Western spotted skunk	LC
<i>Callorhinus ursinus</i>	Northern fur seal	VU
<i>Eumetopias jubatus</i>	Steller sea lion	NT
<i>Zalophus californianus</i>	California sea lion	LC
<i>Mirounga angustirostris</i>	Northern elephant seal	LC
<i>Balaenoptera borealis</i>	Sei whale	EN
<i>Balaenoptera musculus</i>	Blue whale	EN
<i>Balaenoptera physalus</i>	Fin whale	EN
<i>Megaptera novaeangliae</i>	Humpback whale	LC
<i>Eschrichtius robustus</i>	Gray whale	LC
<i>Physeter macrocephalus</i>	Sperm whale	VU
<i>Tursiops truncatus</i>	Common bottlenose dolphin	LC
<i>Delphinus delphis</i>	Short-beaked common dolphin	LC
<i>Globicephala macrorhynchus</i>	Short-finned pilot whale	DD

Reptiles

SCIENTIFIC NAME	COMMON NAME	CLASSIFICATION
<i>Caretta caretta</i>	Loggerhead Sea Turtle	VU
<i>Chelonia mydas</i>	Green Sea Turtle	VU

<i>Caretta caretta</i>	Green Sea Turtle	VU
<i>Dermochelys coriacea</i>	Leatherback Sea Turtle	VU
<i>Lepidochelys kempii</i>	Kemp's Ridley Sea Turtle	CR
<i>Lepidochelys olivacea</i>	Olive Ridley Sea Turtle	VU

Fish

SCIENTIFIC NAME	COMMON NAME	CLASSIFICATION
<i>Thunnus alalunga</i>	Albacore Tuna	NT
<i>Acipenser medirostris</i>	Green Sturgeon	NT
<i>Acipenser transmontanus</i>	White Sturgeon	LC
<i>Oncorhynchus nerka</i>	Sockeye Salmon	CR
<i>Cetorhinus maximus</i>	Basking shark	VU
<i>Hexanchus griseus</i>	Six gilled shark	NT
<i>Galeorhinus galeus</i>	Tope shark	VU

Birds

SCIENTIFIC NAME	COMMON NAME	CLASSIFICATION
<i>Chen canagica</i>	Emperor goose	NT
<i>Gavia adamsii</i>	Yellow-billed loon	NT
<i>Phoebastria immutabilis</i>	Laysan albatross	NT
<i>Phoebastria nigripes</i>	Black-footed albatross	NT
<i>Pterodroma inexpectata</i>	Mottled petrel	NT
<i>Ardenna griseus</i>	Sooty shearwater	NT
<i>Calidris pusilla</i>	Semipalmated sandpiper	NT
<i>Melanitta fusca</i>	White-winged scoter	EN

<i>Brachyramphus marmoratus</i>	Marbled murrelet	EN
<i>Clangula hyemalis</i>	Long-tailed duck	VU
<i>Phoebastria albatrus</i>	Short-tailed albatross	VU
<i>Ardenna creatopus</i>	Pink-footed shearwater	VU
<i>Ardenna bulleri</i>	Buller's shearwater	VU
<i>Synthliboramphus hypoleucus</i>	Xantus's murrelet	VU

In Canada, Cermaq uses bird and predator nets at all farms throughout the production cycle to deter marine mammals. In Canada, farming companies are also required to report immediately to Fisheries & Oceans Canada (DFO) the culling of any marine mammal at the farm.

In British Columbia, the industry is not having a negative impact on the populations of marine mammals. . Harbour seal, Steller Sea Lion and Californian Sea lion populations have increased considerably since they were protected in the 1970s and Humpback whale populations are expanding. More information can be found at [the BC Salmon Farmers Association Website](#).

305-1 DIRECT GREENHOUSE GAS (GHG) EMISSIONS (SCOPE 1)

305-2 ENERGY INDIRECT GREENHOUSE GAS (GHG) EMISSIONS (SCOPE 2)

305-3 OTHER INDIRECT GREENHOUSE GAS (GHG) EMISSIONS (SCOPE 3)

For the reporting period 1st January 2018 to 31st December 2018, Cermaq's global gross GHG Scope 1 emissions totaled 72 871 tons of CO₂e (55 528 tons in 2017). Scope 2 emissions were 21473 tons of CO₂e in 2018 compared to 21 474 in 2017. Scope 1 emissions were greater in magnitude than the decrease in Scope 2 emissions and led to an increase in emissions by 13406 tonnes of CO₂e. Details on Cermaq's energy consumption can be found under Energy Consumption (indicators 302-1, 302-2 and 302-3).

Our reporting is based on the GHG Protocol, the internationally recognized standard for the accounting and reporting of GHG emissions. We have used the financial control approach to define our organizational boundary and the operational scope for our reporting of scope 1 and 2. Emissions factors for our global operations are based on sources including IEA, IPCC, SSB, EIA, RE-DISS, Green-e and BC Ministry of Environment.

Feed is the main input when producing salmon and trout and feed costs constitute approximately 50 percent of the production costs related to farming in Cermaq. EWOS continued to be our main feed supplier in 2016 and Scope 3 emissions consists of EWOS estimated CO₂ emissions in 2018. Please see the EWOS sustainability report for further details. GHG emissions reported below includes CO₂-emissions only and all types of energy sources used.

GLOBAL TONNES OF CO ₂ E	2018	2017	2016	2015	2014	2013	2012	2011	2010
Crude oil	32	57	53	42	41	195	21	0	0
Diesel	66,638	48,873	30,672	32,348	31,958	29,720	20,047	18,197	15,336
Biofuel	518	352	303	305	266	203	162	204	246
Fuel Oil	0	189	1	1	2	4	1	4	57
Gasoline/ petrol	2,158	2,729	2,652	3,560	3,421	3,718	3,078	3,196	2,997
LPG	2,541	2,507	0	0	0	0	0	0	0
Natural Gas	4	8	4	4	4	5	7	6	4
Propane	980	813	405	403	627	740	492	473	2,394
Scope 1 (Direct emissions)	72,871	55,528	34,090	36,664	36,319	34,586	23,807	22,080	21,034
Purchased electricity	21,474	25,411	17,905	21,325	18,352	18,896	15,886	9,931	8,846
Scope 2 (Energy indirect)	21,474	25,411	17,905	21,325	18,352	18,896	15,886	9,931	8,846
Total gross emissions (Scope 1 and 2)	94,345	80,939	51,995	57,988	54,671	53,481	39,693	32,011	29,879
Scope 3 (EWOS direct and indirect)	42,920	47,872	50,942	61,444	57,457	62,610	59,366	57,753	41,862

305-4 GREENHOUSE GAS (GHG) EMISSIONS INTENSITY

Cermaq is reporting an intensity measurement based upon “tons of CO₂e per ton of fish produced (LWE)”. This is a relevant ratio for our industry.

As can be seen below, the CO₂ emissions per ton of fish produced for Scope 1 and Scope 2 increased by 18.3% from 2017 to 2018.

