

Kan norsk oppdrettsindustri bidra til Europas rolle som global matprodusent?

TEKMAR 2010 Innovasjon i havbruk
Britannia Hotell, Trondheim
8. desember 2010

Torgeir Edvardsen

SINTEF Fiskeri og havbruk AS
EATIP

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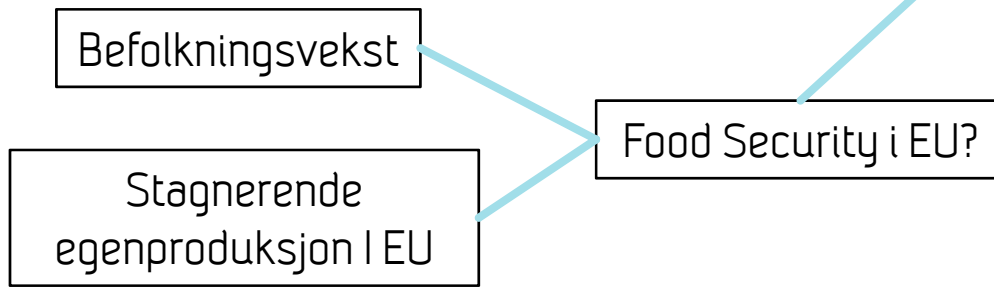
➤ Bakgrunnen for spørsmålet

- Barosso, 2007
- Befolkningsvekst
- Stagnerende EU-produksjon
- "Europa" = EU
- Matprodusent = fisk ol

Jeg skal se litt nærmere på disse to

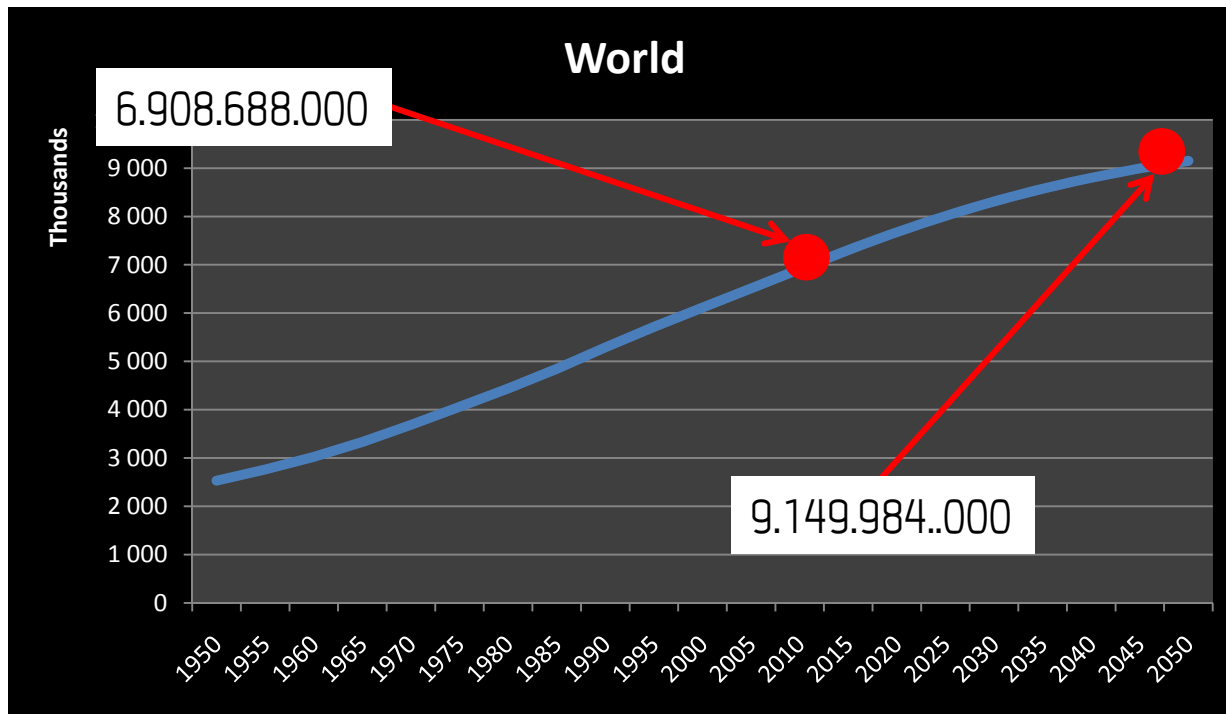
F-ordene

- Fish
- Feed
- Food
- Folk and
- the Future



Fremtiden – verdensbefolkningen

- Innen 2050 verdensbefolkningen anslått til å vokse til 9,1 mrd mennesker (FN, 2010)



Source: Population Division of the Department of Economic and Social Affairs of the United Nations Secretariat, *World Population Prospects: The 2008 Revision*, <http://esa.un.org/unpp>
Monday, December 06, 2010; 6:22:41 PM.

Fremtiden

- Innen 2050 verdensbefolkningen anslått til å vokse til 9,1 mrd mennesker: **Hva skal de spise?**

- WHO anbefaler at vi spiser 450 gram marin mat pr uke

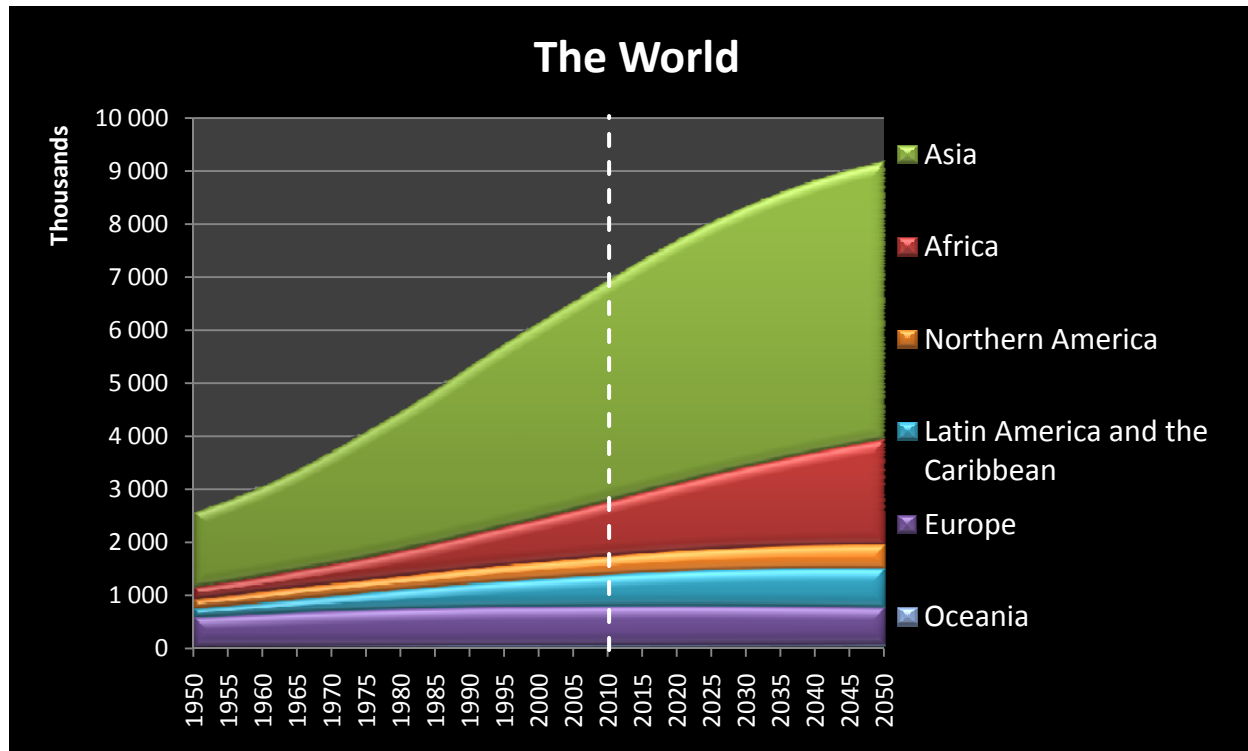
- Innen 2050 vil vi trenge 231 MT marine produkter pr år
- Det dobbelte av hva vi har nå.....

