



**International Workshop on
Offshore Geologic CO₂ Storage**

2nd International Workshop on Offshore CO₂ Geologic
Storage – 19-20 June 2017

CO₂ STORAGE SCREENING FOR NORWAY



GASSNOVA

Niels Peter Christensen
Kari-Lise Rørvik

GASSNOVA's three initiatives in advancing CCS

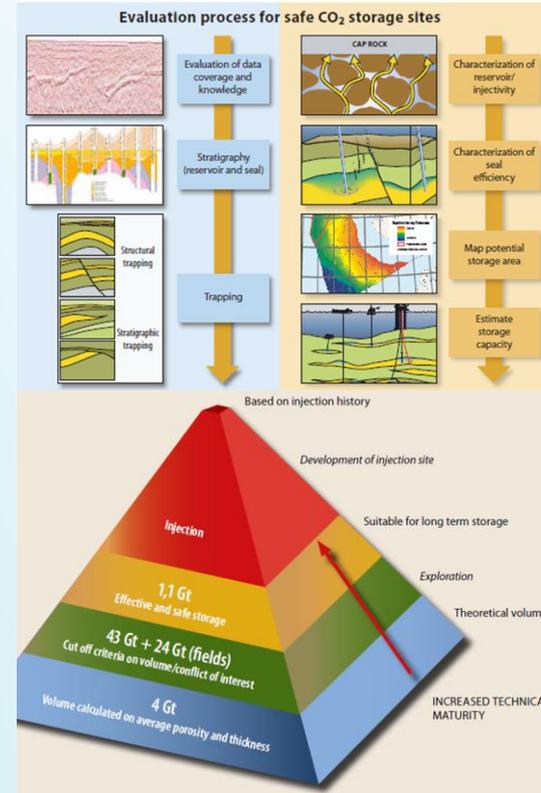
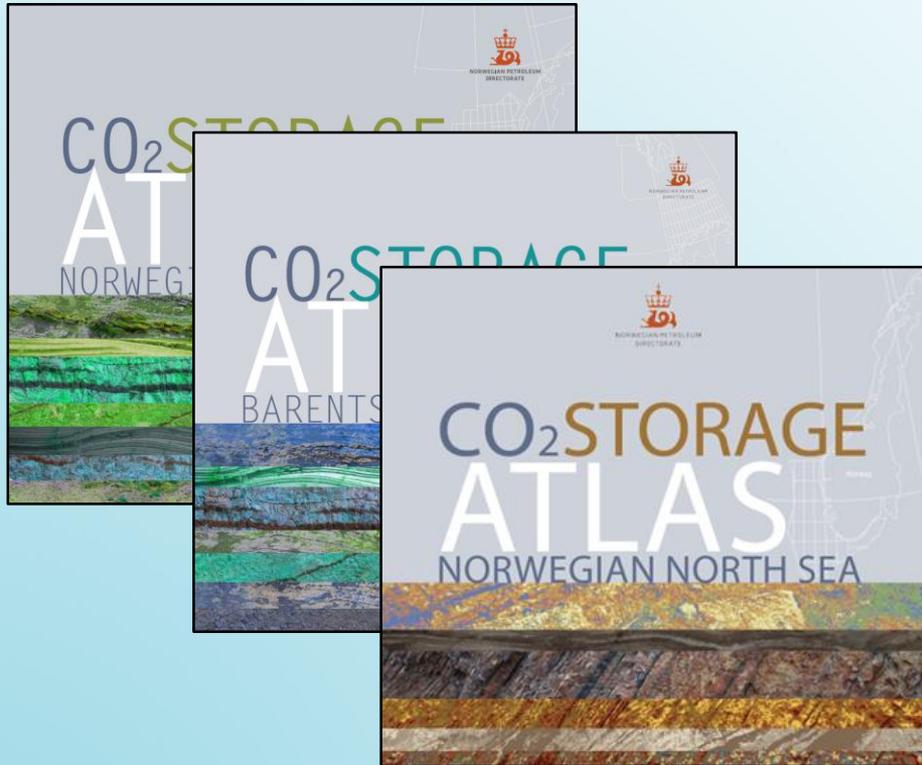
Full-Scale
One value chain 2022