	2018	2017	2016	2015	2014	2013	2012	2011	2010
Intensity: kg of CO ₂ e per tonne of fish produced (LWE)	431	352	360	334	258	259	212	205	217

The increase in absolute energy consumption for Cermaq Group was largely driven by environmental conditions with challenging environmental conditions requiring higher energy inputs using generation equipment, although production increased over 2017 and Scope 2 emissions decreased by 15%. Accounting absolute emissions in tonnes of CO₂ shows that Cermaq Canada increased the absolute emissions by 4013 tonnes CO₂, while Cermaq Chile emitted 6 136 tonnes more CO₂ compared to 2017. Cermaq Norway increased the emissions by 598 tonnes. At a Group level, a total of 13,405 tonnes more CO₂ was emitted to the environment during 2018 (Scope 1 + Scope 2).

Further details about energy consumption can be found under Energy consumption (indicators 302-1,302-2 and 302-3).

307-1 NON-COMPLIANCES WITH ENVIRONMENTAL LAWS AND REGULATIONS

Cermaq works actively to ensure that our operations respect and are compliant with local, national and international laws. If any non-compliances occur, we take it seriously and investigate at the appropriate level to correct the issue before measures are taken to mitigate the risk of re-occurrence.

In 2018, there were zero cases of environmental non-compliances closed with a fine.

REPORTING UNIT	TOTAL MONETARY VALUE OF SIGNIFICANT FINES (USD)	TOTAL NUMBER OF NON-MONETARY SANCTIONS	CASES BROUGHT THROUGH DISPUTE RESOLUTION MECHANISMS
Cermaq Norway	0	0	0
Cermaq Chile	0	0	0
Cermaq Canada	0	0	0
2018	0	0	0

GRI Social Indicators

403-2 TYPES OF INJURY AND RATES OF INJURY, OCCUPATIONAL DISEASES, LOST DAYS, ABSENTEEISM AND NUMBER OF WORK RELATED FATALITIES

All employees should be safe at work in Cermaq, and a number of measures have been taken to strengthen the attention on safety and risk reduction in our operations. Cermaq has had a high focus on safety in our operations, with visible results the past few years.

Dedicated and competent employees are fundamental; likewise are robust management systems and procedures to manage risk and assessment of all relevant aspects of our operations. Visible leadership on OHS is important in Cermaq, and health and safety is also reflected in our Leadership Principles. The first principle explicitly states that “Health and safety of people are always first”. Measures include sharing of good practice between regions, encouraging a strong safety culture through various activities, the use of adequate safety equipment and adherence to OHS routines.

In 2018, the Group absence rate was 2.2 percent, and it remains low throughout the group. The lost time injury rate was 6 in 2018 which is up slightly from a lost time injury rate of 5 lost time injuries per million working hours in 2017. The injury frequency rate was steady in 2018 at 8 injuries per million hours worked after it decreased from 18 in 2014 to 10 in 2015 and continued further down to 9 in 2016 and 8 in 2017. At the same time, the lost time frequency rate was 91 at a Group level in 2018, which is an increase from the 89 recorded in 2017. There were no fatalities in Cermaq Group in 2018.

To reduce the number of diving accidents, a high risk area, several measures have been introduced in Cermaq Chile the past years which show promising results. We have continued the supervision and planning of the diving operations by the OHS Managers of the sea sites, of operations, the Maritime Operations and Diving Inspector and by the milestones that are maintained in the diving operations which control diving operations, both internal staff and contractors.

Periodic training is carried out in relation to self-care, technical aspects of diving and the procedures of specific tasks, such as changes or installation of networks, lifts, and handling of counterweights, among others. The improvements to the equipment and in the way of work have been maintained, such as the installation of a lift-up system to extract mortalities (decreasing the amount of dives), implementing snorkels and special filters to improve the quality of breathing air, the implementation of an emergency bottle, decrease in diving times from 50 to 40 minutes, the practice of diving without decompression and improvements in the quality of suits and general equipment. Currently, we are reviewing the operational procedures of the main diving tasks,

During 2018, the absence rate for female employees was 3.1% which is somewhat higher than the male rate, while lost time injury rate and injury frequency rate were lower among female employees.

RATES OF INJURY BY REGION

	NUMBER OF FATALITIES	ABSENTEE RATE	LOST TIME INJURY RATE (H1)	INJURY FREQUENCY RATE H2	LOST TIME FREQUENCY RATE (F-VALUE)	OCCUPATIONAL DISEASE CASES	OCCUPATIONAL DISEASE RATE (ODR)
Cermaq Group HQ	0.	0.6%	0	0	0	0.	0
Cermaq Norway	0.	4.0%	6	11	180	0.	0

Entity	Number of fatalities	Absentee rate (%)	Lost time injury rate (H1)	Injury frequency rate (H2)	Lost time injury rate (F-value)	Occupational disease cases	Occupational disease rate (ODR)
Cermaq Chile	0.	2.0%	7	8	78	0.	0
Cermaq Canada	0.	2.5%	4	13	65	0.	0
Cermaq Group incl. Cermaq Group HQ	0.	2.2%	6	8	91	0.	0

RATES OF INJURY BY GENDER

ALL EMPLOYEES BY GENDER	NUMBER OF FATALITIES	ABSENTEE RATE	LOST TIME INJURY RATE (H1)	INJURY FREQUENCY RATE H2	LOST TIME INJURY RATE (F-VALUE)	OCCUPATIONAL DISEASE CASES	OCCUPATIONAL DISEASE RATE (ODR)
Female	0.	3.1%	5	6	112	0.	0
Male	0.	1.9%	7	9	83	0.	0

Note on calculation methods:

Lost time injury rate (H1) = Lost time injuries per million working hours

Injury frequency rate (H2) = Injuries per million working hours

Lost time injury rate (F-value) = Number of lost days per million working hours

Occupational disease rate (ODR) = Number of lost days by occupational disease per million working hours

National laws on practices for recording and reporting accident statistics follows the 'ILO Code of Practice on Recording and Notification of Occupational Accidents and Diseases' in the regions where Cermaq operates. Contractors are not included in 2017 figures. Cermaq reports OHS data using units that are consistent with Cermaq's previous reporting practices, rather than adopting any new GRI Standards formulas. Lost time frequency rate (f-value) only includes lost time from injuries up to one year and does not include lost time from occupational disease cases. Total work hours includes overtime related to workers working on sites (excluding management and administrative employees).

411-1 INCIDENTS OF VIOLATIONS INVOLVING RIGHTS OF INDIGENOUS PEOPLES

During 2018, there were no reported incidents of violation involving the rights of indigenous peoples in the Cermaq Group.

TOTAL NUMBER OF INCIDENTS OF VIOLATIONS INVOLVING RIGHTS OF INDIGENOUS PEOPLES		2013	2014	2015	2016	2017	2018
Cermaq Norway	#	0	0	0	0	0	0
Cermaq Chile	#	0	0	0	0	0	0
Cermaq Canada	#	0	0	0	0	0	0

For the past 5 years no incidents of violations involving right of indigenous peoples has been recorded in any country where Cermaq operates.

