

# The role of salmon farming

- in light of the global sustainability challenges

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# Agenda

- Snapshot of Cermaq
- The megatrends in food demand and global challenges
- Consumer advice and concerns
- Challenges facing salmon farming
- The role of the salmon industry and the GSI (Global Salmon Initiative)
- Interaction with stakeholders
- Conclusion
  - Salmon farming responds well to the UN Sustainable Development Goals*





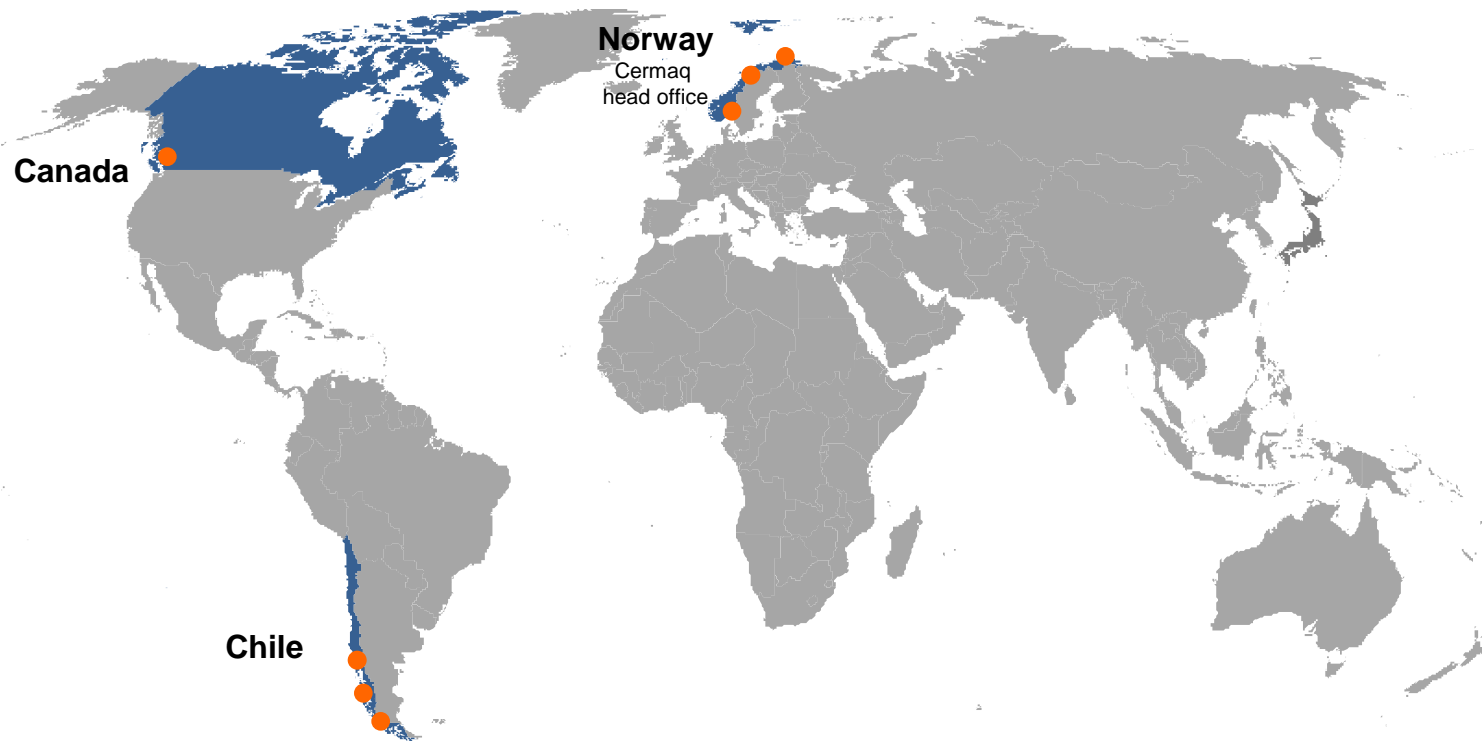
# Snapshot of Cermaq



137 thousand tons gwe sold in 2014



Revenue (2014) NOK 5.6bn  
EBIT (2014) NOK 428m



Employees: 4 100

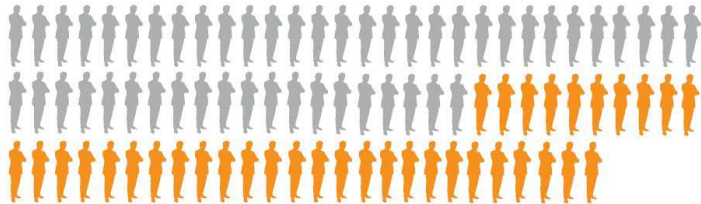


100% owned by  
Mitsubishi Corporation

Cermaq  
+ Mitsubishi Corporation  
= #2 global salmon farmer