TCM
CO₂ Technology Centre Mongstad

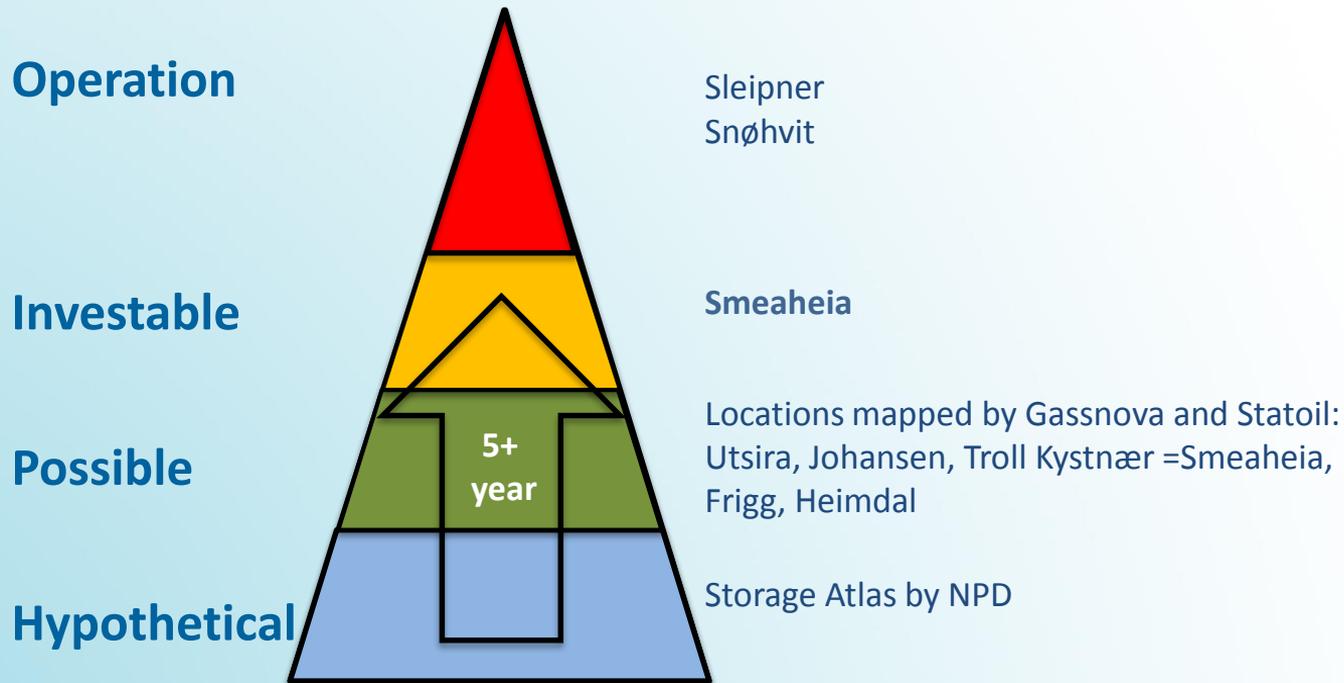
CLIMIT

Research, Development and Demonstration program

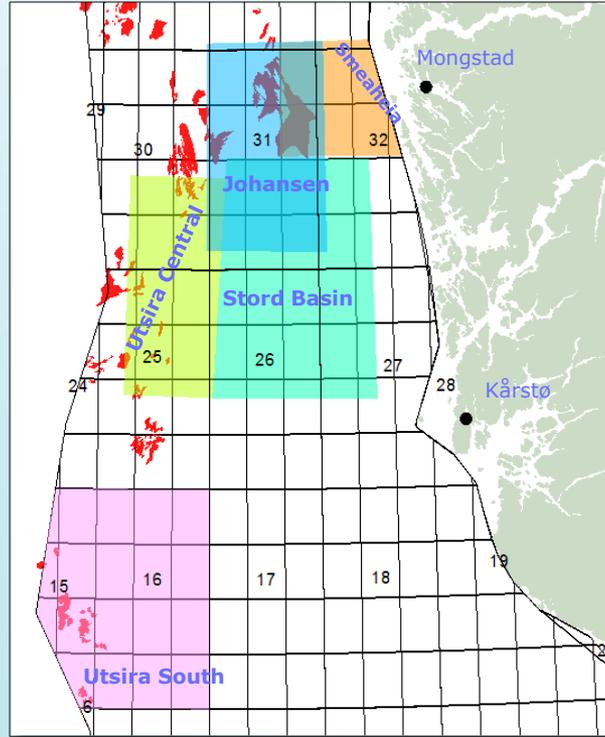
NPD STORAGE ATLAS → THE POTENTIAL IS THERE