Duarte,C.M et al. Will the oceans help feed humanity.2009. Bioscience. Vol.59 No.11

- Matproduksjon i sjø

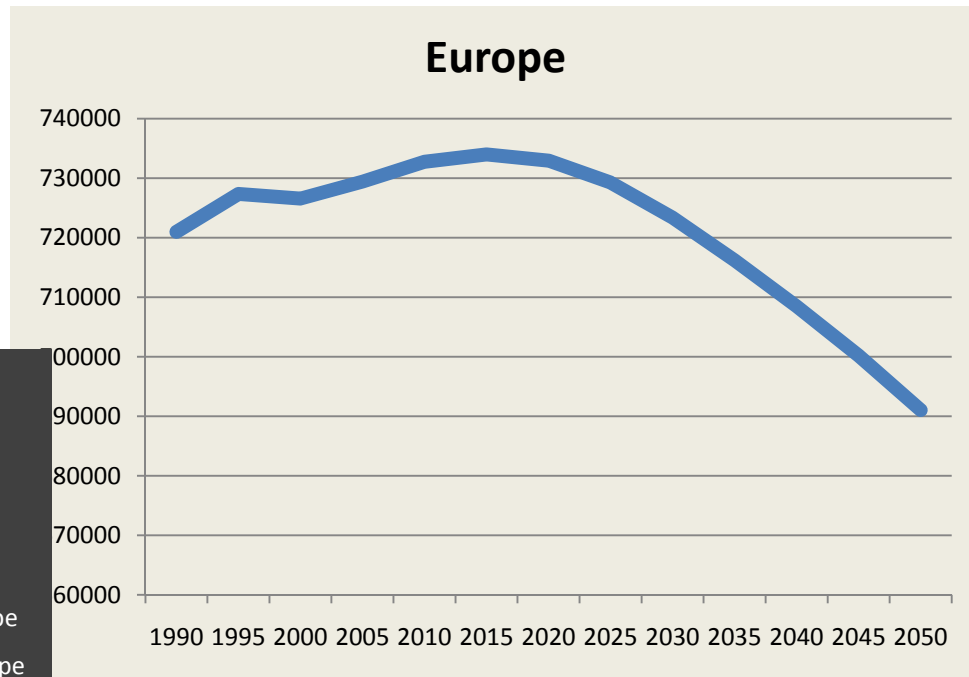
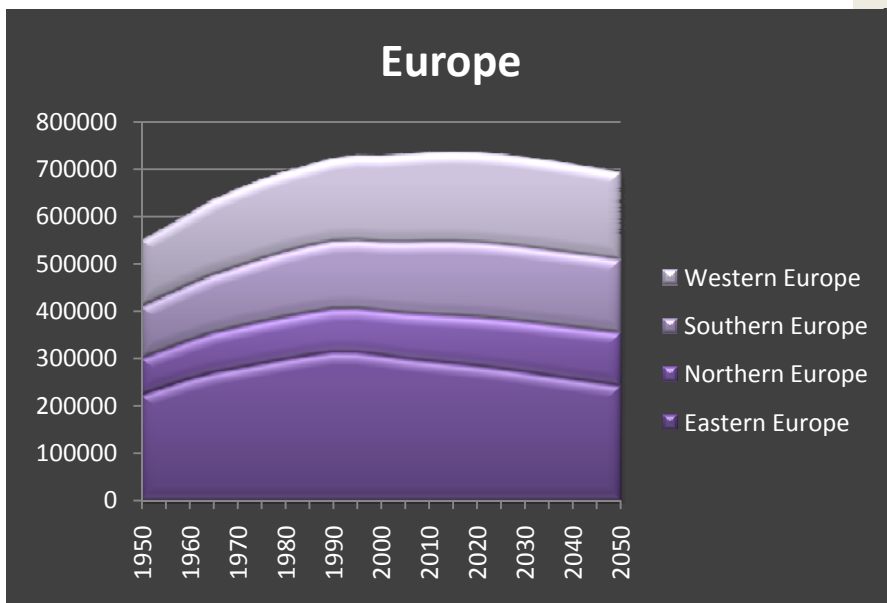
Imidlertid,

Befolkningsveksten er skjevfordelt:



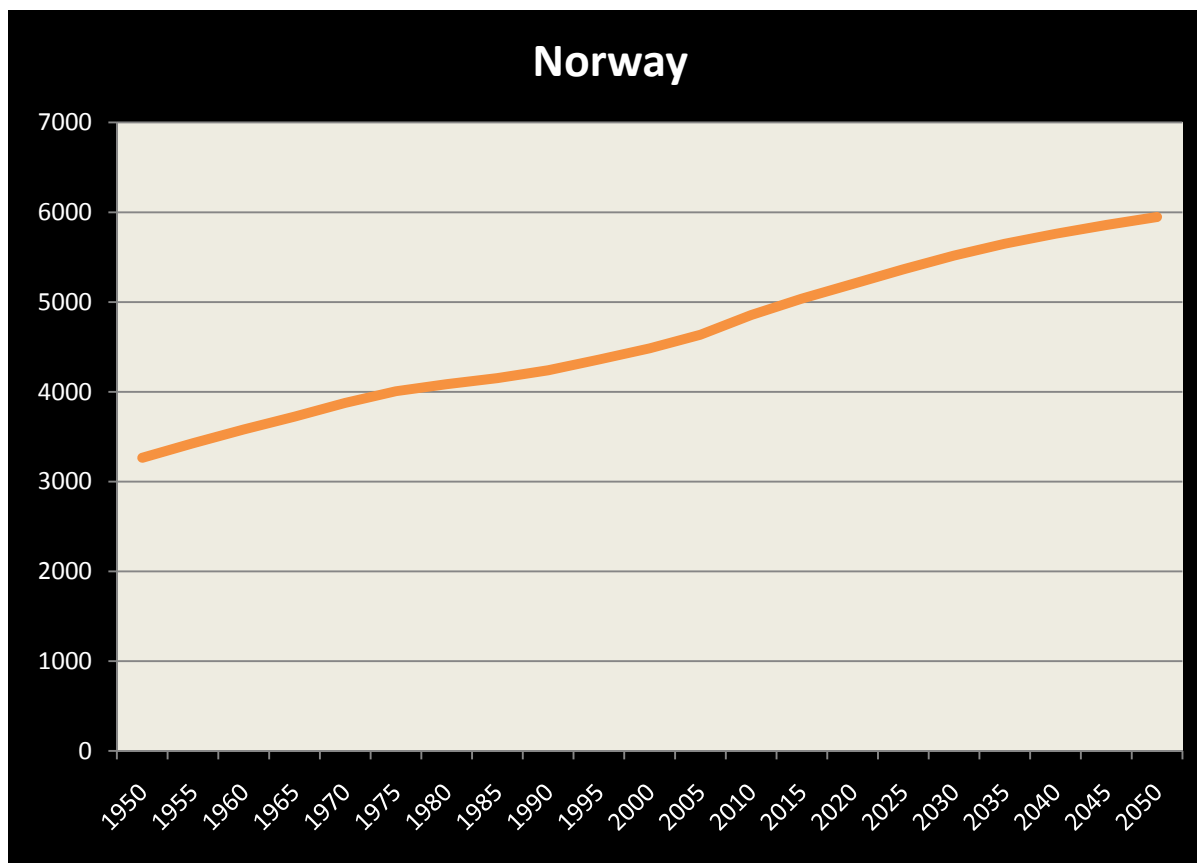
Hva mere er,

befolkningsveksten i Europa er avtagende fra ca 2020:



Og for spesielt interesserte:

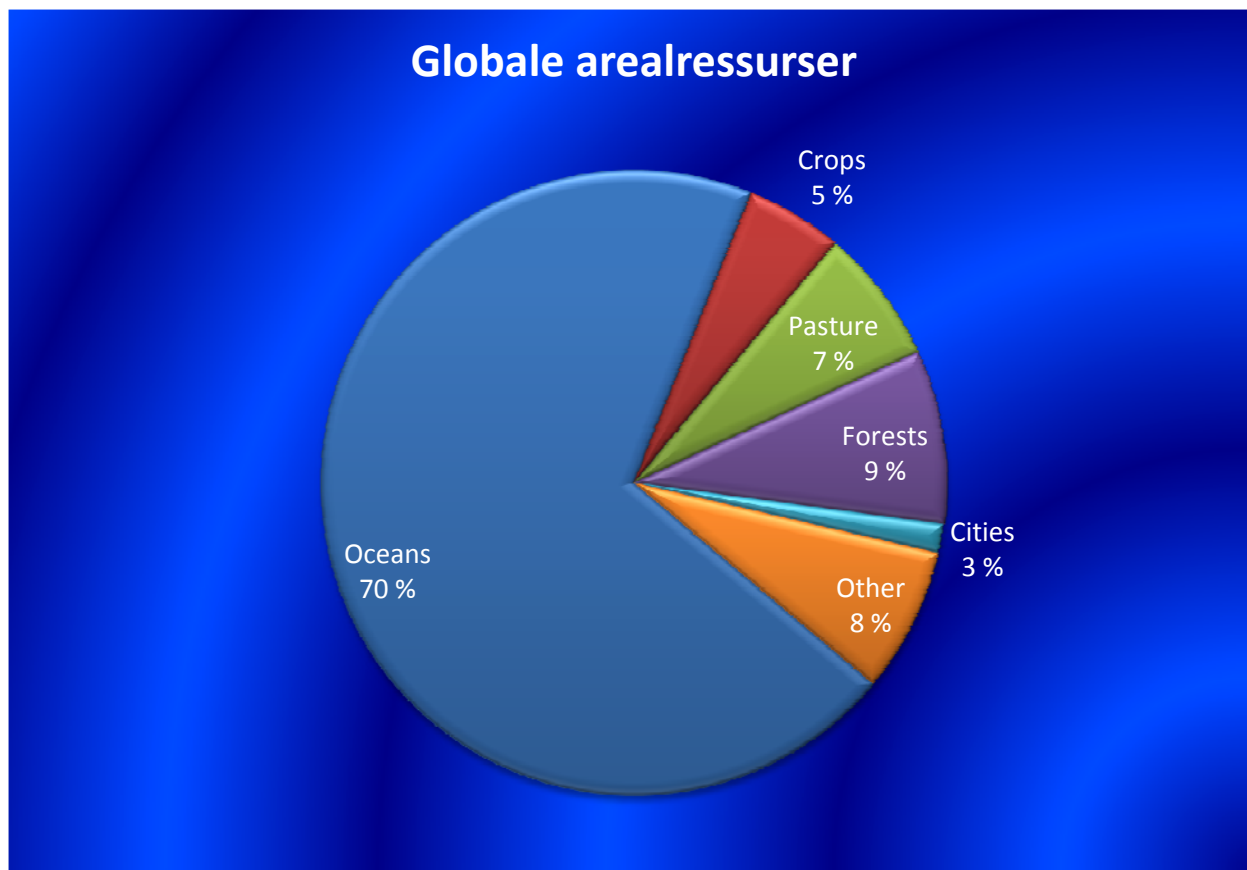
i Norge forventes befolkningen å vokse



Tilgjengelig mat

➤ Ressurser for matproduksjon

- Arealressurser
- Ferskvann



Tilgjengelig mat

- Ressurser for matproduksjon
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Ferskvann

- 2,8 mrd (44%) av verdens befolkning lever i områder med vannmangel
- 67% av tilgjengelig vann brukes i landbruk
- Prognose: innen 2025 vil vannmangel redusere landbruksproduksjon med 30%

Kilde: World Economic Forum World Bank|

Tilgjengelig mat

- Ressurser for matproduksjon
 - Arealressurser
 - Ferskvann
- Men, problemet er ikke for lite mat I verden; problemet er fordelingen
- I dag sulter 1 milliard mennesker
- Produktivitetsøkninger (pr knapp faktor)