# Global megatrends are affecting aquaculture

## World urban population



The world urban population is expected to increase by 72% by 2050

Source: World Urbanization Prospects: 2011 Revision, Produced by the UN Department of Economic and Social Affairs.

72%  
increase

With a population of 8.3 billion people by 2030, we'll need...

50%  
more  
energy



40%  
more  
water

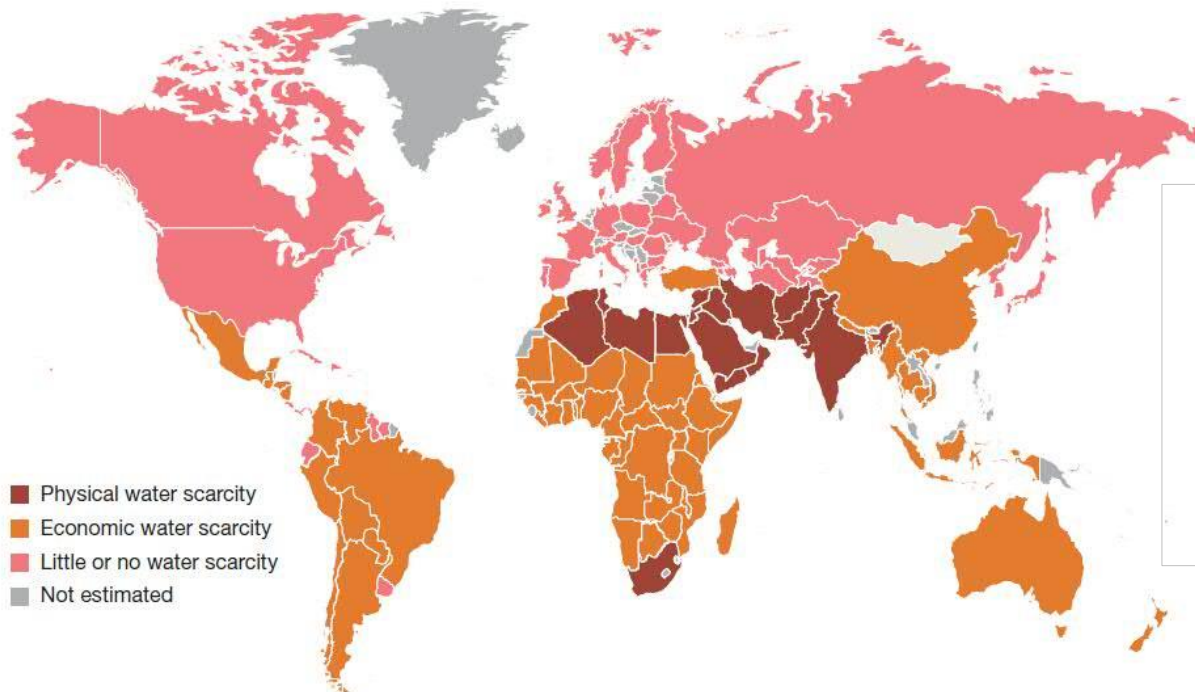


35%  
more  
food



Source: National Intelligence Council: Global Trends 2030: Alternative Worlds.

## Projected water scarcity in 2025



- Physical water scarcity
- Economic water scarcity
- Little or no water scarcity
- Not estimated

“A profound change of the global food and agriculture system is needed if we are to nourish today's 925 million hungry and the additional 2 billion people expected by 2050” (UN)

Source: International Water Management Institute.