CHALLENGE OF «BANKABLE» STORAGE



STORAGE LOCATIONS EVALUATED BY GASSNOVA



TECHNICAL MATURITY

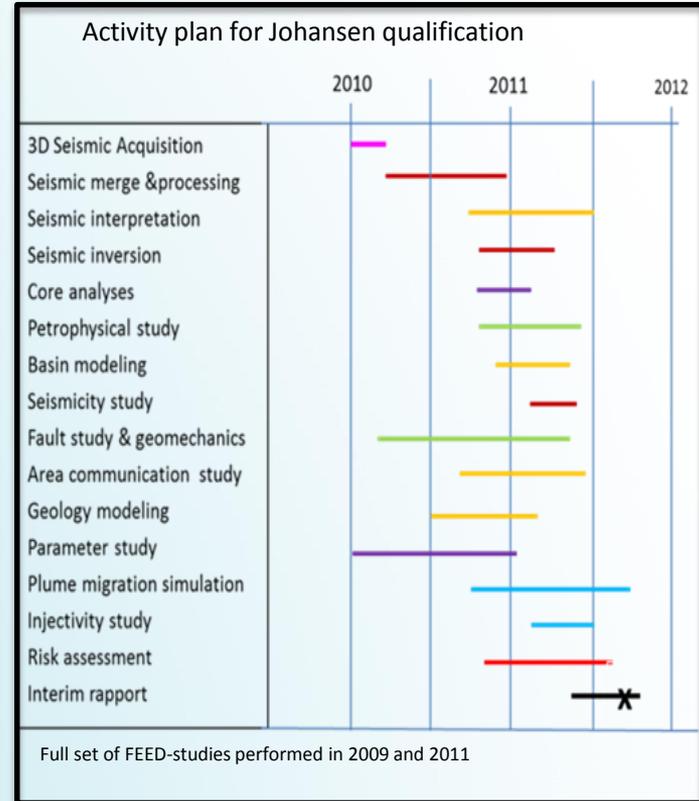
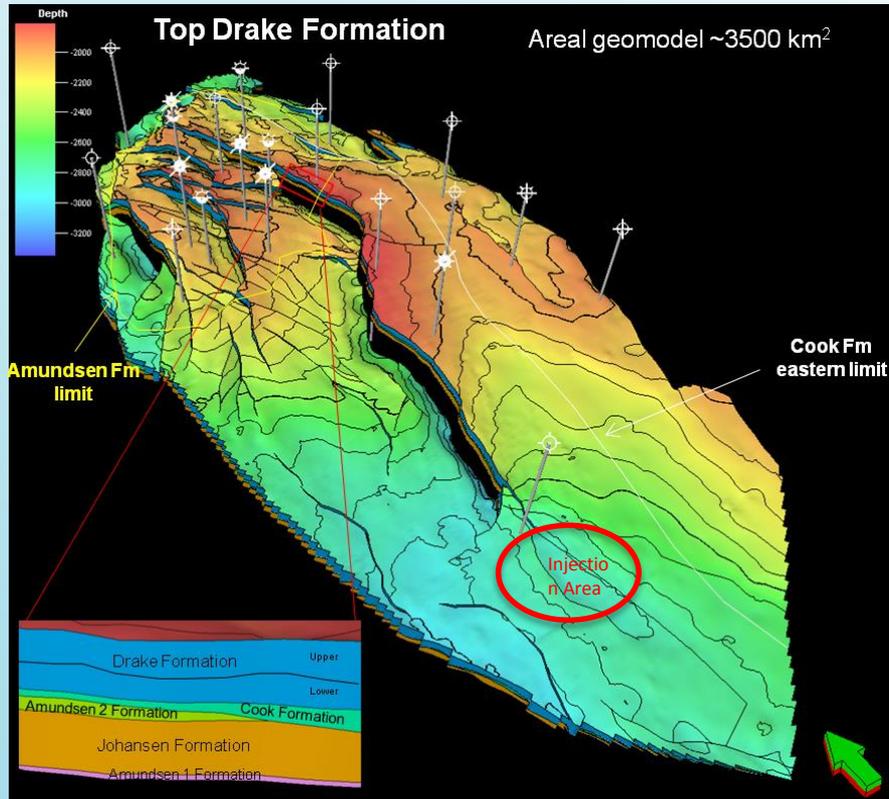