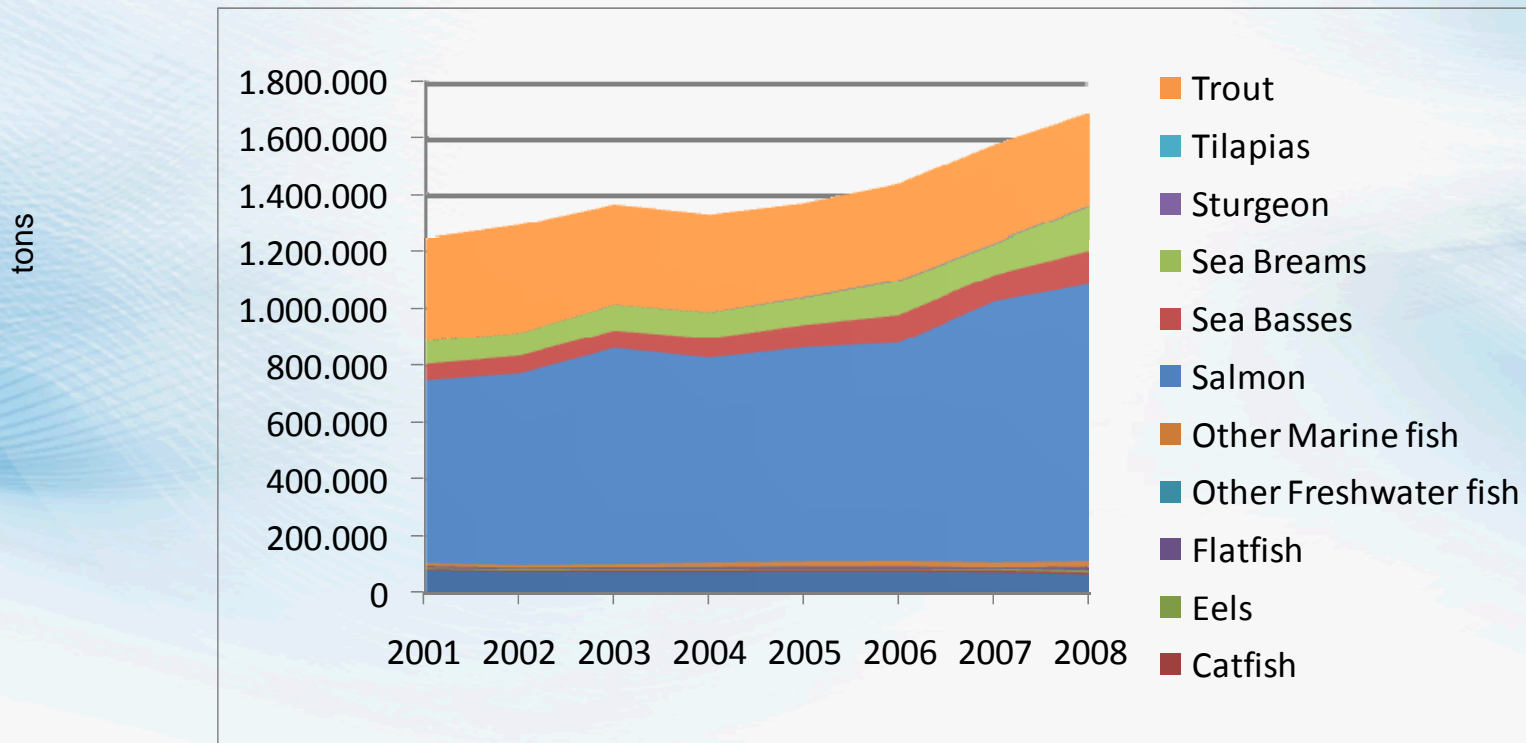
Stagnating EU Seafood Production

European fish farming



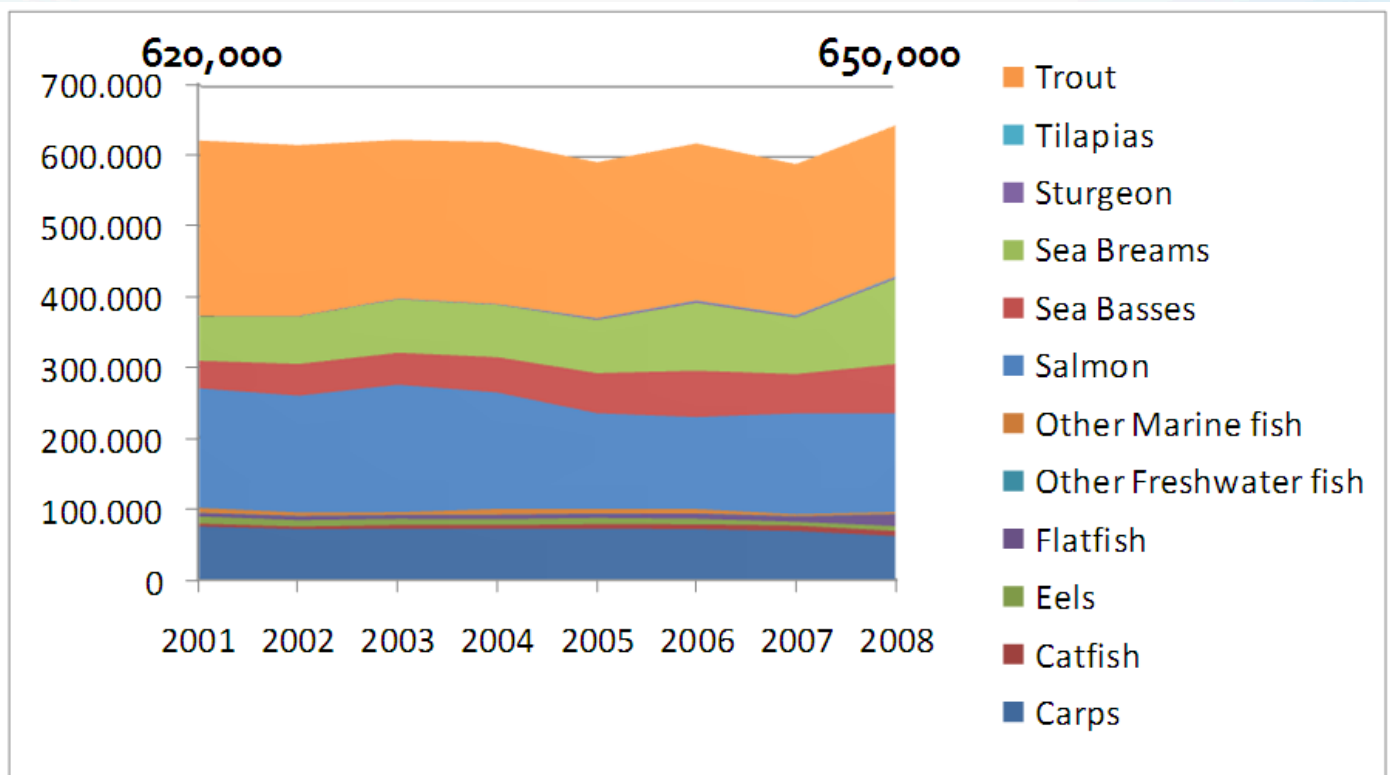
1,240,000 tons

1,680,000 tons



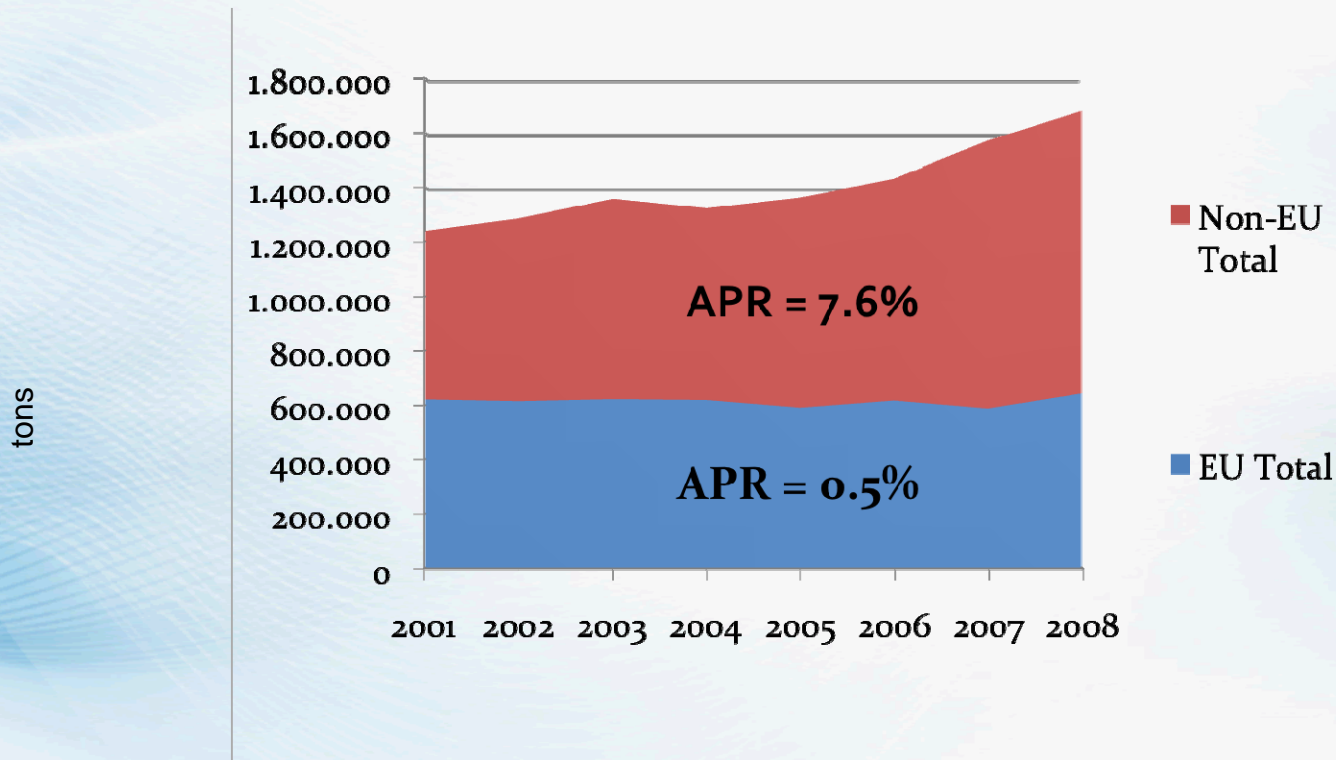
Source: FEAP Member Associations

EU fish farming



Source: FEAP Member Associations

Some net differences!

