

Aquaculture 2030

Think globally, act locally



Our vision

The Norwegian aquaculture industry represents the world's most environmentally friendly production of healthy food. We provide world-class seafood products, production competence and technology. The Norwegian aquaculture industry constitutes Norway's most important contribution to achieving the U.N. Sustainable Development Goals through sustainable production methods and innovation.

Norway's unique advantage

Our long coastline, with vast sea areas and excellent water exchange, gives Norway a truly unique advantage when it comes to sea-based food production. Natural conditions combined with innovative and industrial development have contributed to outstanding food production and positive growth in numerous coastal communities. The aquaculture industry wants to exploit these advantages and, through technological and biological efforts, produce more seafood in a more sustainable manner.

The story of the Norwegian aquaculture industry is also the story of a primary production model that does not depend on government subsidies, but is export-oriented and profitable for the most part. This has given the industry the possibility to invest in research and development, enabling it to achieve a leading global position. Technological and biological development has contributed, and will continue to contribute, to the sustainable growth of Norway's production of safe and healthy food.

From a global perspective, it is also worth noting that this technology and expertise will be used for aquaculture production in other parts of the world, especially regions with fewer opportunities to devote resources to research and development. Norwegian aquaculture investments will therefore also make an important contribution to reducing the environmental footprint of aquaculture worldwide and contribute to increased food production in other parts of the world.

It is of significant social benefit to utilise this advantage for the energy-efficient production of healthy food for a world with a growing need for food supply stability, while facing a shortage of arable land and climate-friendly energy.

Aquaculture 2030

In 2012, Sjømat Norge (The Norwegian Seafood Federation, called FHL at the time) published the report '**Aquaculture 2025**'. This report described the ambitions of the aquaculture sector, with a focus on sustainability. The work was based on an extensive process involving member companies and was linked closely to relevant specialist fields. The report was praised for being both ambitious and concrete on behalf of the industry.

Aquaculture 2025 was a continuation of the vision, goals and action plan submitted by the organisation in 2007 to reduce fish escape and also included goals and a strategic plan for dealing with salmon louse in 2009. These goal-oriented efforts have resulted in a considerable reduction in fish escape and subsequent lower percentage of escaped salmon in waterways. This work has contributed to a better handling of a demanding salmon lice situation at fish farming facilities, as well as increased knowledge and innovation alongside reduced medication use.

Five years later, however, a revision of the strategy is needed. It was therefore decided during the General Assembly session in April 2017 to initiate a process called 'Aquaculture 2030'. The resulting document points

out the direction for the work that has already been started and the project will entail dialogue with business professionals, experts in the field and environmental specialists. The results of the work, which aims to both portray the industry in the year 2030 and describe the measures and changes required, will be presented during the General Assembly of The Norwegian Seafood Federation in 2018.

The Norwegian Seafood Federation plans to use the Aquaculture 2030 project to develop a joint strategy for the further sustainable development of the aquaculture industry and how it should be managed in 2030 in response to both self-imposed and government-imposed measures.

For this reason, Aquaculture 2030 will indicate the goals of the industry, as well as measures that the industry should take in order to achieve these goals. At the same time, we plan to suggest the best way for the authorities to manage the industry in line with the politically established goals. Research and development financed and carried out by both society and the industry will be an important condition for achieving all goals.

The drafting of a plan for the future management of the industry will give the organisation the opportunity to thoroughly examine how, among other things, growth should be regulated and sites managed, as well as the need for regional collaboration. By developing a strategy, The Norwegian Seafood Federation, the largest and leading organisation for the aquaculture and seafood industry, can work in a more future-oriented and targeted manner towards achieving a common goal.

The essential prerequisites for the regulation of the aquaculture industry are that it contributes to development and growth in an environmentally friendly, social and financially sustainable manner.

Considering the ambitions of the Norwegian aquaculture industry, increased production will entail:

- 1) Additional requirements for the industry related to the use of resources and environmental impact.
- 2) Additional requirements to reduce the environmental impact (footprint) per unit produced in central areas.
- 3) Additional requirements for the proper regulation of the industry and its ability to adapt to these.

The requirements to be imposed for an acceptable environmental impact in the future must take into account such major global challenges as greenhouse gases, biodiversity, clean oceans, food safety for a growing world population and responsible management of sites, both on land and at sea.

Our goals

Sustainable development revolves around meeting the needs of people in today's world without destroying the possibility of future generations to meet their own needs. These goals reflect the three dimensions of sustainable development:

1. Climate and environment
2. Economy
3. Social conditions

Norway endorses the UN Sustainable Development Goals and The Norwegian Seafood Federation's sustainability goals for the aquaculture industry are based on these goals. The UN has developed 17 goals and 169 sub-goals to provide global direction for countries, the business community and civil society. Countries around the world were actively involved in establishing the goals and more than eight million people contributed to the process.

In *The Ocean Economy in 2030*, the Food and Agriculture Organization of the United Nations (FAO) and the Organization for Economic Co-operation and Development (OECD) explain the significance of aquaculture for resolving many of our future global challenges.

Environmental sustainability

The Norwegian Seafood Federation aims to contribute to the UN achieving the following sustainability goals related to environmental sustainability:



- Sustainability goal 12: Ensure sustainable consumption and production patterns.
- Sustainability goal 13: Take urgent action to combat climate change and its impacts.
- Sustainability goal 14: Conserve and sustainably use the oceans, seas and marine resources.
- Sustainability goal 15: Sustainably manage forests, combat desertification, halt and reverse land degradation, halt biodiversity loss.