Smeaheia
Utsira South
Johansen



«I'm here about the details»

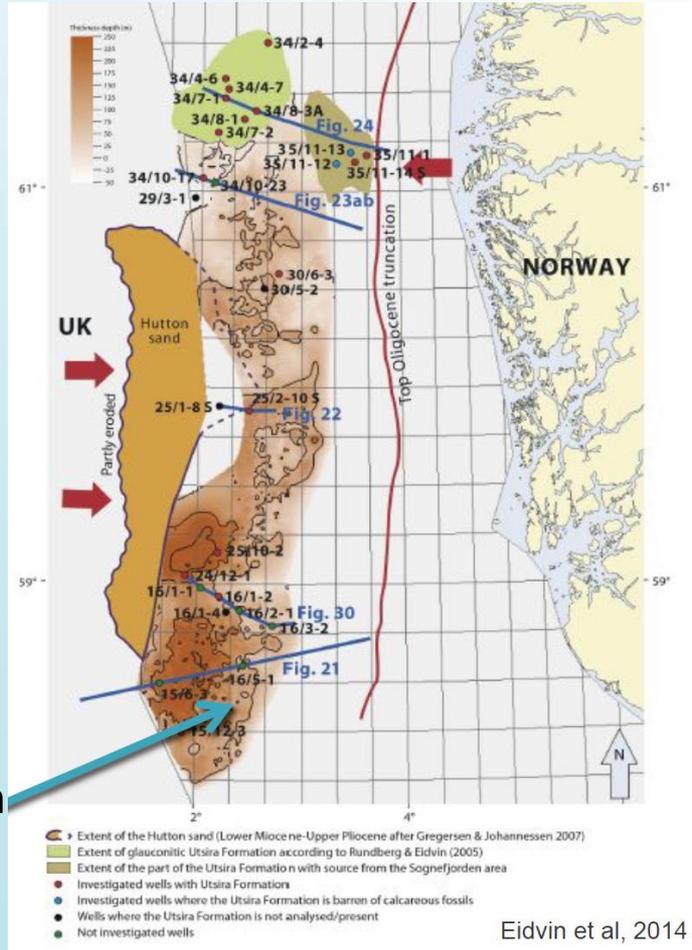
THE JOHANSEN STORAGE COMPLEX