413-1 OPERATIONS WITH LOCAL COMMUNITY ENGAGEMENT, IMPACT ASSESSMENTS, AND DEVELOPMENT PROGRAMS

Cermaq wants to be a responsible partner in the local communities where it operates, with a long term perspective. Establishing and maintaining good relationships based on dialogue, transparency and mutual understanding is a priority.

All Cermaq operations have local community engagement and development programs in place. Engagement activities include sponsorships of sports teams, clubs, foundations and schools in regions where Cermaq operates. Cermaq regularly conducts community meetings and engage in dialogue with a wide group of organizations on relevant topics, and openly share information about its operations to stakeholders.

CERMAQ CANADA

Our community engagement aims to find and support shared community value with the communities where we work, aligned to the Cermaq reputational model. We want to be present and a part of our communities – be visible, be a listener and be a provider – and invest in capacity. We work with the community to educate and provide opportunity for youth in particular. At Cermaq, we care about the community and the environment beyond salmon farming. We must engage in a deep sense – to build a greater sense of partnership with the community and most importantly in British Columbia – First Nations communities, which in turn will grow our social licence in a real and lasting way.

In addition to community information sessions and small sponsorships and donations, we also support larger strategic projects; these are linked to SDGs, working closely with First Nations and aiming for transformative impact. In 2018, these include:

- Ocean debris cleanup - focus on plastics – SDG 14 life below water
- Wild salmon enhancement – to recover stocks for food and cultural significance – SDG 2 zero hunger
- Kelp farming pilot project – alternative livelihood complementary to salmon farming – SDG 8 economic development

Our community sponsorships improve our public visibility, while safeguarding our reputation and creating a supportive political environment. In 2018, we sponsored more than 100 community activities and events, including local fundraisers, beach clean-ups, school field trips, kids' sports teams and venues. Our staff often identify opportunities where Cermaq can add value and support community initiatives.

To establish good relationships and ongoing dialogue with some of the decision-makers in our communities, our managers made presentations to newly elected local government officials in Tofino and Port Alberni in 2018, and will continue with elected officials in Comox, Strathcona, Campbell River, Port Hardy, and Port McNeill in early 2019. This information sharing and dialogue is part of our commitment to transparency.

Engagement with First Nations communities is a priority for us, as we operate in their traditional territories, and Cermaq is committed to respecting indigenous rights and building close and meaningful relationships over time. Some of the ways we engage with First Nations include presentations on various topics to Chief and Councils, outreach by Human Resources team through recruitment and career fairs, hiring of First Nations-owned companies as suppliers, and funding support for traditional cultural activities, such as canoe journeys, and youth sports events.

In 2018, we provided scholarships for 20 Ahousaht youth in the trades, bachelor's, and graduate studies levels. The range of study areas included child and youth care, social work, counselling, nursing, education, psychology, business, global studies, leadership, sustainability management. This year 80% of the scholarship recipients were young indigenous women.

Through our community engagement, we hope to contribute in meaningful ways to the local communities in the regions where Cermaq works, on projects which actively engage community members to promote health, well-being, environmental conservation and protection, opportunities for youth, indigenous rights and culture, and other aspects of a vibrant community life.

CERMAQ CHILE

Our local operations actively engage with the local community and stakeholders to ensure we become part of the community and support their development.

To highlight our commitment to working with local communities, please find below a short description of the sort of interactions we have.

Cermaq Chile is committed to supporting local communities and is continuously engaged in activities with a wide group of partners and stakeholders, including local trade unions, schools, and indigenous peoples.

During 2018 all the information related to Corporate Social Responsibility was publicised in the meeting with unions' representatives and employees which form part the duties of the OHS committee inside the company, done twice a year.

In 2018, Cermaq Chile continued its "Cermaq Puertas Abiertas" program, which involves opening its facilities to all surrounding communities, including indigenous peoples, to allow them to learn more about Cermaq's

activities. During 2018 the activities included visits from students, open seminars, and visits from local authorities to show neighbors how Cermaq Chile operates.

Some the visits included those from the Pargua community, students from Llaitec Island, students of San Sebastián University, Ancud town hall, Chidhuapi rural school, Trafún community, Andrés Bello School, María Behety school of Punta Arenas, Austral Univeristy in Puerto Montt, rural school of La Poza, Kaweskar indigenous community of Magallanes, and the maritime authority of Aysén.

CERMAQ NORWAY

Our local operations actively engage with the local communities where we operate to build strong relations, add value to the local communities, and to increase our social license to operate. Establishing and maintaining good relationships based on dialogue, transparency and mutual understanding is a central part of Cermaq Norway's community engagement.

Our employees are an integral part of the local communities where we operate, and our community engagement goes beyond salmon farming.

Cermaq Norway wants to be a responsible community partner in our areas of operation, and contributes to local activity and community development with special focus on children and youth.

Cermaq Norway's sponsorships contributes to safeguarding our reputation, as well as creating a supportive political environment regionally.

In 2018, Cermaq Norway supported about 70 different events, activities, organizations and initiatives in the regions of Nordland and Finnmark. The list of sponsored projects is long; spanning from theatre groups to support groups for dementia, swimming clubs, students associations, a local rock-festival in Alta ("Aronnesrocken"), hunting and fishing clubs, to sports clubs and –events for children and youth.

In the Finnmark region, we often engage in local events and activities in partnerships with the other salmon farmers in the region, increasing our visibility and support to the local communities.

In 2018, Cermaq Norway engaged in activities with different stakeholders from local communities including municipalities, anglers' associations, suppliers and customers. Cermaq Norway met with local administration and politicians in most of the municipalities where the company has operations to discuss current and planned activities and opportunities for development.

In 2018 we also opened a new processing plant, and invited the whole local community to an open day at the plant, including a tour of the plant and servings of Cermaq salmon.

Cermaq Norway also engages with R&D institutions to the benefit of local fjords, waters and rivers. We continued to fund the surveillance of salmon wild stocks in cooperation with Varpa River system, with very encouraging results.

In Finnmark county, we are a partner in research projects looking at interbreeding success of escaped salmon

in the national wild salmon rivers Altaelva and Repparfjordelva.

In 2018 Cermaq Norway continued our engagement in beach cleaning, and took in youth as summer employees to give work experience and to address our common need to keep our beaches clean from plastics and debris. Our operations engaged 30 youths, most between 15 and 18 years, in various parts of our operations and many of them were dedicated to cleaning the beaches in the region.

Thanks to our summer temps, we were able to remove 70 cubic meters of plastics and debris from our beaches in the regions of Nordland and Finnmark. In addition, a beach cleaning campaign in the proximity of our processing plant in Hammerfest, Finnmark resulted in the removal of 520 kilos of waste.

416-1 ASSESSMENT OF THE HEALTH AND SAFETY IMPACTS OF PRODUCT AND SERVICE CATEGORIES

100 percent of our product categories are assessed for health and safety impact improvements. This is part of the ISO 22000 and IFS standards, which are fully implemented. Cermaq Canada and Cermaq Norway have fully implemented the ISO 22000 standard, while Chile has fully implemented the IFS standard. Further details about Cermaq's management standards are given in indicator CEQ 13 Management Standards.

