

# Taredyrking

## Muligheter, utfordringer og suksessfaktorer

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SINTEF Fiskeri og havbruk

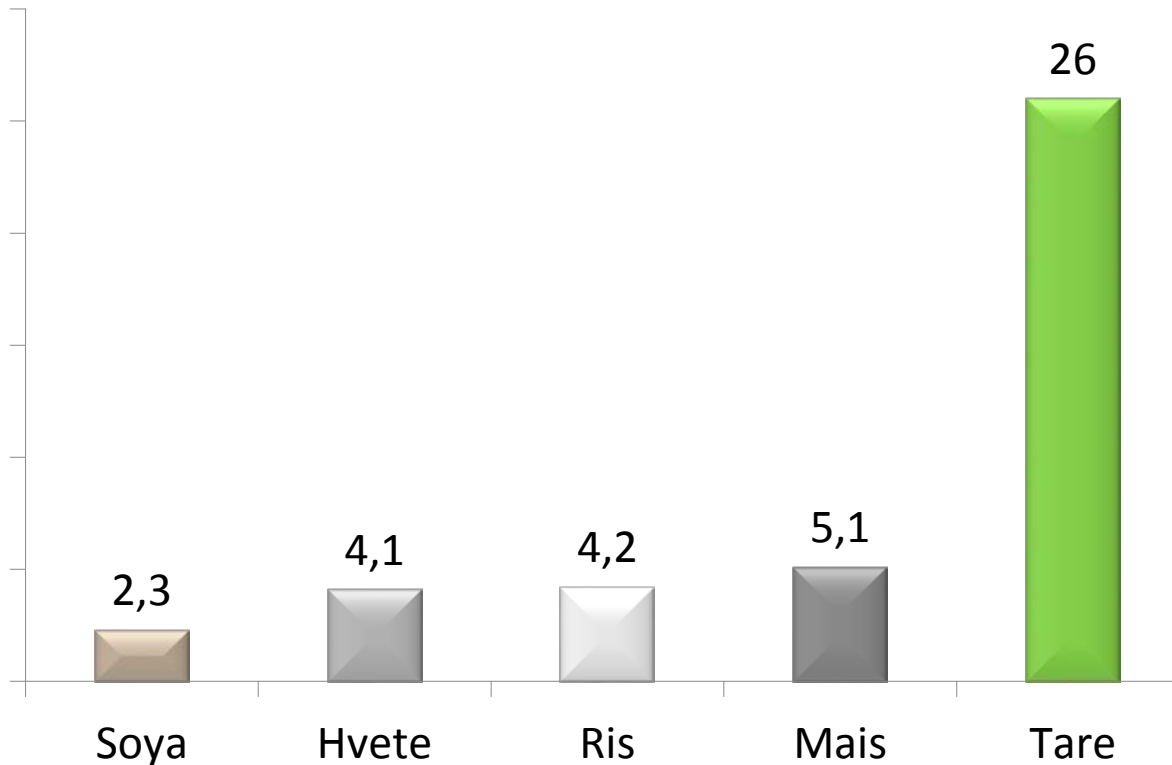
Norsk senter for tang og tare teknologi



# Produksjonspotensial

**Biomasse (tonn tørrstoff per hektar )**

~ 1 hektar



**1 hektar tare kan gi:**

- 170 tonn våtvekt
- 26 tonn tørrstoff
- 15 tonn karbohydrater
- 3.8 tonn proteiner
- 5100 Nm<sup>3</sup> biogass
- Binde 66 tonn CO<sub>2</sub>