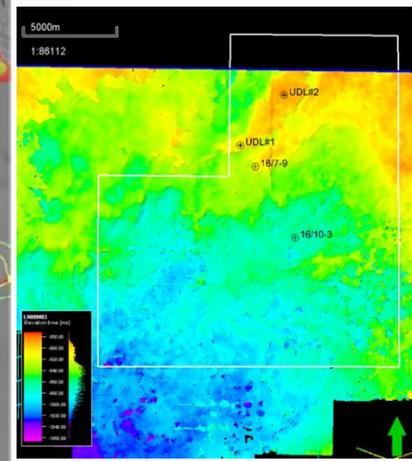
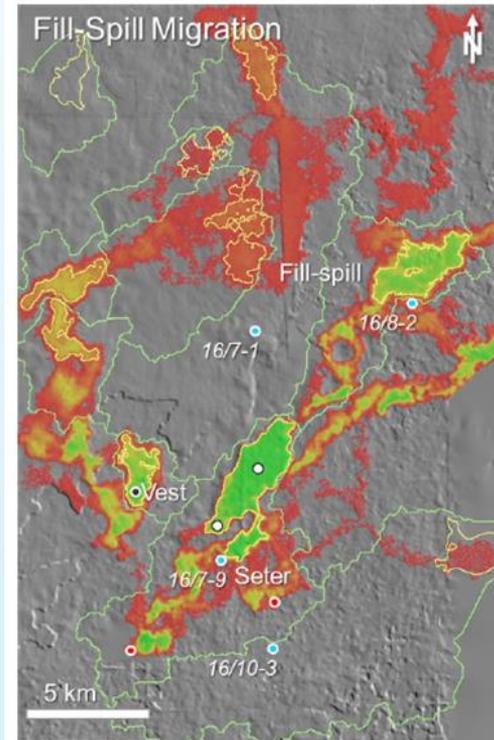
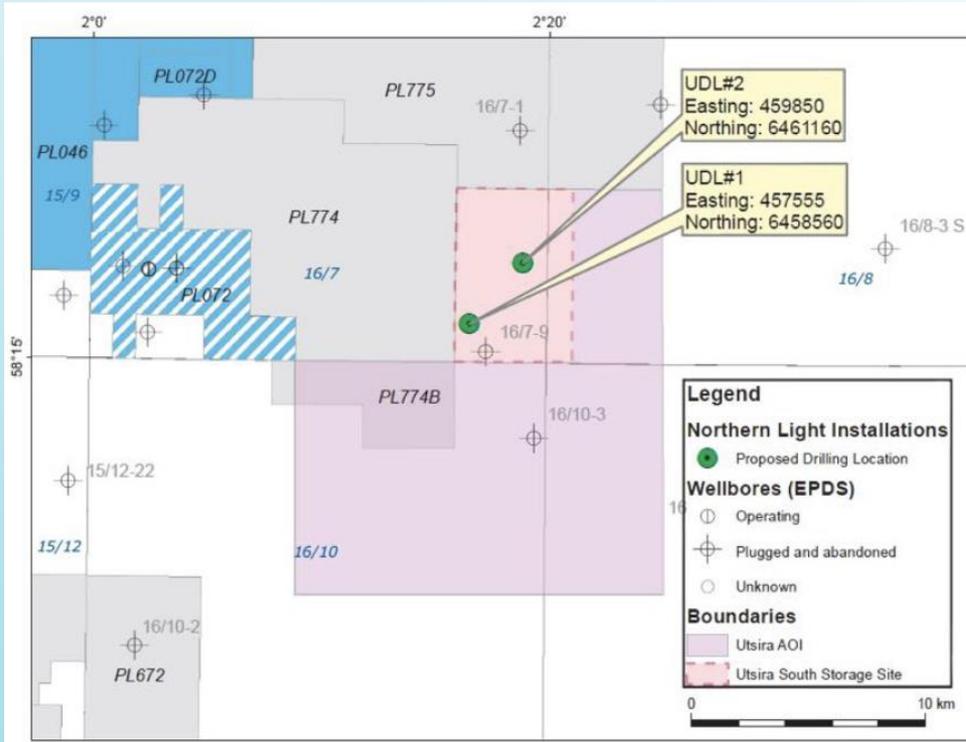
THE UTSIRA FORMATION