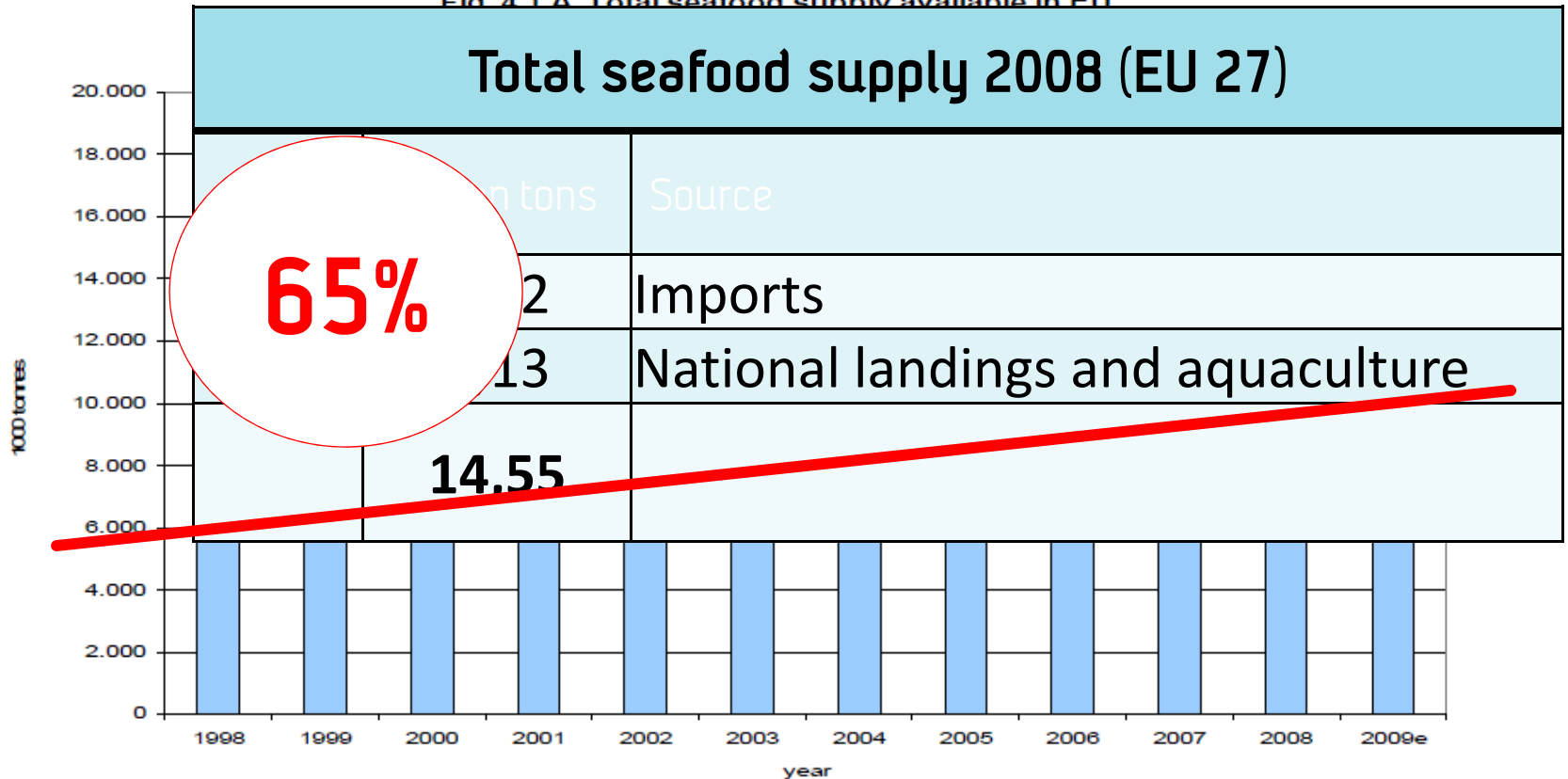


EU Aquaculture strategy (2002) forecast 4% annual growth

Source: FEAP Member Associations

Total seafood supply in EU

Fig. 4.1 A Total seafood supply available in EU

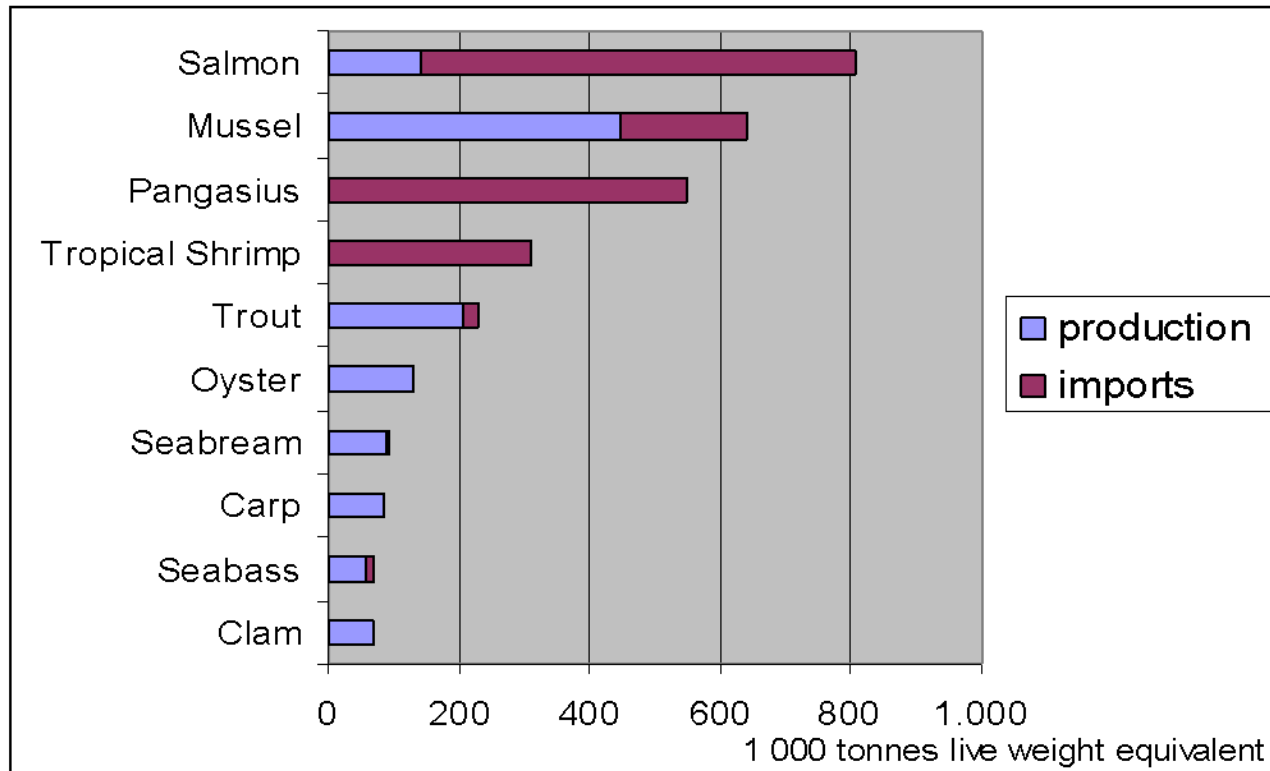


Source: Tab. 4.1 Food Balance F. Fish
Chart: AIPCE 2009

■ Import ■ Catches + Aquaculture

EU market for aquaculture products (2008)

Top ten farmed species in EU consumption (in live weight equivalent)



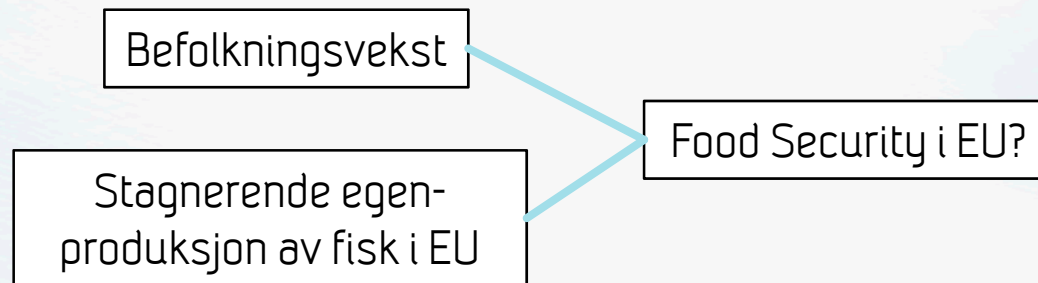
Source: Philippe Paquotte – European Commission, European Parliament Brussels Nov. 2010

Food Security