416-2 INCIDENTS OF NON-COMPLIANCES CONCERNING THE HEALTH AND SAFETY IMPACTS OF PRODUCTS AND SERVICES

Cermaq works actively to ensure that our operations respect and are compliant with local, national and international laws. If any non-compliances occur, we take it seriously and investigate at the appropriate level to correct the issue before measures are taken to mitigate the risk of re-occurrence. Cermaq has comprehensive certifications and management systems in place to ensure that the highest standards are met and complied with.

In 2018, there was one non-compliance with the health and safety requirements of products and services in Cermaq Chile for not alerting the authority to traceability of salmon produced.

REPORTING UNIT	TOTAL MONETARY VALUE OF SIGNIFICANT FINES (USD)	TOTAL NUMBER OF NON-MONETARY SANCTIONS	CASES BROUGHT THROUGH DISPUTE RESOLUTION MECHANISMS
Cermaq Norway	0	0	0
Cermaq Chile	216	0	0
Cermaq Canada	0	0	0
Total	216	0	0

419-1 NON-COMPLIANCES WITH LAWS AND REGULATIONS IN THE SOCIAL AND ECONOMIC AREA

Cermaq works actively to ensure that our operations respect and are compliant with local, national and international laws. If any non-compliances occur, we take it seriously and investigate at the appropriate level to correct the issue before measures are taken to mitigate the risk of re-occurrence.

Compliance with social regulations includes occupational health and safety, including adherence to national legislation related to e.g. working hours and working conditions. In Canada, there were no incidents of non-compliance with social regulations in 2018. In Chile, there were a total of ten social non-compliances closed with a fine, totaling 35 916 USD. Cermaq Norway received one fine in 2018 for not having documentation of a worker's safety training.

REPORTING UNIT	TOTAL MONETARY VALUE OF SIGNIFICANT FINES (USD)	TOTAL NUMBER OF NON-MONETARY SANCTIONS	CASES BROUGHT THROUGH DISPUTE RESOLUTION MECHANISMS
Cermaq Norway	8845	0	0
Cermaq Chile	35916	0	0
Cermaq Canada	0	0	0
2018 Total	44761	0	0
2017	12635	0	0
2016	26956	2	0
2015	73340	6	0
2014	20550	5	0
2013	29331	4	0
2012	74612	7	0

Note: This disclosure corresponds with SO8 and PR9 under the G4 GRI Standard, which were merged under 419-1.

SCREENING AND ASSESSMENT OF FEED SUPPLIERS

All Cermaq's feed suppliers have been assessed taking into account environmental, labour, human rights and anti-corruption criteria as specified in Cermaq's Supplier Code of Conduct and Cermaq's Supplier Code of Conduct – Feed suppliers. The main sub-suppliers to Cermaq's feed suppliers are fish meal and fish oil processing companies and other raw material providers, such as companies supplying e.g. soy proteins, rapeseed oil, wheat and wheat gluten. Cermaq's main feed supplier EWOS has developed a supplier policy and

Code of Conduct based on the UN Global Compact 10 principles, the same principles that are the foundation of Cermaq's Supplier Code of Conduct. Raw material suppliers must sign a self-assessment form and EWOS performs regular supplier audits. In addition, EWOS supports and encourages suppliers of marine ingredients to qualify as certified IFFO Responsible Sourcing. This practice is in line with Cermaq's expectations to feed suppliers laid out in our Supplier Code of Conduct and our Feed Supplier Policy.

EWOS continued to be Cermaq's main supplier of fish feed in 2018 in all Cermaq's countries of operation. However, Cermaq has entered into agreement with two additional feed suppliers, Skretting and Biomar, which both have comprehensive standards in place. Environmental, social and governance criteria outlined in Cermaq's Supplier Code of Conduct are evaluated before entering into any new feed agreement. In addition, Cermaq's Supplier Code of Conduct- Feed suppliers specifies more detailed sustainability requirements to new and existing feed suppliers.

414-1, 308-1, 412-3 SCREENING OF NEW FEED SUPPLIERS

All new feed suppliers to Cermaq in 2018 were screened using environmental criteria, human rights and labor practices criteria as well as criteria for impacts on society. Specific requirements assessed can be found in the Cermaq Supplier Code of Conduct and the Cermaq Supplier Code of Conduct – Feed suppliers.

414-2, 308-2 NEGATIVE IMPACTS IN THE SUPPLY CHAIN AND ACTIONS TAKEN

Cermaq is constantly working on developing its supply management practices, and acknowledge the complexity of our supply chain. In 2018, no significant actual and potential negative impacts were identified in the supply chain concerning human rights impacts, labor practices or impact on society. During 2018, we conducted an audit of the governance systems and controls of one of our major suppliers. Some key environmental issues within feed processing are to ensure that the raw materials used are not overexploited and that the ecological and carbon footprints are minimized. As our main feed supplier, we present EWOS indicators concerning marine and terrestrial raw material use under the indicator CEQ8. More information about EWOS energy use and CO₂ emissions can be found in indicator 302-2. More details can also be found in the EWOS Sustainability Report.

We will continue our work to identify and mitigate risks in our supply chain.

Workforce

Employment in Cermaq

Our 4 654 employees represent a diverse group both in terms of culture and type of work. Still, a common set of core values unite our international and diversified activities.

Cermaq promotes equal work opportunities and just treatment of all its employees. Strict standards for health, safety and environment are set to ensure high level of safety. All employees are expected to contribute to a work environment free of discrimination.

LEAN AND OPERATIVE CENTRAL MANAGEMENT

All operating companies are represented in Cermaq's Corporate Management Team. The team visits all of Cermaq's operating companies each year. This hands-on involvement is important to acknowledge the effort made by all employees and brings in-depth insight about everyday life in our different areas of operation.

EMPLOYMENT

As of 31 December 2018, Cermaq employed 4 654 people, an increase of 477 employees since the end of 2017. There are strong seasonal variations in employment in farming, especially related to the harvesting and processing plants. Chile is the largest region in terms of employment and the number of employees reported includes Salmones Humboldt employees. Over 80 percent of all Cermaq employees were located in Chile by year end 2018.

Recruiting the right people is essential for the future success of our operations. Our operations are based on local recruitment of management. In 2018 the proportion of management hired from local communities averaged 67 percent (69 percent in 2017). This is in line with Cermaq's philosophy to trust local employees who best know the local conditions and culture. Possibilities for international assignments contribute to personal development as well as developing our corporate culture.

