

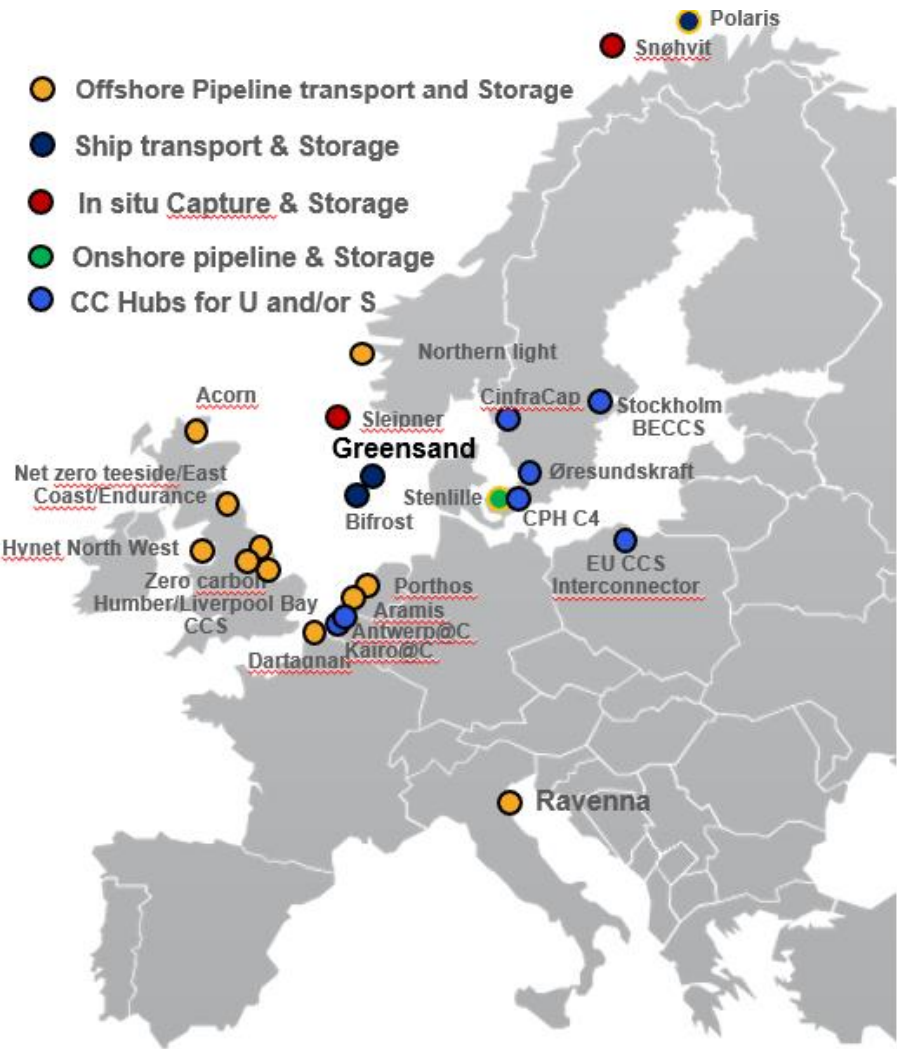
The Greensand CO2 Transport and Storage Project