**Kimplante-  
produksjon**

**Dyrking i Sjø**

**Høsting**

**Forbehandling  
Lagring**

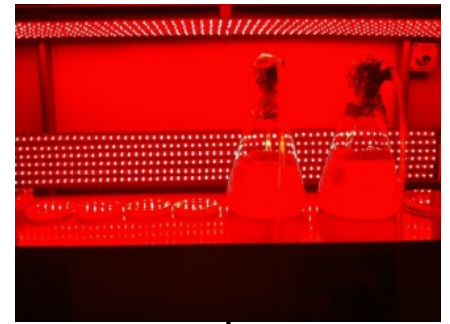
**Prosessering  
Produkt**

**Paking  
Distribusjon**

**Marked**

# Sukkertare (*Saccharina latissima*)

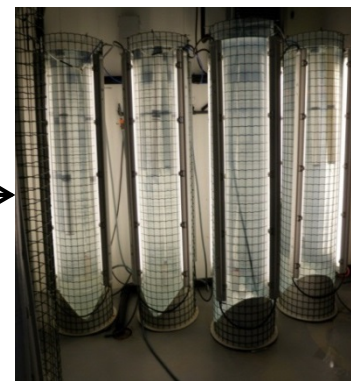
1



2



3

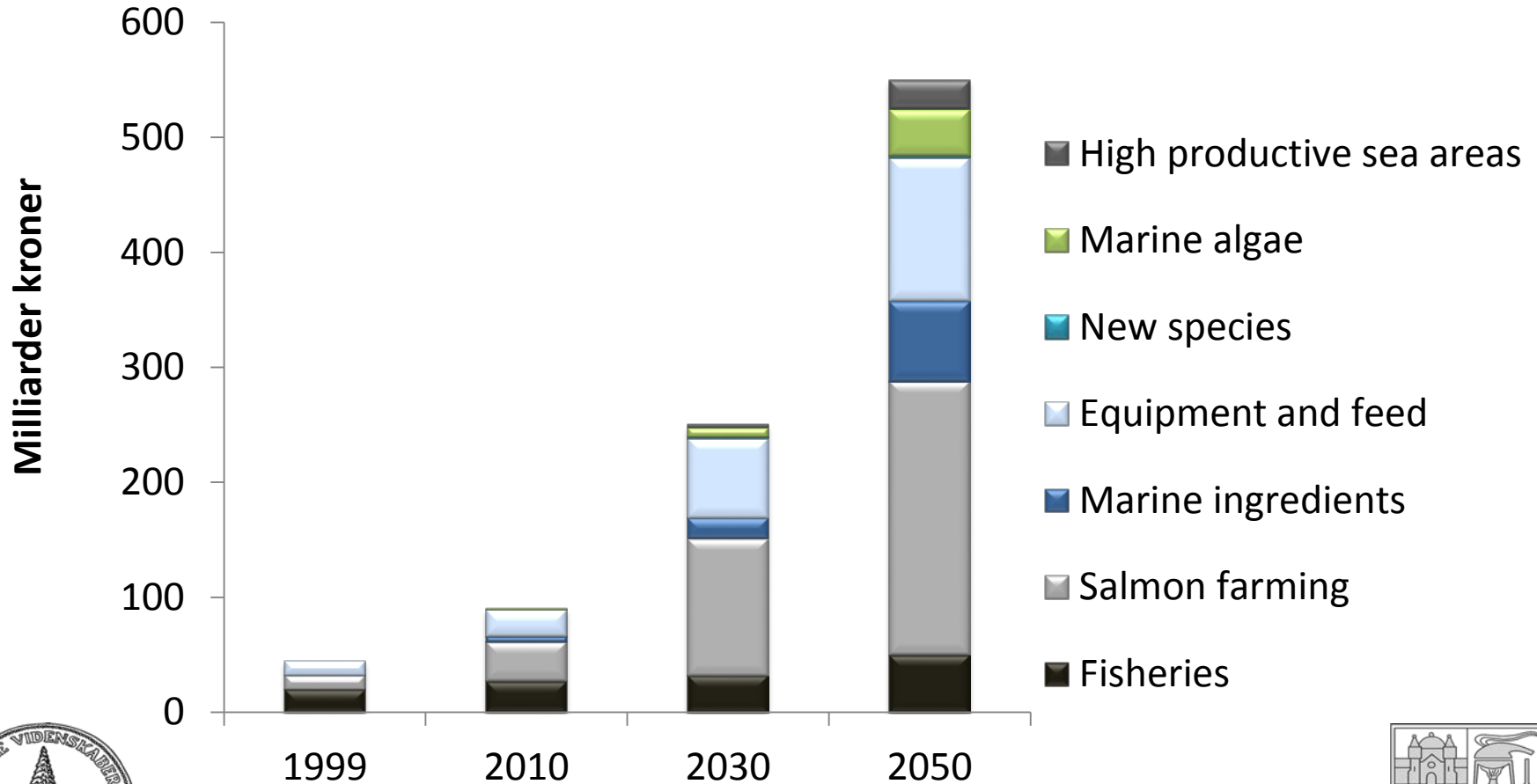


Dyrking i Sjø

# Seaweed Energy Solutions, Frøya



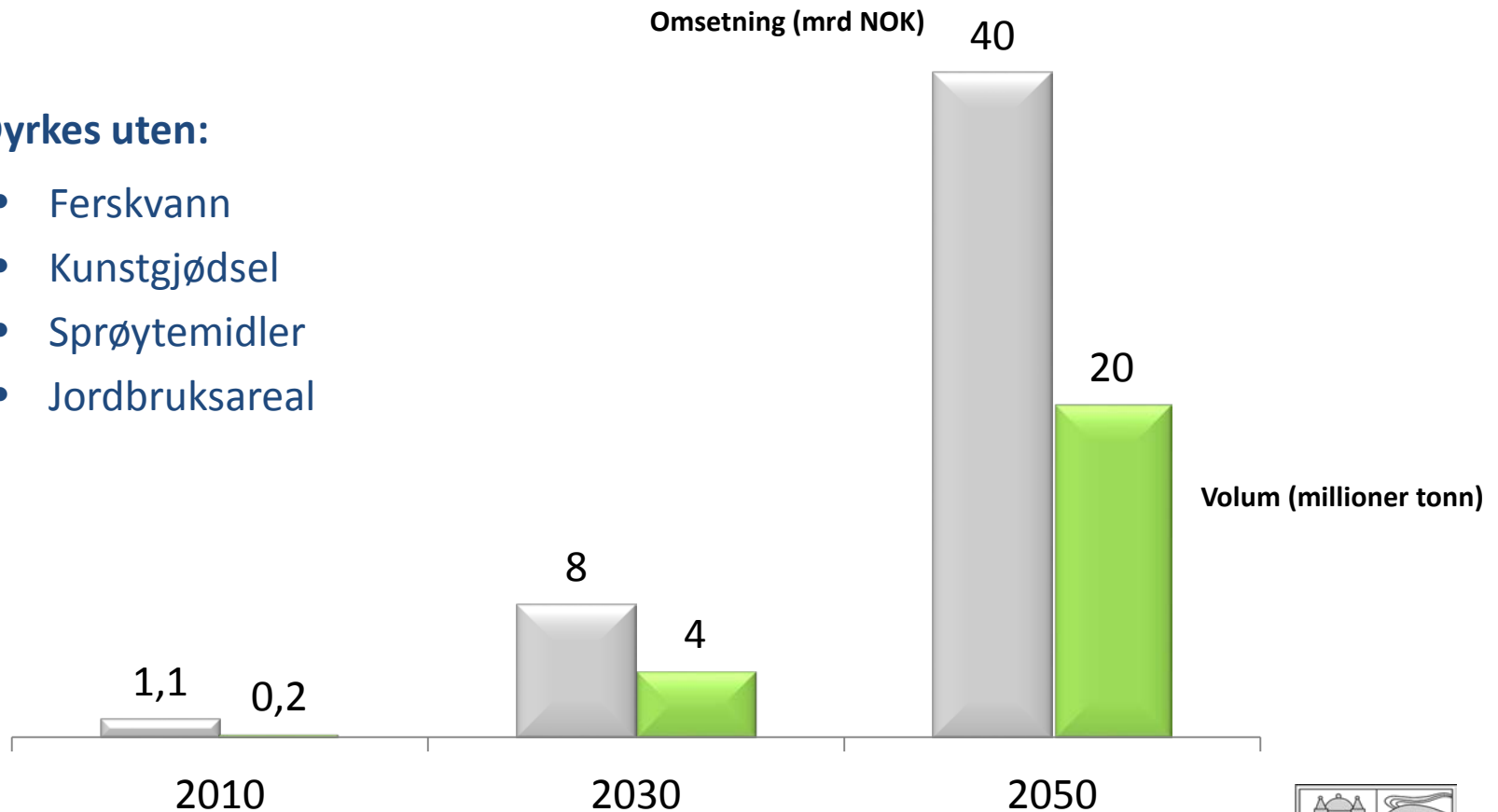
# "Verdiskaping basert på produktive hav i 2050"