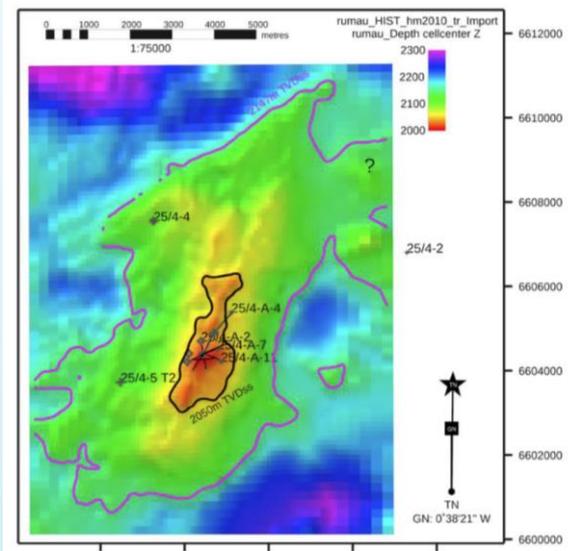
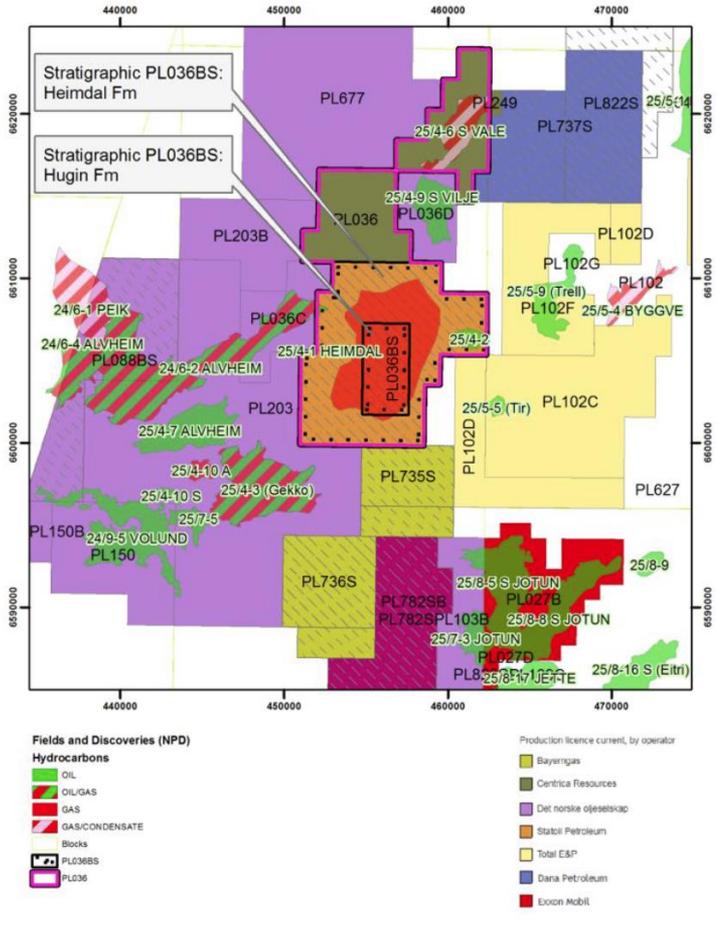
Utsira South