102-8 Information on employees and other workers per 31 December 2018:

	CERMAQ GROUP AS		CERMAQ NORWAY		CERMAQ CHILE*		CERMAQ CANADA		TOTAL	
Total employees	44	100%	539	100%	3835	100%	236	100%	4654	100%
Total supervised workers	0	0%	0	0%	3	0%	0	0%	3	0%
Total - Workforce	41	100%	539	100%	3838	100%	236	100%	4654	100%

Cermaq | Workforce

Total Indefinite or Permanent employees	41	100%	483	89%	2034	53%	236	100%	2794	60%
female	14	32%	111	21%	482	13%	45	19%	652	14%
male	30	68%	372	68%	1552	40%	191	81%	2145	46%
Total temporary or fixed term employees	0	n/a	56	100%	1801	100%	0	0%	1857	100%
female	0	n/a	11	33%	808	45%	0	0%	819	44%
male	0	n/a	45	67%	993	55%	0	0%	1038	56%
Total Full time employees	42.00	100%	483	100%	3832	100%	234	100%	4591	100%
female	12.00	32%	111	24%	1287	34%	44	19%	1454	32%
male	30	68%	372	76%	2545	66%	190	81%	3137	68%
Total Part time employees	2	100%	56	100%	3	100%	2	100%	63	100%
female	2	100%	11	33%	3	100%	1	50%	17	27%
male	0	0%	45	67%	0	0%	1	50%	46	73%
Management and administration employees	44	100%	30	100%	237	100%	50	100%	361	100%
Other employees	0	0%	0	0%	0	0%	0	0%	0	0%
Female employees	14	32%	8	27%	29	12%	30	60%	81	22%
Male employees	30	68%	22	73%	208	88%	20	40%	280	78%

*Including Salmenes Humboldt

Note: During high season (November until February), Chile and Norway typically has a high proportion of temporary workers to assist with processing of harvested fish.

DIVERSITY

Cermaq promotes equal work for all its employees. Still, gender is a challenge we continue to face. Whereas 32 percent of our employees are female, women have a significantly higher representation amongst the seasonal workers in the processing plants.

At year-end 2018 Group management team comprised of six members. One member of Group management is a Canadian citizen and five members are Norwegian. There were no women amongst the Group's managing directors. In total 15 percent of the Group's managerial groups are women (including all managers that report

directors, in total 25 percent of the Group's managerial groups are women (including all managers that report to the Managing Directors in the Group's companies). Despite a declining trend the past three years, it is an aim to increase the percentage of female managers in Cermaq. One means of achieving this is through in-house talent development.

Some of Cermaq's operations are located in areas inhabited by indigenous peoples. In Canada the protocol agreement with Ahousaht First Nation sets ambitions for employment from Ahousaht, and also provides service opportunities. In Chile and Norway indigenous people are employed in line with employees in general, while Cermaq is aware of a history of discrimination against indigenous people. In Chile most of the indigenous people are Mapuche while in Norway are Sami people.

UNION RELATIONS

Good and constructive relations with employees and labor unions are essential to Cermaq, and are managed through well-established local management structures and practices. All employees are free to join any labor union.

COLLECTIVE BARGAINING AGREEMENTS

Below is an overview of Cermaq employees covered by collective bargaining agreements. It is important to note that collective agreements do not necessarily reflect the actual participation in unions.

102-41 Collective bargaining agreements

	2010	2011	2012	2013	2014	2015	2016	2017	2018
Cermaq Group AS	0%	15%	13%	20%	0%	0%	0%	0%	0%
Cermaq Norway	78%	93%	93%	94%	86%	82%	85%	88%	85%
Cermaq Chile	18%	19%	25%	24%	31%	30%	26%	45%	73%
Cermaq Canada	0%	0%	0%	0%	0%	0%	0%	0%	0%
Cermaq Group (excl. AS)	27%	27%	34%	31%	36%	36%	36%	48%	71%

Note: Employees covered by collective bargaining agreements are calculated as a percentage of all employees, both temporary and permanent employees.

Stakeholder engagement

Stakeholder engagement activities are carried out both at a local and global level in Cermaq, and our aim is to engage in constructive dialogue based on respect and transparency.

In Cermaq, we work with key stakeholder groups to share knowledge, information and enhance our performance. Our stakeholders show strong interest in Cermaq's sustainability approach and performance. We remain open to dialogue with stakeholders who are directly involved with or impacted by our industry or who constructively engage in seeking industry improvements.

Approach to stakeholder engagement

Identification of stakeholders for engagement

Cermaq's approach to stakeholder engagement is to concentrate on entities or individuals that reasonably can be expected to be significantly affected by the organization's activities, products, and/or services; and whose actions reasonably can be expected to affect the ability of the organization to successfully implement its strategies and achieve its objectives.

Stakeholders may have rights under national laws as well as under international conventions. Important international conventions related to indigenous rights are ILO Convention 169 and the UN Declaration of Indigenous Peoples (UNDRIP). Other central conventions include the eight ILO core conventions of the "Declaration of Fundamental Principles and Rights at Work" and the International Bill of Human Rights, including the right to freedom of association, collective bargaining and human rights.

Our approach to stakeholder engagement

Cermaq's main stakeholder groups include our owner, employees and unions, customers, authorities, local communities, suppliers, civil society and NGOs.

Dialogue with our **owner and Cermaq employees** is continuous, through established management structures and practices. Employee relations are comprehensively regulated by law and agreement in the countries in which Cermaq operates. Cermaq applies one set of standards and values across its operations. The expertise, engagement and efforts of all employees are crucial to the success of Cermaq's business. Cermaq's relations with its employees and unions are described in more detail in the sustainability report (sections 102-8 and 102-41).

Customers include seafood wholesalers, processors and retailers in the main salmon markets. The sales organization in each local Cermaq company works directly with their customer in export markets, and many of our customers visit our operations. Transparent reporting is a useful instrument in Cermaq's customer relations. Dialogue with customers is based in Cermaq's ambition to be a preferred supplier for its customer.

Authorities include regulators and politicians at the local, regional and national levels who define the framework conditions for the industry. Cermaq believes transparent dialogue is a prerequisite for arriving at good and balanced decisions and policies. Cermaq reaches out to authorities and is always meeting requests for dialogue or information. The company will continue to prioritize the dialogue with authorities and politicians, in all the countries where Cermaq operates, describing the performance and challenges of the industry.

Local communities are important to ensure acceptance for Cermaq's local operations, support for future growth and recruitment of employees. Cermaq contributes to local activity and employment and wants to be a reliable partner for the local communities in areas of operation. Regular dialogue and community meetings are conducted in all regions.

Indigenous peoples are an important stakeholder group to Cermaq and have distinctive rights in some of the areas in which Cermaq operates. The First Nations of British Columbia, Canada, have special titles and rights under Canadian laws and legislation. It is important for the Group to be aware of potential challenges its operations might represent, and Cermaq acknowledges First Nations as important stakeholders. Cermaq has participated in several conferences on First Nation relations. The main priority has been the Ahousaht First Nation with whom Cermaq has a protocol agreement, and also dialogue with other First Nations in the territories in which the company operates. Mutually beneficial agreements with indigenous people in BC, Canada is a strong foundation for Cermaq's operations in areas where indigenous peoples' rights are affected by its operations.

Feed suppliers constitute a material stakeholder group in Cermaq, since feed constitutes about half of our total purchasing costs. Following the sale of EWOS, Cermaq is building internal competence as a feed purchaser. In 2015, Cermaq launched a Supplier Code of Conduct and a policy for feed suppliers stating detailed sustainability requirements. These documents were updated in January 2017 and are available at our web page. Other main suppliers include suppliers of technical equipment and transport as well as local suppliers of goods and services. The local Cermaq companies maintain contact with their suppliers with frequency adapted to the needs.