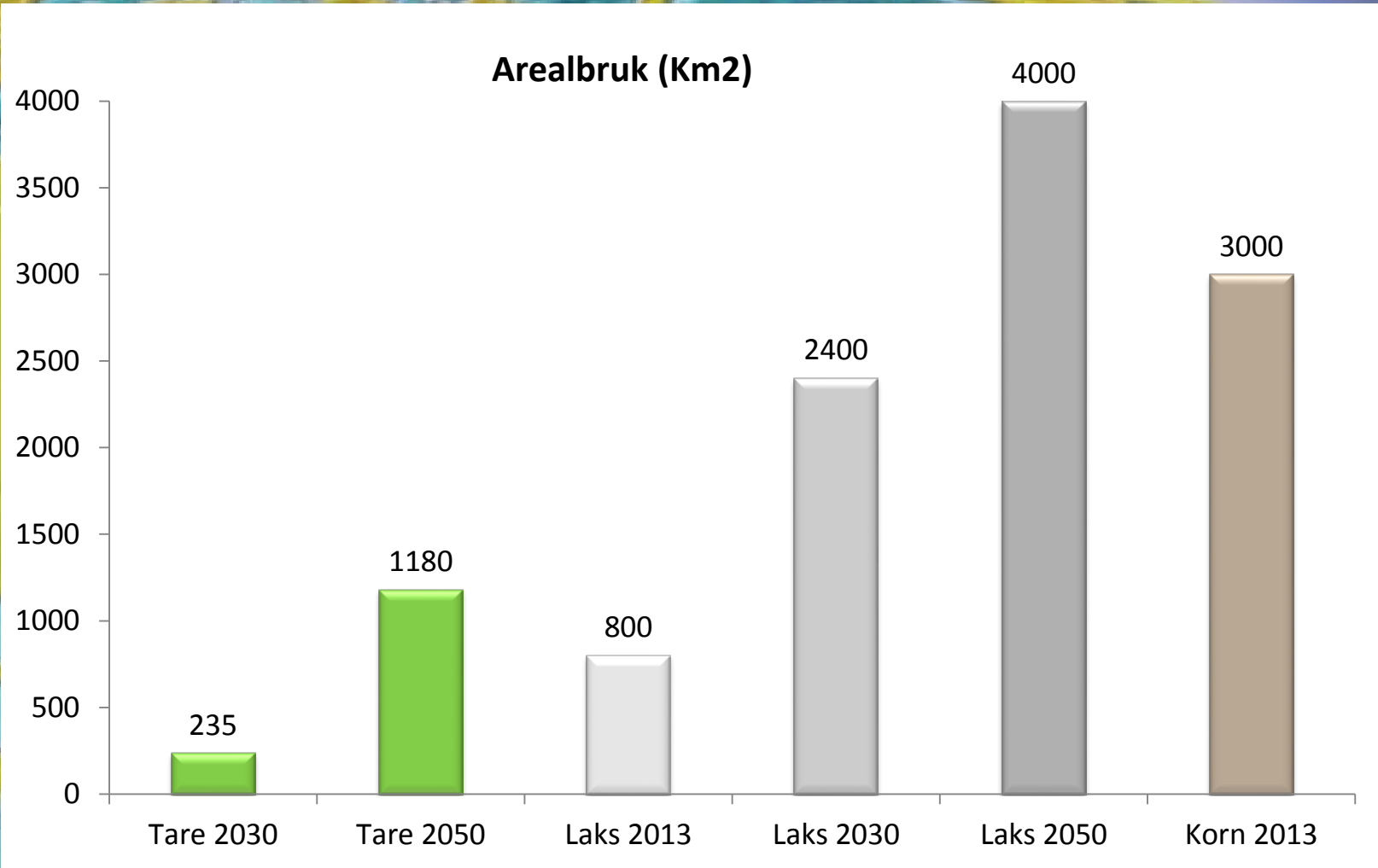
# "Verdiskaping basert på produktive hav i 2050"

## Dyrkes uten:

- Ferskvann
- Kunstgjødsel
- Sprøytemidler
- Jordbruksareal







(DENMARK)