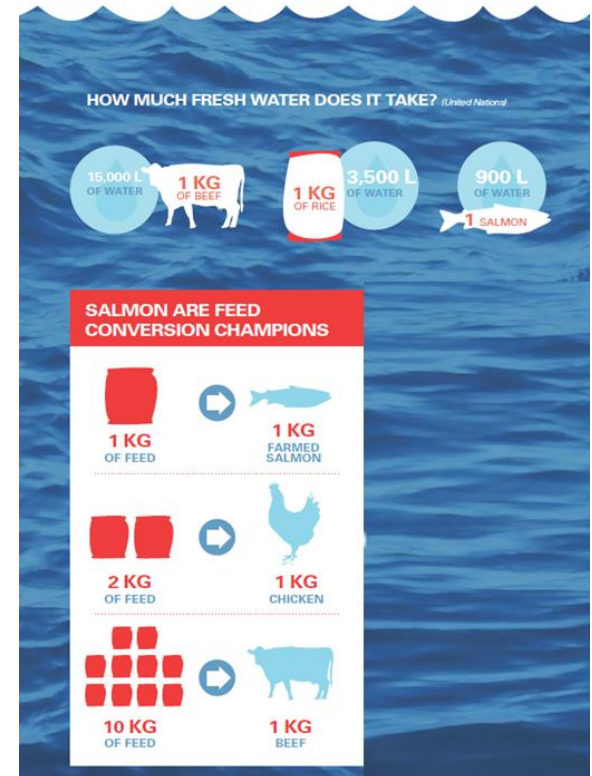
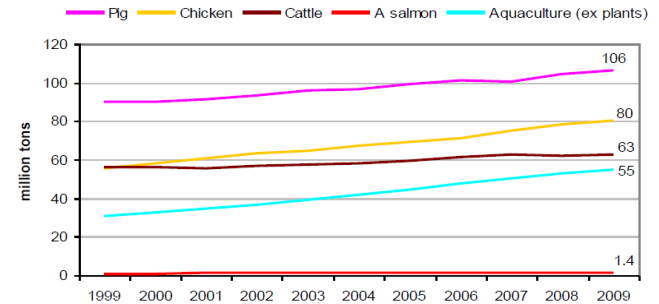
Source: Five megatrends and possible implications (April 2014), PwC

# Aquaculture is a prerequisite to meet global needs

- Farmed land is limited
  - Limited new arable land
  - Areas are degraded due to
    - Increased saltiness
    - Erosion
    - Drought
- The ocean represents 70% of the earth's surface
  - Fisheries has limited growth opportunities
  - Industrialized aquaculture has a significant potential for protein production