Civil society and the NGO community is diverse and Cermaq is selectively concentrating on those NGOs that seek constructive improvements in the industry. This includes wide groups of environmental organisations, labour organisation and NGOs dedicated to other relevant topics. Cermaq reaches out to these groups when arranging events seminars, take direct contact for regular updates and when specific events occur. NGOs can provide positive input giving the company a broader perspective and Insight.

Cermaq sees industry associations necessary for ensuring the framework conditions for the aquaculture industry. Thus, Cermaq is actively participating in the industry association, normally represented by senior executives in the board of the association. In 2018, Cermaq had representation in the board of Salmon Chile, BCSFA (Canada), CAIA (Canada), Sjømat Norge (Norwegian Seafood Federation), and Cermaq's CEO was active in the Global Salmon Initiative (GSI).

Although Cermaq is 100 percent owned by Mitsubishi Corporation, Cermaq still defines providers of capital a stakeholder group. Financial institutions also approach Cermaq on topics related to specific sustainability concerns, and Cermaq strives to meet the needs for information and clarification.

Key topics

Stakeholder dialogue takes place in both structured and unstructured ways and plays an important role in our reporting. Some key topics discussed in our stakeholder dialogue in 2018 are presented below.

STAKEHOLDER	TOPIC	CERMAQ RESPONSE
CERMAQ CANADA		
First Nations	First Nations are seeing the benefit of salmon farming in providing jobs for their people and are partnering in business opportunities and skills training.	Cermaq is committed to respectful dialogue and to working with First Nations to develop progressive and innovative relationships.
		The company works to operate in a manner consistent with the United Nations Declaration on the Rights of Indigenous Peoples.
		As part of the partnership agreement with Ahousaht First Nation, Cermaq Canada has provided post-secondary scholarships to students. In 2018, 20 scholarships were awarded. The company also provides other sports and community sponsorships to First Nations in whose territories they operate.
Customers	Retailers want their suppliers to be more transparent and sustainable. They are looking for seafood from Aquaculture operations that are environmentally and socially responsible.	<p>Cermaq Canada is committed to sustainable salmon farming and has 8 third party certifications to prove its commitment:</p> <ul style="list-style-type: none"> · 4 ISO certifications, (EMS, QMS, OHS, FS) · Aboriginal Principles for Sustainable Aquaculture certification, · FIOSA – MIOSA Safety Alliance certificate of Recognition (COR) · Best Aquaculture Practices (4 star) · Thirteen sites certified to the ASC standard and more pending
Customers	Transparency and practical information about our operations and products	Cermaq Canada provides information directly to retailers who sell its salmon to help answer consumer questions. Cermaq Canada posts comprehensive public reporting data online and posts fact sheets, blog posts and news items providing information about common questions and topics.

Local communities	Local community concern about aquaculture impacts	<p>Social acceptance of aquaculture is important to Cermaq Canada. This acceptance varies in the communities where we operate.</p> <p>Cermaq maintains a policy of responsible corporate citizenship and proactively builds and maintains collaborative relationships between the company and its stakeholders. This includes community sponsorships. In 2018, the focus was on sports teams, health fundraiser events, educational development, and ocean sciences</p>
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CERMAQ CHILE

Trade unions	CSR Committee	<p>Cermaq Chile has a CSR Committee chaired by the Chief Operating Officer, 4 company representatives in the HR, Environment, CSR, Quality and Sustainability fields, in addition to four representatives from company unions.</p>
Indigenous peoples and local communities	Corporate Social Responsibility Program "Cermaq Puertas Abiertas"	<p>This program involves opening our facilities along our Chilean operations to allow the community to know our farming practices. In 2018, Cermaq Chile continued its "Cermaq Puertas Abiertas" program, which involves opening its facilities to all surrounding communities, including indigenous peoples, to allow them to learn more about Cermaq's activities.</p> <p>During 2018 the activities included visits from students, open seminars, and visits from local authorities to show neighbors how Cemaq Chile operates.</p> <p>Visitors included the Pargua community, students from Llaitec Island, students of San Sebastián University, Ancud town hall, Chidhuapi rural school, Trafún community, Andrés Bello School, María Behety school of Punta Arenas, Austral Univeristy in Puerto Montt, rural school of La Poza, Kaweskar indigenous community of Magallanes, and the maritime authority of Aysén.</p>

Communities	Working Group on Responsible Community Engagement	<p>We have worked from 2017 with CBI , to implement the "Toolkit for a Responsible Engagement with Communities" elaborated by " WWF Chile, Rabobank and Consensus Building Institute"</p> <p>In 2018 we worked together with 8 salmon companies, belonging to the Global Salmon Initiative (GSI), that sought to improve together the social and environmental standards of our operations beyond current regulations, within the framework of the Aquaculture Stewardship Council (ASC) certification.</p> <p>Our activities were mainly a Self - diagnosis to generate a baseline and a guide the group's work and its objectives.</p> <p>We shared practices and we began planning to conduct 2 pilot projects (in Calbuco and Melinka) , we will work together, initially around a social investment project and contributions to local development.</p>
Customers	Transparency and sustainable public information about our operations	<p>Cermaq Chile provide information on e.g. sea lice, any escapes or wildlife interactions on its website for some farms to ensure easy access and to comply with requirements in the ASC standard.</p> <p>Also Cermaq Chile is committed to sustainable salmon farming has 6 third party certifications to prove its commitment:</p> <ul style="list-style-type: none"> • ASC Social and environmental responsibility • BAP 4 Stars: Quality, food safety, environment, safety and occupational health and social responsibility • IFS: Quality and Food Safety • GLOBALG.A.P. : Good practices in aquaculture, Food safety, environment, safety and occupational health, animal welfare • HALAL and Kosher are certifications specific according to the Islamic dietary law and the Jewish Dietary law • COSTCO and WALMART are customer specific verifications about quality, food safety and code of conduct

Local communities	Positive ripple effects of the industry and local challenges	<p>Cermaq has met with local administration and politicians in most of the municipalities where the company has operations to inform about and discuss current and planned activities as well as opportunities for growth and development.</p> <p>We buy all services and goods locally where they are available, from food, to carpentry, boat-service, net-repair etc.</p>
Local communities	Impacts from the construction of a new processing plant	<p>Meetings with all neighbors who are or may be impacted by the facility as well as the construction work. Neighbors and inhabitants in the local community were invited to the opening of the plant in September</p> <p>Meeting with local communities that may feel affected by having aquaculture production in their local areas and fjords.</p>
Local communities	Beach cleaning campaign to reduce ocean plastics and improve local environment	Summer temps were hired to help us remove garbage and plastic waste and clean the beaches during summer.
Anglers and local NGOs	Joint projects	Joint projects with the angler's association on monitoring presence of farmed fish in several salmon rivers (Repparfjordelva, Altaelva, Varpa). Financing of surveillance of wild stocks in cooperation with Varpa River system is ongoing. This project continues in 2019.
Customers	Transparency and practical information about our operations and products	Cermaq Norway continues to provide information on e.g. sea lice, wildlife interactions and any escapes on its website for some farms to ensure easy access and to comply with requirements in the ASC standard.
Municipalities	General public concern over fish farming in regions of operation	Open meetings addressing people's concerns and answering questions about Cermaq's operations. Meetings regarding cooperation and development in the county (e.g. new processing plant). New meeting in 2018.
Local communities	Sponsorship	Sponsorships of sports teams, clubs, foundations and schools in Finnmark and Nordland where Cermaq Norway operates.