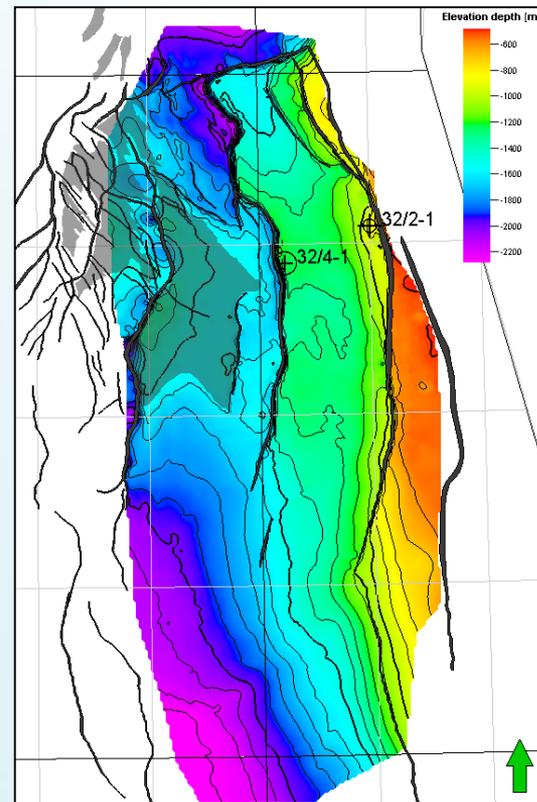
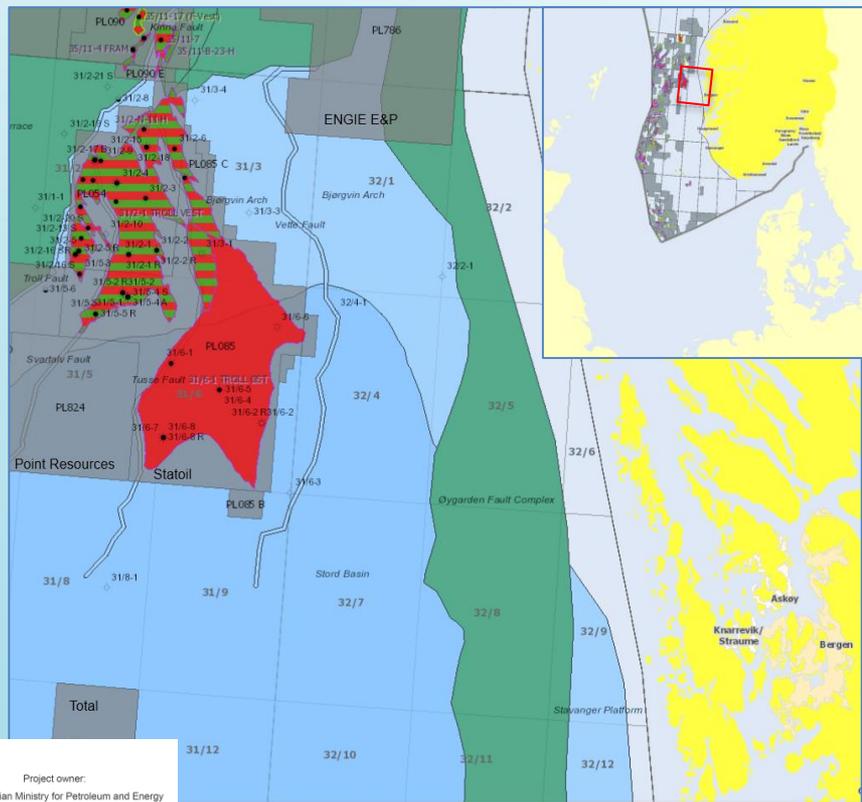
THE UTSIRA SITE OF THE FEASIBILITY STUDY



THE HEIMDAL SITE OF THE FEASIBILITY STUDY



THE SMEAHEIA SITE OF THE FEASIBILITY STUDY



NORWAY: FULL-SCALE CCS PROJECT

Snøhvit 
0,7 Mt/yr since 2008

 Sleipner
1 Mt/yr since 1996

CO₂ STORAGE

- Onshore hub
- Offshore storage at Smeaheia saline res.
- Large capacity

CO₂ TRANSPORT
Ship transportation



CO₂ CAPTURE



Norcem HeidelbergCement
Cement plant



Yara Porsgrunn
Ammonia plant



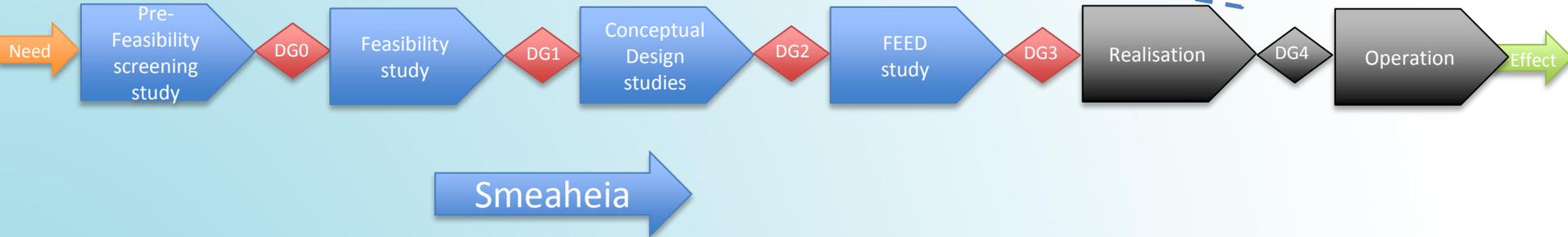
Klemetsrudanlegget AS
Waste-to-energy plant