INEOS Energy and Wintershall Dea

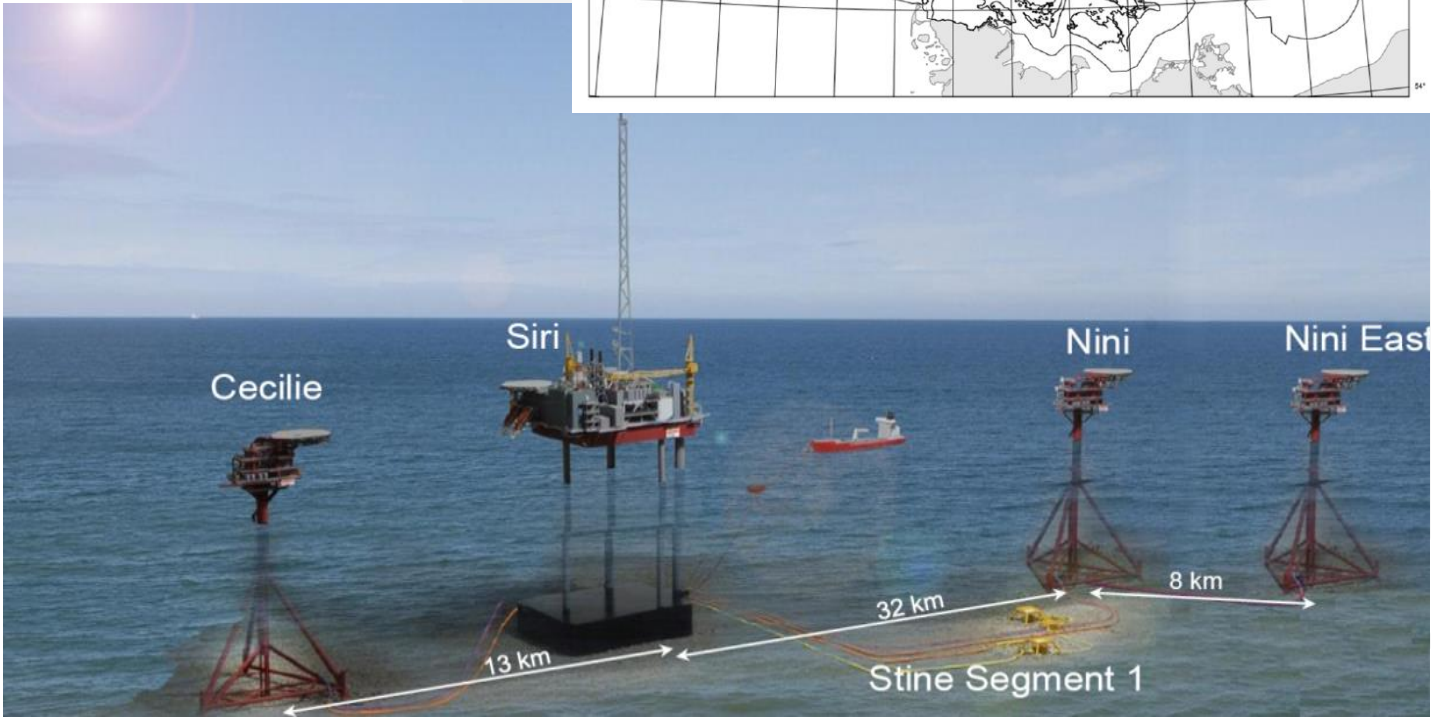
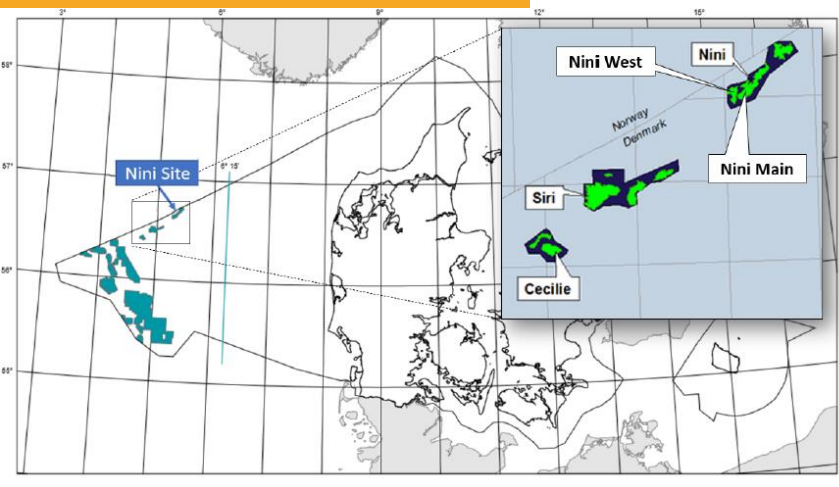
Status & Outlook

Søren Reinhold Poulsen
Head of Denmark Assets
Greensand Project Director
INEOS Energy Denmark

Greensand in the European CCUS expanding landscape!