***“The bulk of the future increase in supply has to come from aquaculture”***

Arní Mathiesen, FAO 2015

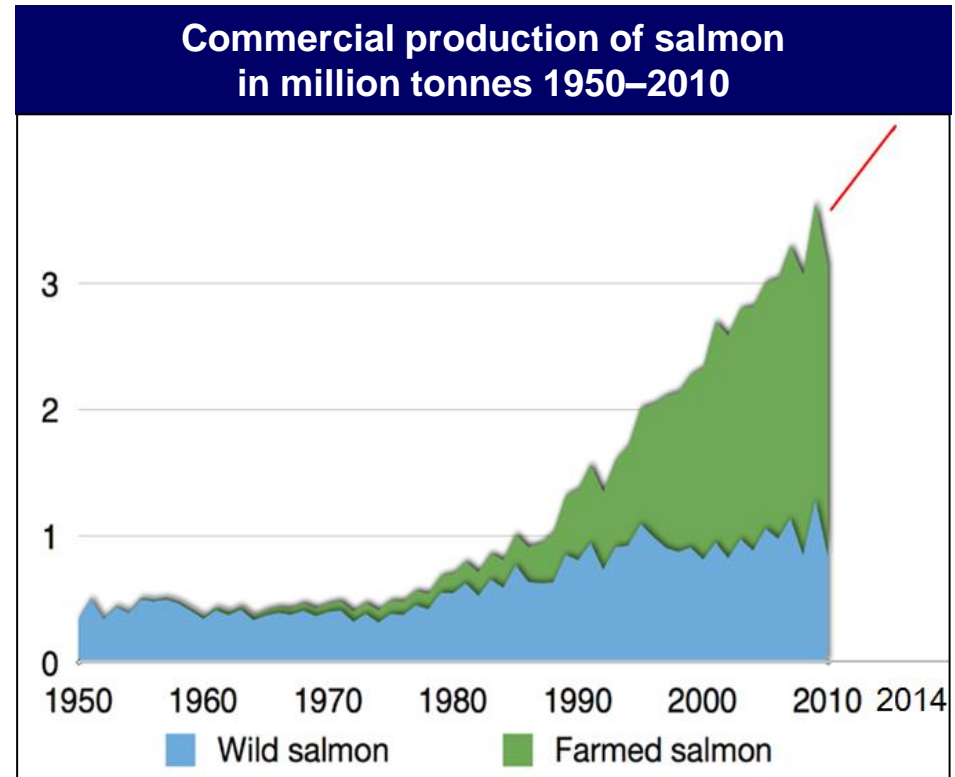


Sources: NOFIA and ISFA

cermaq

## Tremendous growth in global demand for salmon

- Consumption driven by good fit with consumer trends and new products;
  - Easy to prepare
  - Ready to eat
- Forwards looking trends
  - Healthy food (rich in marine Omega 3 fatty acids)
  - Low ecological footprint



Soucre: Wikipedia/FAO

*No signs of a slowdown of global demand for farmed salmon*

**- And since 2010 consumption of farmed salmon has increased by > 40%**

## Nutrition advices are basically the same in all countries



- Much vegetables and fruits
- Carbohydrates rich in fiber
- **Seafood**
- Limited amount of fats
- Balanced and varied diet



- Limited red meat
- Limited amount of sugar
- Limited salt



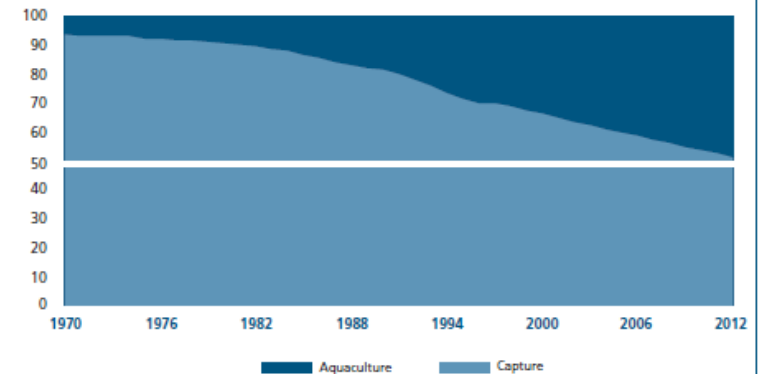
*Nutrition advices supports the positive role of salmon and seafood for the global environment*

# Salmon farming can make a difference

- Finfish is around 17% of total protein intake
- Salmon is 6% (volume) of fish farming
- Salmon farming is the most technically advanced seafood production, e.g.
  - Vaccines
  - Feed
  - Technical equipment
- Farmed salmon will never be significant in the total global diet, but
  - Salmon replacing beef is good for health and the environment
  - The salmon farming industry can transfer vital competence and technology to advance aquaculture of other species

Relative contribution of aquaculture and capture fisheries to food fish consumption

Percentage of fishery food supply (kg/capita)



Source: SOFIA 2014

*Farming of carnivorous finfish in the Asia-Pacific region in 2008 exceeded 600 000 tonnes, with feed conversion ranging from 7:1 to 15:1 and almost exclusively raised on low-value fish.*







SOFIA 2014



# Salmon farming must be sustainable

The industry has made significant advances in knowledge and technology, but must effectively address important challenges