CURRENT STATUS



CO₂ storage

Concept Select & FEED study



ADDITIONAL OPPORTUNITIES STORAGE IN LATE LIFE FIELDS/EOR



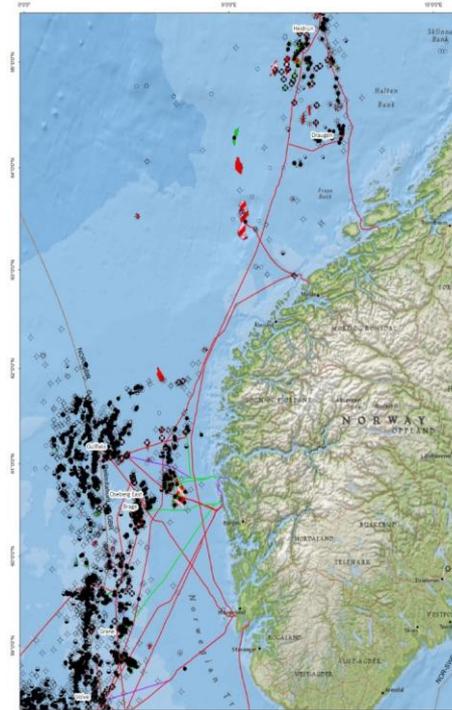
Evaluating CO2 EOR Potential

Several desk-top studies to evaluate CO₂ EOR potential on the NCS the last ~20 years

Projects found to be non-commercial, for many reasons:

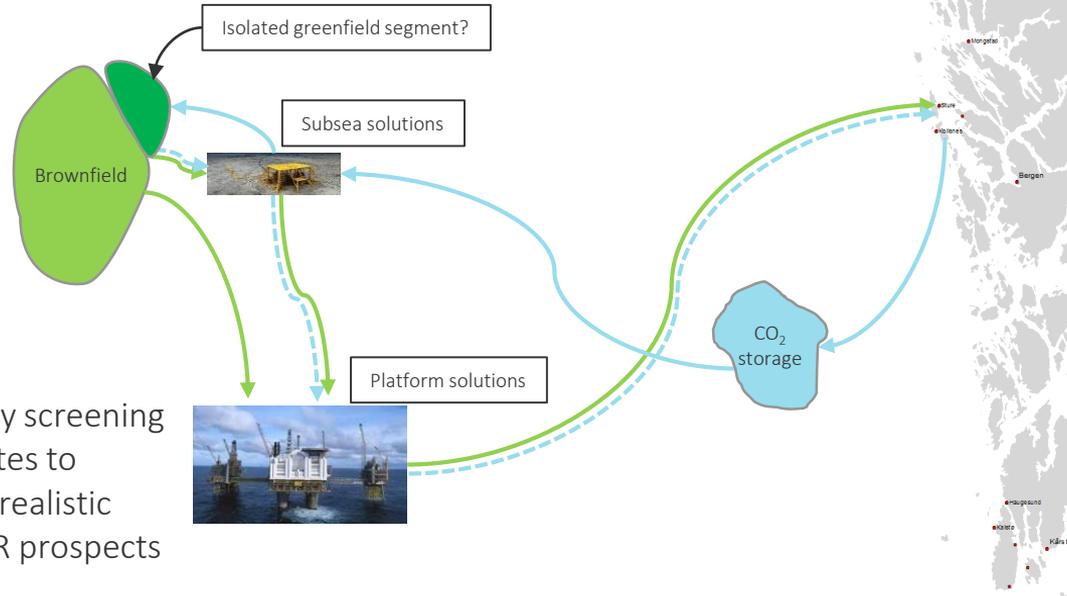
- CO₂ availability
- Expensive top-side modifications
- Alternative flooding mechanisms more favorable
- Uncertain reservoir/infrastructure performance
- Project economics

However, new [technological solutions](#) and growing need for [CO₂ management](#) might give future business potential for CO₂ EOR.



Offshore infrastructure map

CO2 EOR "Step out" concept sketch



Currently screening candidates to identify realistic CO2 EOR prospects

THANK YOU