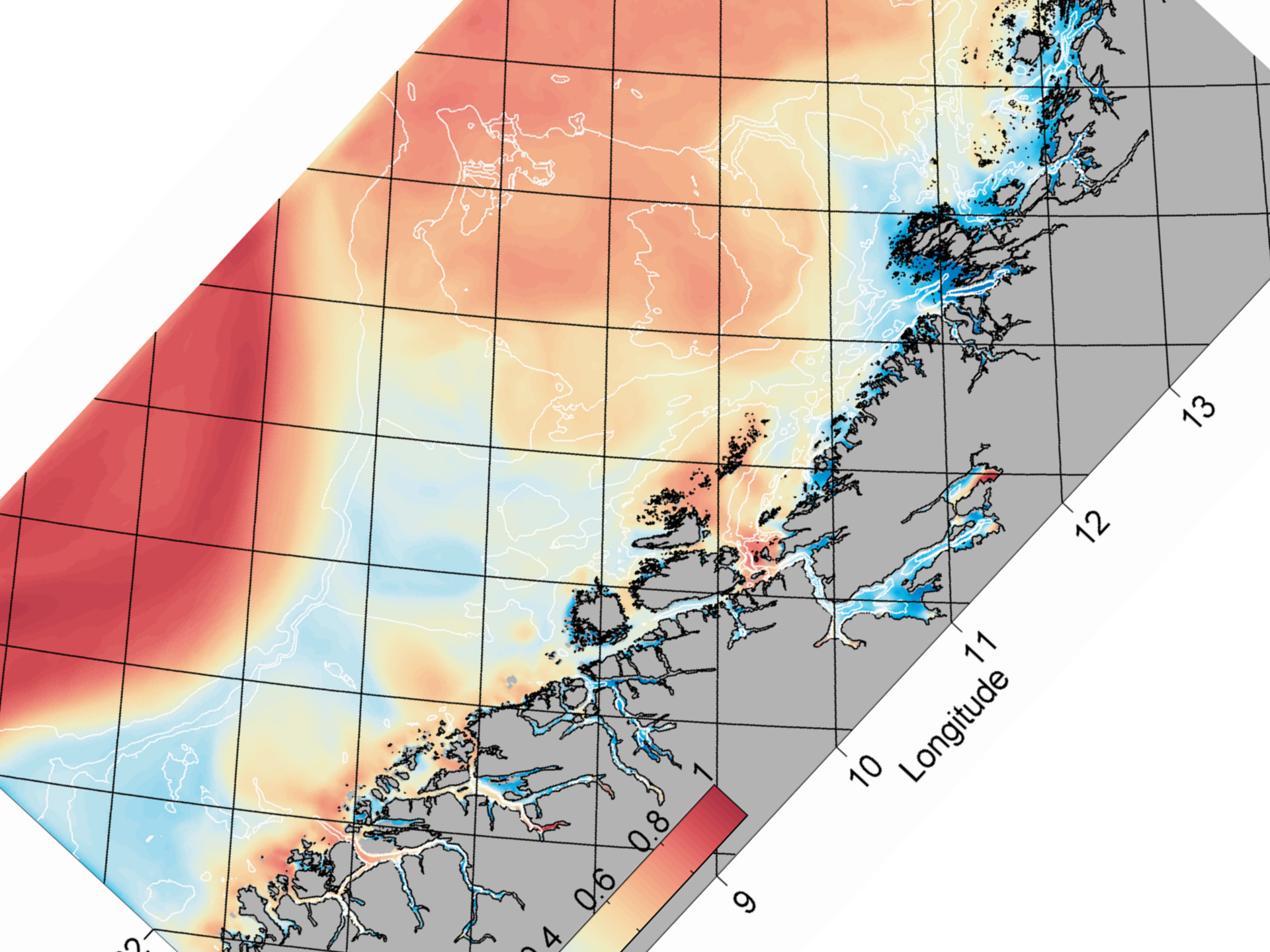


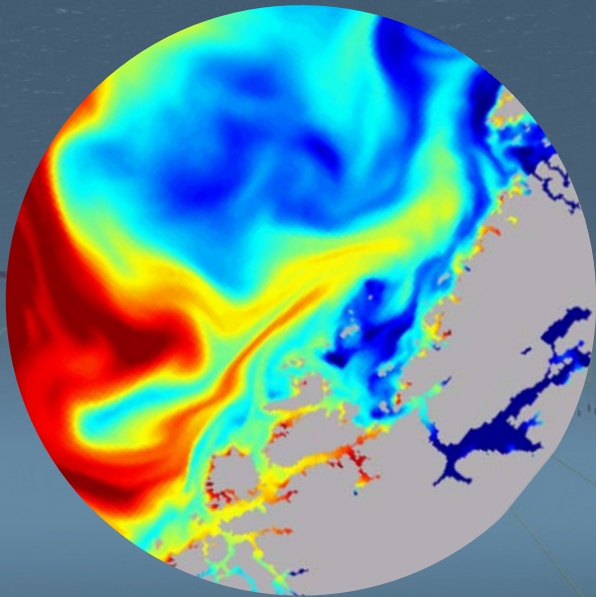
500 m