## Fish health

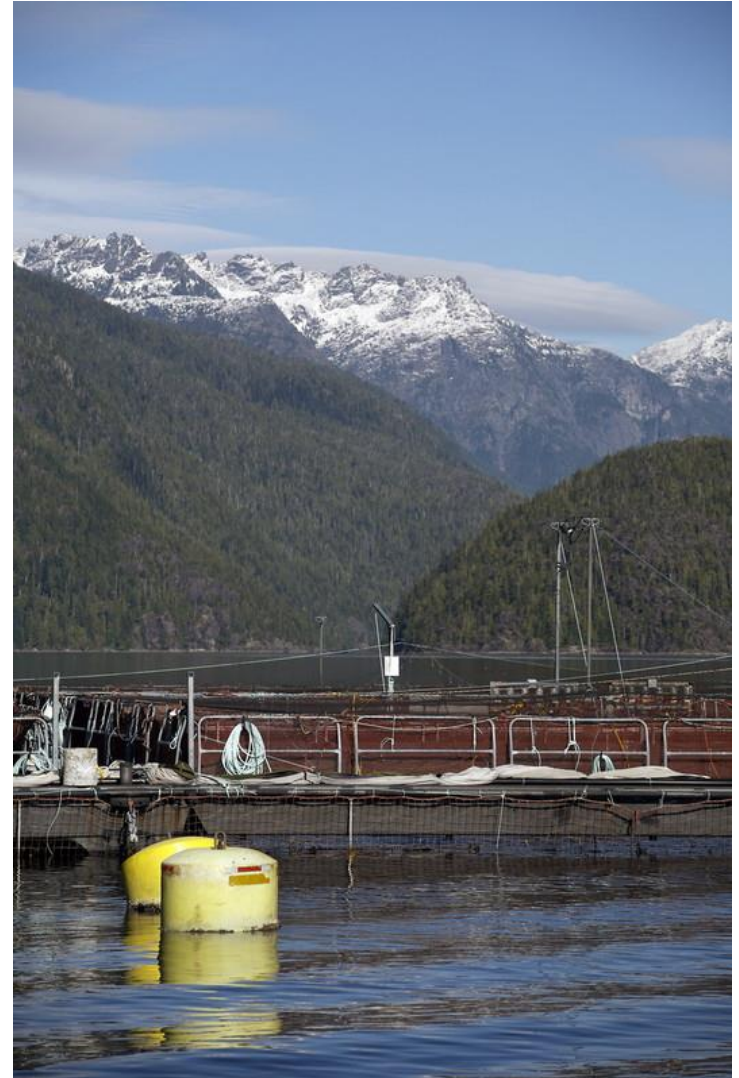
- Sea lice  
- Escapes (potential threat to wild Atlantic salmon) 
- Diseases from pathogens   

## Key resources

- Limited access of fish oils rich in Omega 3 

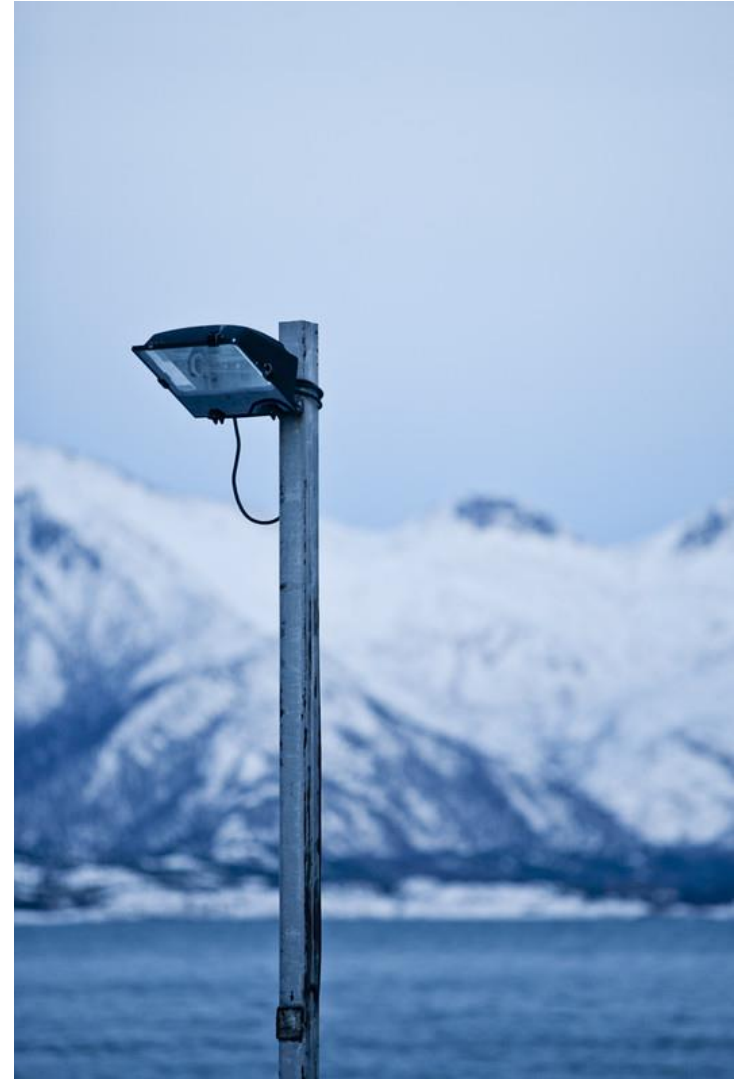
## Social license

- Stakeholder resistance (in BC) 
- Public debate characterized by myths rather than facts 