Food security

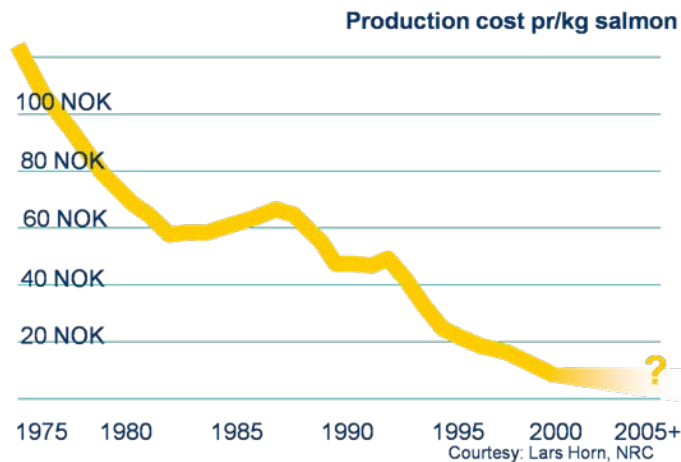


- The World Food Summit of 1996 defined food security as existing
 - “*when all people at all times have access to sufficient, safe, nutritious food to maintain a healthy and active life*”.
 - ❑ Includes both physical and economic access to food that meets people's dietary needs as well as their food preferences.

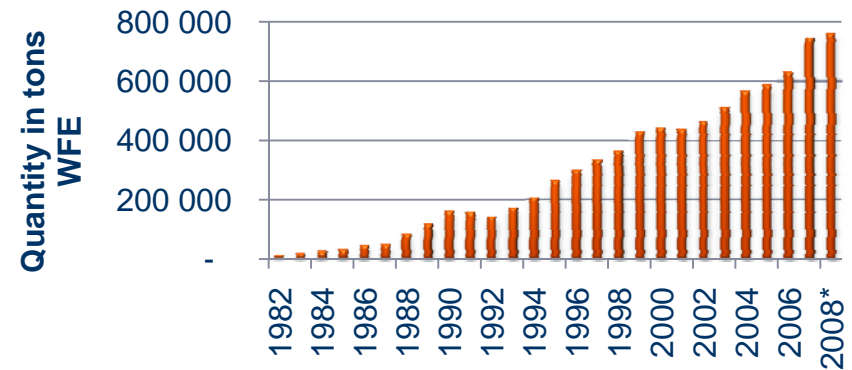


- *Investeringer i kunnskapsutvikling:*
- *the EU is expected to have enough purchasing power to feed its population*

Kan norsk oppdrettsindustri bidra til Europas rolle som global matprodusent?