500 m

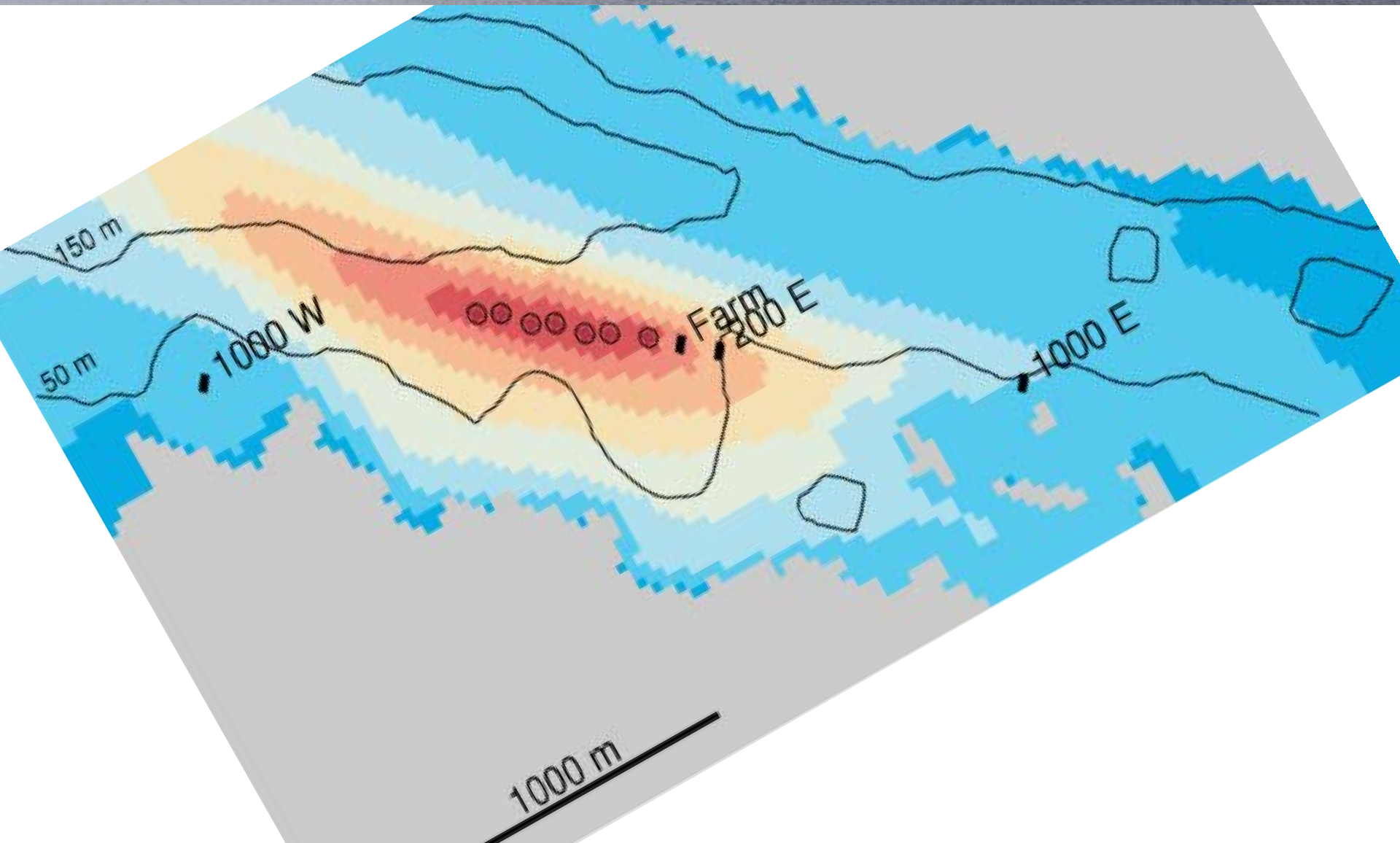
25 hektar = 4250 tonn

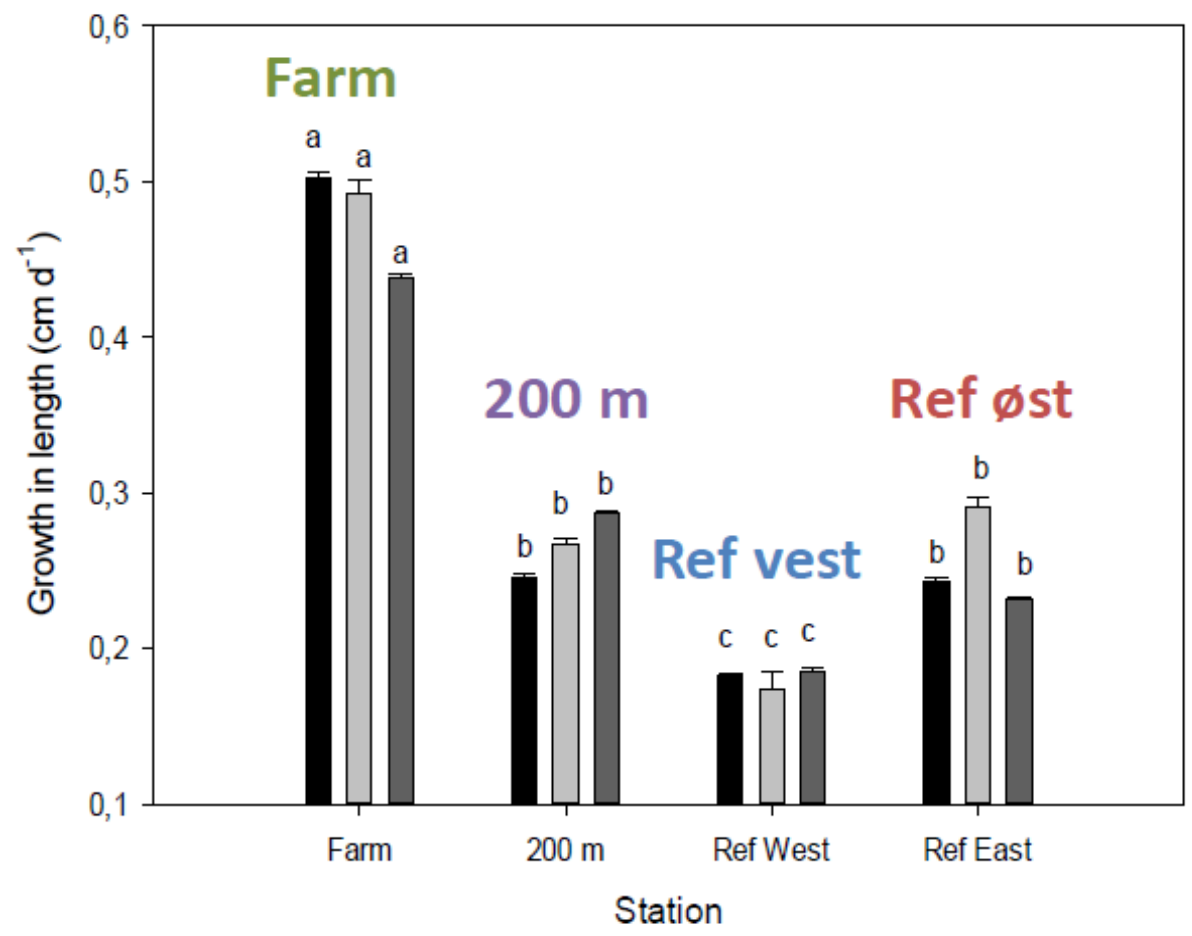