# Regulations, transparency and collaboration is required

- Active and relevant regulations - and enforcement by local authorities
- Limitations in transport of live salmon to protect against spread of disease
- Collaboration on R&D and preventive fish health
- Transparency about sustainability issues



# Global Salmon Initiative leads the way

- The Global Salmon Initiative (GSI) is a leadership initiative of 14 salmon aquaculture companies
- Being a member of GSI requires a strong commitment to sustainable farming practices, dedication of resources and time, and transparency in reporting
- GSI members represent approximately 50 % of global farmed salmon supply



AquaChile



Bakkafrost



Blumar Seafoods



Camanchaca



Cermaq



Fjordalax



Grieg Seafoods



Huon Aquaculture



Los Fjordos



Marine Harvest



Multiexport Foods SA



New Zealand King Salmon



Norway Royal Salmon



Ventisqueros S.A

## GSI Mission

“Global farmed salmon producers working together to increase industry sustainability and social licence”

### Collaboration

Making progress against challenges as an **industry**

### Transparency

Communicating our **challenges and successes** to build trust and support

### Sustainability

Industry as a whole must consider **long-term solutions**



# Why Are We Doing This?

- “Business as usual” is no longer an option
- If the industry is to expand its social license, the way we operate has to improve
- By working together we can share knowledge on how best to protect the environment
- Improvements can be made faster and more effectively

*“The salmon sector is finally working together and embracing sustainability. This is going to radically change aquaculture- and have ripple effects in the entire global food industry”*



**gsi** GLOBAL SALMON INITIATIVE **Jason Clay**  
Senior Vice President of Market Transformation, WWF

## Main activities within GSI

### Standards

All GSI members have committed to reaching the ASC standard by 2020

### Biosecurity

Make significant progress on sea lice management, through the cooperation and support of all GSI members

### Feed

Working with our partners to identify sustainable sources of feed

### Transparency

Ensure industry transparency to communicate efforts being made by industry and maximize opportunity to improve industry reputation

## GSI accelerates commercial development of Omega 3

- GSI and feed partners have launched a global tender for alternative sources of oils high in Omega-3
- Minimum of 25,000 tons of novel oils annually for a minimum of two years
- The tender is open to any organization that is able to supply novel oil resources and meet the requirements stated in the tender document
- The deadline for proposal submission is October 31, 2015

*"By working together to resolve industry-wide issues, the GSI is demonstrating how collaboration can lead to innovative solutions. We are pleased to see the GSI members working proactively in the search for resources needed to ensure a sustainable future for the industry and to provide sustainable sources of protein."*



Doris Soto,  
Senior Aquaculture Officer  
FAO

## Cermaq actively engages with stakeholders

- We engage with local communities and stakeholders directly impacted by our operations
  - Employees
  - Local sports and culture
  - Neighbors
  - First Nations
  - Wild salmon organizations
  - Partnership for skills training in local communities
- We endorse global initiatives – as significant challenges can only be solved through industry collaboration and partnerships





# Salmon farming responds to UN Sustainable Development Goals\*

Salmon farming responds well to several of the 17 UN goals for sustainable development

## People

- 2 End hunger, achieve **food security and improved nutrition and promote sustainable agriculture**
- 3 Ensure **healthy lives** and promote well-being for all at all ages

## Partnership

- 17 Strengthen the means of implementation and revitalize the **global partnership for sustainable development**

## Prosperity

- 9 Build resilient infrastructure, promote inclusive **and sustainable industrialization and foster innovation**



## Planet

- 6 Ensure availability and **sustainable management of water** and sanitation for all
- 12 Ensure **sustainable consumption and production patterns**
- 13 Take urgent action to **combat climate change** and its impacts
- 14 Conserve and **sustainably use the oceans, seas and marine resources** for sustainable development
- 15 Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and **halt biodiversity loss**

# Leading sustainable aquaculture – for a better tomorrow

Thank you for your attention



Photo: Norwegian Seafood Council/Mari Svenningsen