Norwegian production of salmon



➤ Ja, men det fordrer:

- Forskning
- Innovasjon
- Finansiering

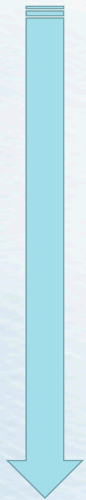
Teknologiplattformen EATIP

European Aquaculture Technology and Innovation Platform

From CP via TAs to Deliveries



Core Priorities



Deliverables

Vision

SRA

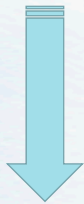
Implementation Plan

- Establishing a strong relationship between aquaculture and the consumer
- The assurance of a sustainable industry
- Consolidation of the role of aquaculture in society

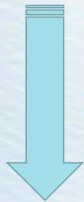
From CP via TAs to Deliveries



Core Priorities



Process



Deliverables

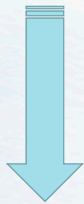
Vision
Strategic Research Agenda
Implementation Plan

- Establishing a strong relationship between aquaculture and the consumer
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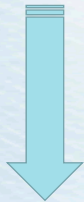
From CP via TAs to Deliveries



Core Priorities



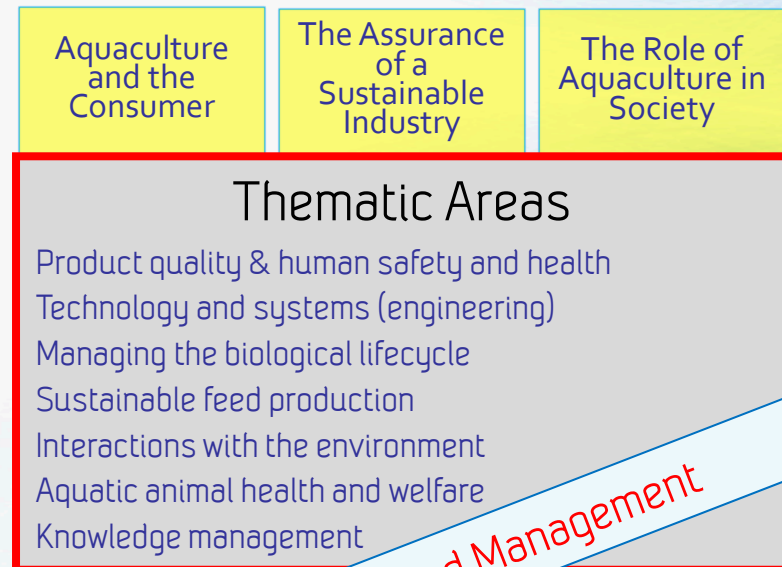
Thematic Areas



Deliverables

Vision
Strategic Research Agenda
Implementation Plan

- Establishing a strong relationship between aquaculture and the consumer
- The assurance of a sustainable industry
- Consolidation of the role of aquaculture in society



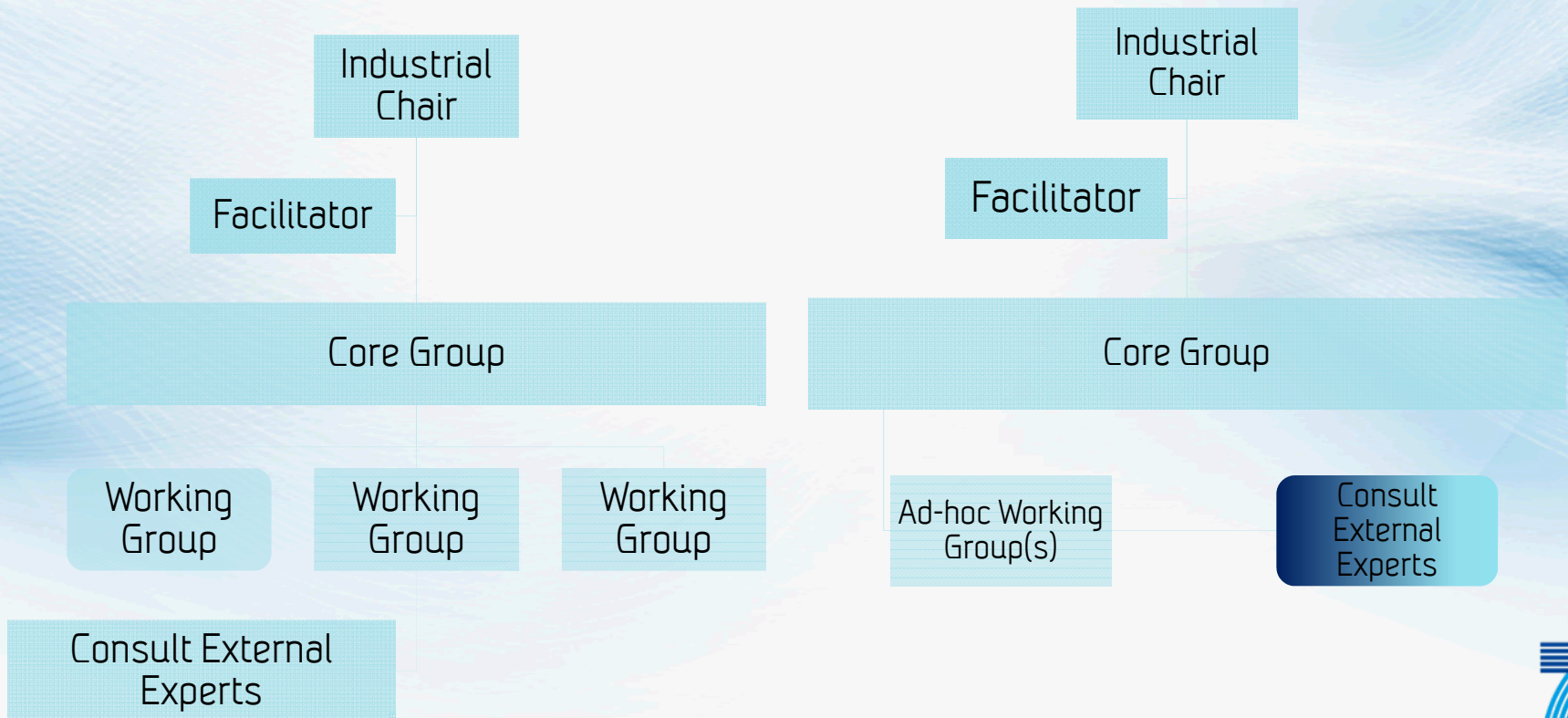
New: Socio-economics and Management

Vision documents and SRIAs



- The **Vision Documents** provide a consensus view of where the sector should be in 10-20 years time
 - ❑ identifying strengths, weaknesses – opportunities, threats and specific knowledge gaps
- The **Strategic Research & Innovation Agendas** should describe **what needs to be done** to respond to the identified goals of the Vision Document