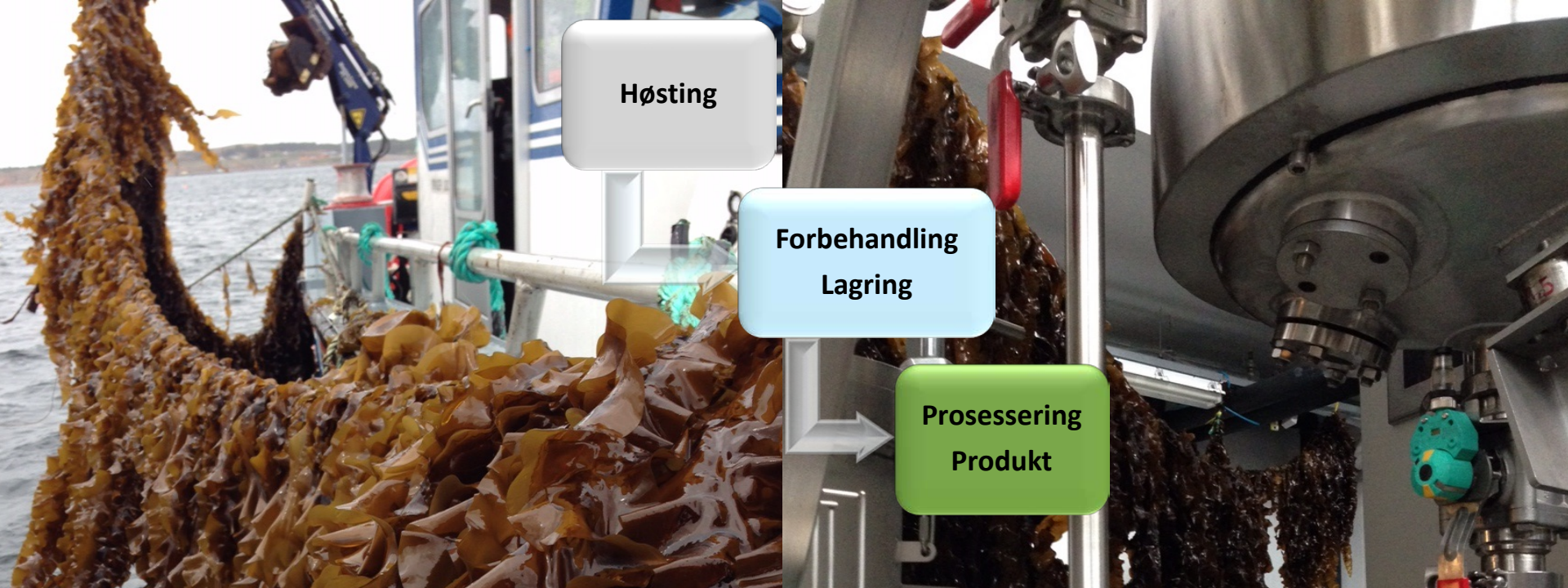




~45% N  
~24% P)