Environmental R&D institutions	Research and surveys	Financing includes an environmental water study in cooperation with NCE. Projects continued into 2017- 2019. Research project on escaped salmon in the Alta and Repparfjord rivers by sampling shell samples from salmon during wild salmon fishery. Norwegian Institute of Nature is project manager.
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CERMAQ GROUP AS

Politicians	Impacts of growth of the industry	In meetings with politicians, Cermaq has presented its view on the criticality of sustainability in the industry and Cermaq has also submitted its view in writing to public hearings.
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Owner	Sharing of best practices with other Mitsubishi subsidiaries	Sharing of the best practices with other Mitsubishi subsidiaries in the food industry is a relevant stakeholder engagement that we have with our owner. Cermaq Group employees participate in internal sustainability groups, roundtables and events on a regular basis during the year.
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R&D institutions	Research	Cermaq Group engages in research and development projects with fish feed and vaccine suppliers, working in partnerships. Cermaq Group is engaged in the development of new vaccines by funding research projects and working on feed trial by the use of the R&D licenses granted to Cermaq Norway.
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Partners	SDGs	Cermaq Group works within several partnerships to strengthen sustainability in the sector and to develop frameworks for ocean practices to meet the SDGs.
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Cermaq's materiality analysis

The concept of materiality is the foundation of Cermaq's sustainability reporting.

We conduct a materiality analysis to prioritize reporting on aspects that are material to us and our stakeholders, and to communicate Cermaq's sustainability impact and select indicators for more frequent follow-up.

Our starting point is to report on topics where we have the largest impact and where stakeholder request for information is high. From 2016, we have aligned our material topics with specific UN Sustainable Development Goals (SDGs) that we can significantly impact.

Materiality process

Determining materiality

In defining material interests, Cermaq identifies its economic, social and environmental impacts and identifies the topics that have the greatest influence on stakeholder assessment and decisions. The topics identified as material both to Cermaq and to Cermaq's stakeholders provide the basis for the selection of indicators that we measure our performance against. A part of the process is furthermore to identify material indicators that should have targets – for measuring and improving performance over time. These form the basis of our sustainability reporting and the results are presented in our annual report.

The materiality assessment is subject to an annual review by our global Sustainability Functional Team with representatives from all regions and across disciplines. This is to ensure that we report on material aspects for the organization as a whole and measure our performance against the right indicators. At certain intervals, we perform a thorough stakeholder analysis to inform our materiality assessment process. In 2013, Cermaq invited all its external stakeholders (e.g. shareholders, NGOs, local communities, media, and analysts) to participate in a survey and perform a ranking of 32 sustainability aspects.

Focus areas established in 2016



**Healthy and
nutritious food**



**Thriving
oceans**



**People
leadership**



**Responsible
production**



**Climate
action**

In 2016, a broader process was conducted to inform and update our materiality analysis from a customer perspective and by integrating the UN SDGs. We reviewed the targets and indicators and identified five specific SDGs for special consideration in our stakeholder assessment, based on our perceived ability to make a significant impact: SDG2 Zero hunger, SDG8 Decent work and economic growth, SDG12 Responsible consumption and production, SDG13 Climate action and SDG14 Life below water.

In addition, we conducted a benchmark study to incorporate customers' sustainability expectations into our analysis. The study was based on publicly available information from sustainability branded food retailers, collected in April-August 2016, with an emphasis on requirements to sustainable salmon farming and aquaculture. This analysis was incorporated into our materiality assessment. Cermaq's sustainability framework, which incorporate the five focus areas and the materiality analysis, was based on input from all Cermaq regions and across relevant functions, and was reviewed and approved by Cermaq's central management team and the Board in the Fall of 2016.

Our five focus areas provide the structure for a set of 15 material topics with relevant indicators. Cermaq specific indicators are reported internally to Cermaq's central management team and the Board on a monthly and quarterly basis. Starting in 2016, key figures are also reported publically on our web page on a quarterly basis. Relevant GRI indicators are reported annually and are available together with the Cermaq specific indicators in our annual sustainability report.

It is Cermaq's ambition that through transparency and open reporting on material topics, we will further strenghten the constructive dialogue between Cermaq and its stakeholders.

Follow up of performance

The operational responsibility for ensuring sustainable business practice ultimately lies with the Managing Director for each of the operations owned by Cermaq. The Board of Directors holds the overall responsibility to ensure that necessary systems and procedures are in place.

Monitoring and follow-up of sustainability performance is conducted at both local and corporate levels. A set of sustainability KPIs are reported and evaluated monthly by the central management team. Each quarter, the local and central management as well as the Board of Directors receive a comprehensive sustainability report and assess the organization's sustainability performance. For the material indicators, Cermaq has set yearly targets and the performance is evaluated in accordance with established risk management procedures. Corrective actions are taken for indicators which deviate from the set targets.

All the material aspects listed above as material are material to the whole organization except for Cermaq Group AS that is not involved in fish farming in an operational way.

Material topics and indicators

The material topics are listed below and are explained in further detail in the Management Approach.

FOCUS AREA	MATERIAL TOPIC	INDICATORS
HEALTHY AND NUTRITIOUS FOOD	<ol style="list-style-type: none"> 1. Product quality, health and safety 2. Fish health and welfare 3. Feed ingredients 	<ul style="list-style-type: none"> • Raw material ingredients • Customer health and safety assessment • Fish mortality • Medicine use • Sea lice counts • Animal species and breed type • Non-compliance with product health & safety • Fines for product non-compliance
THRIVING OCEANS	<ol style="list-style-type: none"> 4. Biodiversity and feed sourcing 5. Biosecurity 6. Blue economy 	<ul style="list-style-type: none"> • Feed sourcing and supplier assessment • Raw material ingredients • IUCN red list species with habitats in areas of operation • Wildlife interaction • Fallow time/benthic impact • Vaccination program • Fish escapes • Sea lice counts • Area Management Agreements • Economic value generated and distributed • Country-by-country financial and organizational data
PEOPLE LEADERSHIP	<ol style="list-style-type: none"> 7. Safety & workplace 8. Community relations 9. Human Rights 	<ul style="list-style-type: none"> • Injuries, lost days, absence • Senior management hired from local community • Local community engagement programs • Local community complaints • Non-compliance with societal regulations • Incidents of violations involving indigenous peoples' rights • Economic value generated and distributed • Country-by-country financial and organizational data

**RESPONSIBLE
PRODUCTION**

- 10. Value chain approach
- 11. Certifications
- 12. Beyond compliance:
Responsible business conduct

- Water withdrawal and recycled input materials
- Non-compliance with environmental regulations
- Whistle blowing
- Training on anti-corruption
- Incidents of corruption
- ASC certification

**CLIMATE
ACTION**

- 13. Adaptation
- 14. Emissions
- 15. Innovation

- Financial implications, other risks and opportunities due to climate change
- Energy consumption
- GHG emissions (Scope 1, 2 and 3)
- Energy reduction initiatives

GRI Index

In the table below you will find an overview of all indicators in Cermaq's Sustainability Report 2018, in accordance with the GRI Standards, Core level.