The Norwegian Seafood Federation's contribution to the UN Sustainable Development Goals is concretised in the following main objective for the Norwegian aquaculture industry. The final strategy document will describe these goals in more detail, as well as specific measures:

1. The aquaculture industry will not have a negative impact on biodiversity

Relevant production requirements to implement:

- The aquaculture industry will contribute to maintaining Norwegian salmon populations. Monitoring of salmon lice and fish escape is a prerequisite for responsible operations (goals 14 and 15).
- The aquaculture industry will make it possible to trace escaped salmon back to their owner to contribute to protecting biodiversity (goals 14 and 15).
- The aquaculture industry will not reduce the potential for coastal fishing due to an impact on marine populations like coastal cod and shrimp (goals 14 and 15).
- The aquaculture industry will reduce its environmental footprint by the year 2030. These goals will be achieved by, among other things, ensuring that a considerable percentage of fish feed comprises animal and vegetable by-products, insect products and/or products originating from the cultivation of microorganisms. The choice of raw materials for feed is to be a sustainable one that promotes biodiversity and protects the rain forest and other biotopes (goals 12, 13, 14 and 15).
- Raw materials from marine environments used for the production of fish feed or directly for human consumption are to originate from sustainably harvested populations. Species living at the lower trophic level, including marine algae and zooplankton and phytoplankton, should comprise an important percentage of raw materials for seafood production (goals 12, 13 and 14).

2. The aquaculture industry is to be part of the solution to climate challenges

Relevant production requirements to implement:

- The aquaculture industry is to have a specific focus on energy efficiency, reduced use of fossil fuels, choice of cooling mediums and the choice of feed raw materials in order significantly reduce its climate footprint per ton of seafood by the year 2030 (goals 13, 14 and 15).

3. The aquaculture industry is to use the ocean in a manner that promotes environmentally sustainable development

Relevant production requirements to implement:

- In increasing production, the aquaculture industry will not increase its discharge of sludge and nutrient salts in a manner that threatens the marine ecosystem (goals 14 and 15).
- The aquaculture industry will be an active proponent of the increased use of environmental documentation throughout the value chain (goals 8, 12, 13, 14 and 15).

- All marine food production depends on a clean ocean. The Norwegian aquaculture industry will actively work towards full control of its emissions and discharges related to seafood production (goal 14).
- Seafood companies are committed to continuously contributing to cleanup activities in response to contamination from other human activity along the coast (goal 14).
- Continuous knowledge sharing by the Norwegian aquaculture industry with the international aquaculture industry will contribute to greater sustainability (goals 8, 12, 13, 14 and 15).

Social and economic sustainability

The Norwegian Seafood Federation will contribute to the UN achieving the following sustainability goals related to social and economic sustainability:



- Sustainability goal 2: End hunger, achieve food security and improved nutrition and promote sustainable agriculture.
- Sustainability goal 3: Ensure healthy lives and promote well-being for all at all ages.
- Sustainability goal 8: Promote inclusive and sustainable economic growth, employment and decent work for all.
- Sustainability goal 9: Build resilient infrastructure, promote sustainable industrialization and foster innovation.

The Norwegian aquaculture industry's contribution to the UN Sustainable Development Goals is concretised in the following goals:

1. The aquaculture industry is to contribute to increasing global food production

Relevant production requirements to implement:

- The sharing of knowledge and technology by the Norwegian aquaculture industry will help the international aquaculture industry increase production and significantly reduce its environmental footprint per ton of seafood (goals 2, 3, 8, 9, 12, 13, 14 and 15).
- Food-producing sea areas will prioritise fishing and aquaculture operations.

- In its resource-effective food production, the Norwegian aquaculture industry will contribute to increasing food production to 5 million tons of healthy seafood by the year 2050 (goals 2 and 3).

2. The aquaculture industry is to contribute to the positive development of Norwegian society

Relevant production requirements to implement:

- Norwegian value creation related to aquaculture will be doubled by the year 2030. This will contribute to increased taxable income and more jobs (goal 8).
- The aquaculture industry will engage in dialogue on the local level in order to contribute to meeting the legitimate needs of the local community as much as possible. (goal 8).

3. The aquaculture industry is to contribute to improving the global living standard

Relevant production requirements to implement:

- Through its own production activities, as well as sharing technology, knowledge and high standards for international aquaculture, the aquaculture industry will contribute to respectable work and economic growth in those areas with considerable aquaculture production or which supply raw materials or technology for the aquaculture industry (goal 8).
- The aquaculture industry will maintain high standards for the health of workers, the working environment and safety in its own operations, and contribute to inclusive job opportunities and respectable working conditions at suppliers, both national and international (goal 8).

The Norwegian Seafood Federation's sustainability goals in a global perspective

All food production affects the environment to some degree. In the discussion on what a predictable and environmentally sustainable growth actually entails, it is important to consider this within a perspective that also includes the major global challenges and takes into account the positive social consequences on the national level of the further development of the Norwegian aquaculture industry. The Norwegian Seafood Federation aims to ensure that aquaculture production fulfills the UN Sustainable Development Goals through local and international measures.