Macroalgae Cultivation

Biorefinery Systems Engineering

Protein

Bioactive  
compounds

Platform  
chemicals

Biogas

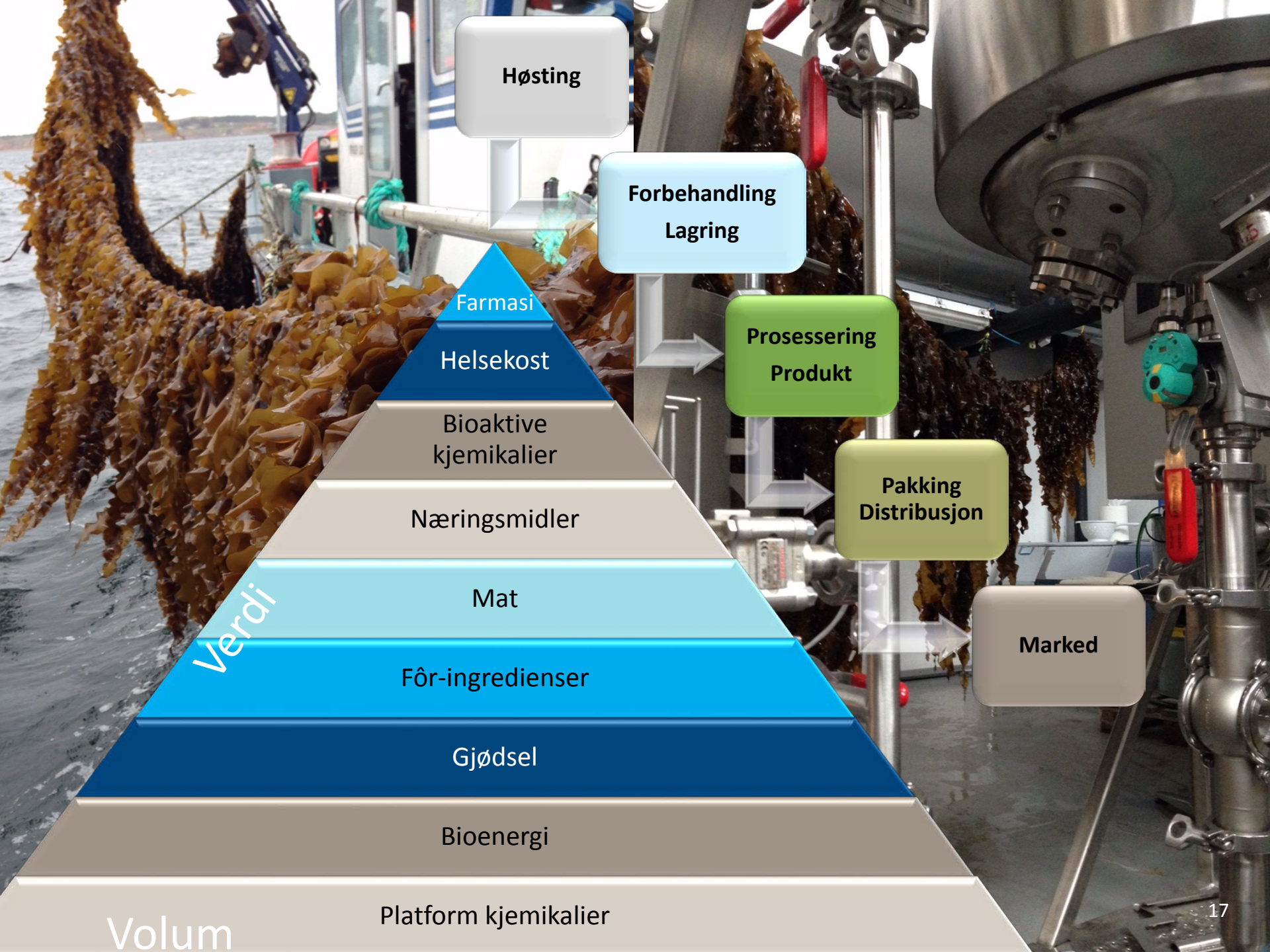
Fertilizer

PS: Verdikjede for biorafineri: ~300 Mrd \$ innen 2020 (The World Economic Forum )

[www.promac.no](http://www.promac.no)

Energieffektiv prosessering av makroalger i blå-grønne verdikjeder





Høsting

Forbehandling  
Lagring

Prosessering  
Produkt

Pakking  
Distribusjon

Marked

Farmasi

Helsekost

Bioaktive  
kjemikalier

Næringsmidler

Mat

Fôr-ingredienser

Gjødsel

Bioenergi

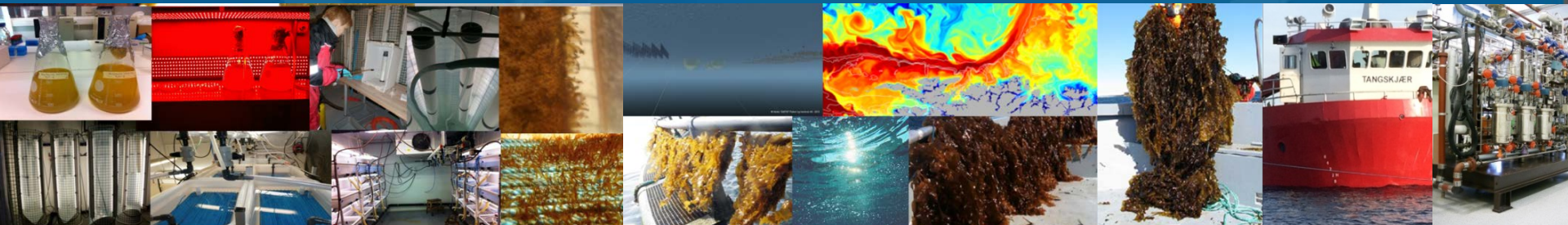
Platform kjemikalier

Verdi

Volum

# Suksessfaktorer

- 1 Produksjon: Kvalitetskontroll
- 2 Biologi: Gode vekstbetingelser
- 3 Teknologi: Mekanisering og automatisering
- 4 Prosessering: Helhetlig utnyttelse av råstoffet
- 5 Marked: Nye produkter





Takk for oppmerksomheten!



Teknologi for et bedre samfunn