GRI STANDARD	DISCLOSURE	REQUIREMENT LEVEL
GRI 102: General disclosures 2018	102-1 Name of the organization	This disclosure cannot be omitted
	102-2 Activities, brands, products, and services	This disclosure cannot be omitted
	102-3 Location of headquarters	This disclosure cannot be omitted
	102-4 Location of operations	This disclosure cannot be omitted
	102-5 Ownership and legal form	This disclosure cannot be omitted
	102-6 Markets served	This disclosure cannot be omitted
	102-7 Scale of the organization	This disclosure cannot be omitted
	102-8 Information on employees and other workers	This disclosure cannot be omitted
	102-9 Supply chain	This disclosure cannot be omitted
	102-10 Significant changes to the organization and its supply chain	This disclosure cannot be omitted
	102-11 Precautionary Principle or approach	This disclosure cannot be omitted
	102-12 External initiatives	This disclosure cannot be omitted
	102-13 Membership of associations	This disclosure cannot be omitted
	102-14 Statement from senior decision-maker	This disclosure cannot be omitted
	102-16 Values, principles, standards, and norms of behavior	This disclosure cannot be omitted
	102-18 Governance structure	This disclosure cannot be omitted
102-40 List of stakeholder groups	This disclosure cannot be omitted	
102-41 Collective bargaining agreements	This disclosure cannot be omitted	
102-42 Identifying and selecting stakeholders	This disclosure cannot be omitted	

	102-43 Approach to stakeholder engagement	This disclosure cannot be omitted
	102-44 Key topics and concerns raised	This disclosure cannot be omitted
	102-45 Entities included in the consolidated financial statements	This disclosure cannot be omitted
	102-46 Defining report content and topic Boundaries	This disclosure cannot be omitted
	102-47 List of material topics	This disclosure cannot be omitted
	102-48 Restatements of information	This disclosure cannot be omitted
	102-49 Changes in reporting	This disclosure cannot be omitted
	102-50 Reporting period	This disclosure cannot be omitted
	102-51 Date of most recent report	This disclosure cannot be omitted
	102-52 Reporting cycle	This disclosure cannot be omitted
	102-53 Contact point for questions regarding the report	This disclosure cannot be omitted
	102-54 Claims of reporting in accordance with the GRI Standards	This disclosure cannot be omitted
	102-55 GRI content index	This disclosure cannot be omitted
	102-56 External assurance	This disclosure cannot be omitted
GRI 103: Management Approach 2018	103-1 Explanation of the material topic and its Boundary	This disclosure cannot be omitted
	103-2 The management approach and its components	This disclosure cannot be omitted
	103-3 Evaluation of the management approach	This disclosure cannot be omitted

Topic Specific Standards

GRI 201: Economic Performance 2019	201-1 Direct economic value generated and distributed	Applicable to Core option
	201-2 Financial implications and other risks and opportunities due to climate change	Applicable to Core option
GRI 202: Market presence 2018	202-2 Proportion of senior management hired from the local community	Applicable to Core option
GRI 205: Anti- corruption	205-2 Communication and training about anti-corruption policies and procedures	Applicable to Core option
	205-3 Confirmed incidents of corruption and actions taken	Applicable to Core option
GRI G3.1 FPSS	FP9 Percentage and total of animals raised and/or processed, by species and breed type.	Applicable to Core option
GRI 301: Materials 2018	301-2 Recycled input materials used	Applicable to Core option
GRI 302: Energy	302-1 Energy consumption within the organization	Applicable to Core option

2018	302-2 Energy consumption outside of the organization	Applicable to Core option
	302-3 Energy intensity	Applicable to Core option
	302-4 Reduction of energy consumption	Applicable to Core option
GRI 304: Biodiversity 2018	304-4 IUCN Red List species and national conservation list species with habitats in areas affected by operations	Applicable to Core option
GRI 305: Emissions 2018	305-1 Direct (Scope 1) GHG emissions	Applicable to Core option
	305-2 Energy indirect (Scope 2) GHG emissions	Applicable to Core option
	305-3 Other indirect (Scope 3) GHG emissions	Applicable to Core option
	305-4 GHG emissions intensity	Applicable to Core option
GRI 307: Environmental Compliance 2018	307-1 Non-compliance with environmental laws and regulations	Applicable to Core option
GRI 403: Occupational Health and Safety 2018	403-2 Types of injury and rates of injury, occupational diseases, lost days, and absenteeism, and number of work-related fatalities	Applicable to Core option
GRI 411: Rights of Indigenous People 2018	411-1 Incidents of violations involving rights of indigenous peoples	Applicable to Core option
GRI 413: Local Communities 2018	413-1 Operations with local community engagement, impact assessments, and development programs	Applicable to Core option
GRI 416: Customer Health and Safety 2018	416-1 Assessment of the health and safety impacts of product and service categories	Applicable to Core option
	416-2 Incidents of non-compliance concerning the health and safety impacts of products and services	Applicable to Core option
GRI 419: Socioeconomic compliance	419-1 Non-compliance with laws and regulations in the social and economic area	Applicable to Core option

Note that Cermaq discloses in accordance with the GRI Core option: for each identified material Topic, the organization should disclose the generic DMA and at least one indicator. Cermaq choses to disclose multiple indicators for multiple topics.

Material Topics not covered by GRI Standards

CATEGORY

DISCLOSURE NAME

REQUIREMENT LEVEL

Fish Health and Welfare	CEQ1 Fish Mortality	Cermaq Indicator - Material topic
	CEQ4 Medicine use	Cermaq Indicator - Material topic
	CEQ5 Vaccination program	Cermaq Indicator - Material topic
Feed sourcing and ingredients	CEQ 8 Raw Material Ingredients	Cermaq Indicator - Material topic
Biodiversity	CEQ 7 Escapes	Cermaq Indicator - Material topic
	CEQ 17 Birds and Mammals	Cermaq Indicator - Material topic
Biosecurity	CEQ2 Sea lice	Cermaq Indicator - Material topic
	CEQ6 Area Management Agreements	Cermaq Indicator - Material topic
Local communities	CEQ 11 Local Community Complaints	Cermaq Indicator - Material topic
Responsible farming	CEQ 3 Fallow time	Cermaq Indicator - Material topic
Certifications	CEQ 16 ASC	Cermaq Indicator - Material topic
Responsible business conduct	CEQ 12 Whistle Blowing Incidents	Cermaq Indicator - Material topic
Economic growth	CEQ 15 Country by Country Financial and Organisational Data	Cermaq Indicator - Material topic