Thematic Area structure (options)



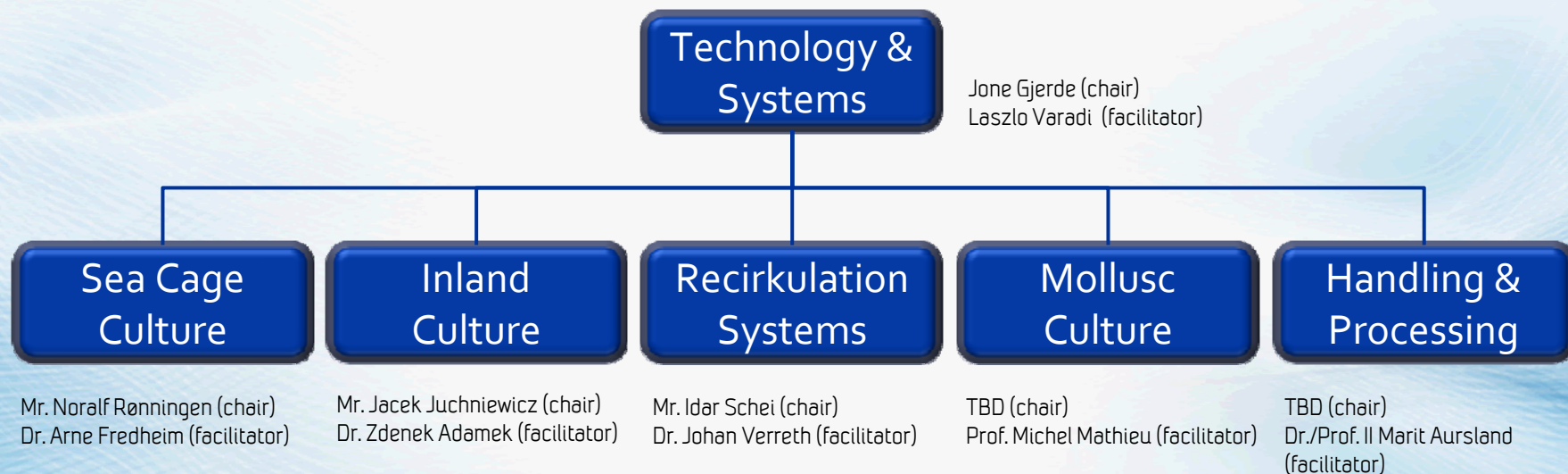
➤ **Eksempel: TA 2 Technology and systems**

➤ **Kontakt:**

Jone Gjerde (chair)

Laszlo Varadi (facilitator)

TA 2 Technology and systems



TA2 Dokumenter



➤ [TA Vision](#)

☐ [TA 2 - Vision Statement 2010](#)

➤ TA SRIA



Thematic Area Vision

Technology & Systems

1. Vision Statement

To advance aquaculture industry technologies and systems so that Europe can become an environmentally and economically sustainable net supplier of seafood, characterised by a safe and attractive working environment.

2. Executive Summary

The EATIP thematic area Technology & Systems will define research and innovation needs of the European aquaculture industry related to engineering technologies and systems. For the European aquaculture industry to be sustainable, economic viability must be assured. This is the most important condition for farmers to trust making infrastructure investments and undertake sustainable practices. Profitability can be improved by lowering the operating cost and increasing the productivity. Technology and systems will play a major role in this task going forward. This will also increase the global competitiveness of the industry. There are five working groups related to key technology areas; sea cage culture, inland culture, recirculation systems, molluscs culture and handling & processing.

It has been widely recognised that technological development will play a major role in future expansion of the industry and will be vital in breaching the gap between supply and demand for seafood products. For aquaculture to provide a high quality protein source and help to reduce negative impacts on wild fish stocks, new technologies and solutions should be developed to improve

TA2 Dokumenter



➤ TA Visjon

- ❑ [..\..\EATP\OC - TAs\TA2\TA 2 - Vision](#)

➤ TA SRIA

- ❑ [TA2 - SRIA Key Goals 2010-11-30.doc](#)

Template 3 - EATIP Key Goal Definition, May 2010



Template 3: Strategic Research and Innovation Agenda (SRIA) “Key Goal” Definition Template

Purpose: The Strategic Research and Innovation Agenda (SRIA) of each Thematic Area will be organised by reference to its “Key Goals”. Please use this official template to define each key goal. One template should be used for each key goal. No more than six key goal templates should be submitted.

For the purposes of the first consultation (June – October 2010), each completed template will be circulated widely both within the EATIP members and externally for feedback. Later in the year, each TA will be able to refine its goals and generate a final SRIA for presentation and consultation, notably within the regional workshops of Aquainnova.

Using this official template is essential. Integrating all TA elements and considerations into a single document will allow for consistency across TAs in the approached used to justify the goals identified. This is also necessary for the wider audience consultation foreseen and will make it possible for stakeholders to compare and contrast.

Pending endorsement by EATIP members, the completed templates will ultimately become the core of the final EATIP SRIA.

Part A contains the considerations relative to the goal identified.

Part B provides space to itemise suggestions on recommended ACTIONS. Full details should NOT be provided here. Once this SRIA template is complete, you will be asked to complete

Neste skritt



- Operativt konsil: Fra TA til EATIP
 - Visjon
 - SRIA
 - Aksjonsplan
- Intern konsultasjon blant medlemmene

Hvorfor delta i EATIP



- ▶ EATIP provides ***a unique opportunity to develop the European aquaculture value-chain*** through RTDI through:
 - ▶ Multi-stakeholder debate and discussion
 - ▶ Identifying needs, opportunities and gaps
 - ▶ Developing a Vision for the future
 - ▶ Providing Strategic Research and Innovation Agendas
 - ▶ Providing Implementation Plans
 - ▶ Communicating its conclusions and proposals

Hvordan delta i EATIP



➤ Bli medlem!

- Søknadsskjema på nett www.EATIP.eu

- Forpliktelser, rettigheter

➤ Kun medlemmer har stemmerett og kan delta i

- TA

- WG

- SM

Tidslinje



- Februar 2011: TA SRIA
- Februar – Mai: EATIP SRIA; intern konsultering
- Mai 2011: offentliggjøring; promosjon

Takk for oppmerksomheten!

Torgeir Edvardsen

EATIP Board of Directors – Coordinator of Thematic Areas
Address: SINTEF Fisheries and Aquaculture, N-7465 Trondheim, Norway
Telephone: +47 9111 6501 – E-mail: torgeir.edvardsen@sintef.no



Teknologi for et bedre samfunn