Turning Siri Oil and hub into a CO2 storage hub together with WintershallDea

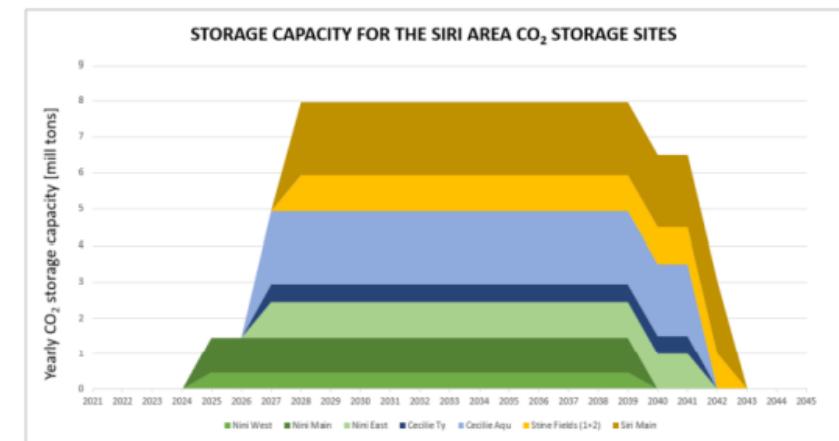
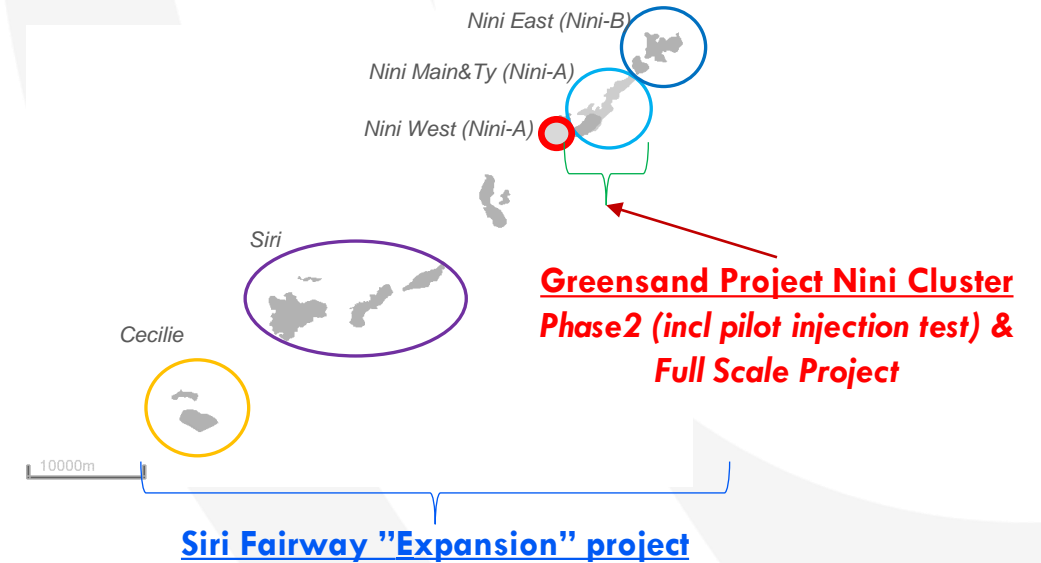


Greensand Project – Transport and Storage of CO₂

Overview



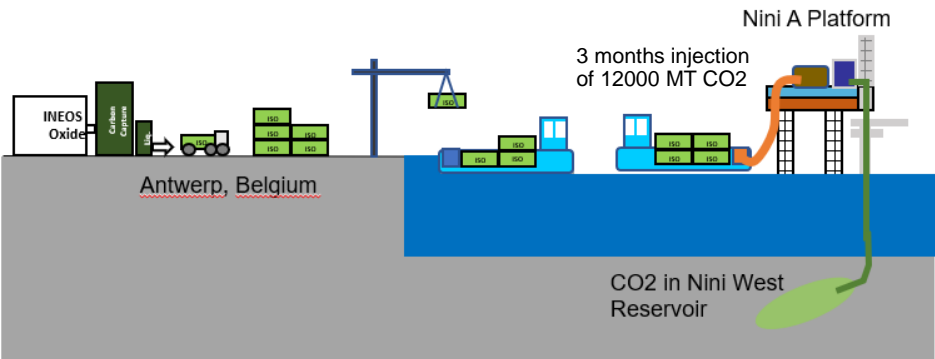
- Use of Siri Area for CO₂ storage
INEOS has experience and huge data set from exploration and production activities in Siri Area over more than 20 years
- Initial Greensand work focused on CO₂ storage in Nini West
- Nini Full scale project includes Nini Main & West delivering 1.5 MTPA in 2026
- Expansion project includes remaining Siri area suitable reservoirs – potential 8 MTPA by 2030



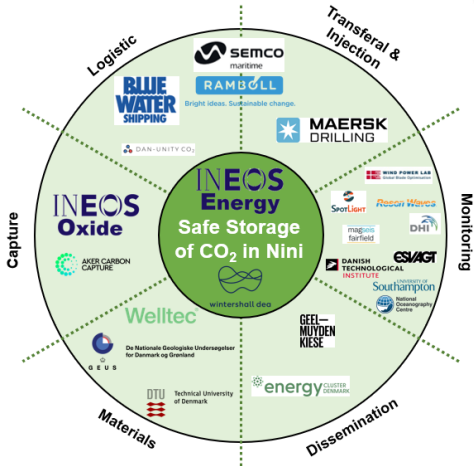
Greensand Project Phase 2

Pilot CO2 injection trial, monitoring testing and further maturation

Pilot Injection Sequence



Strong Phase 2 Consortium of 23 Companies



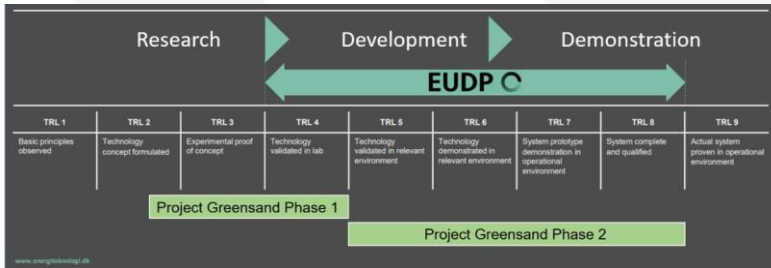
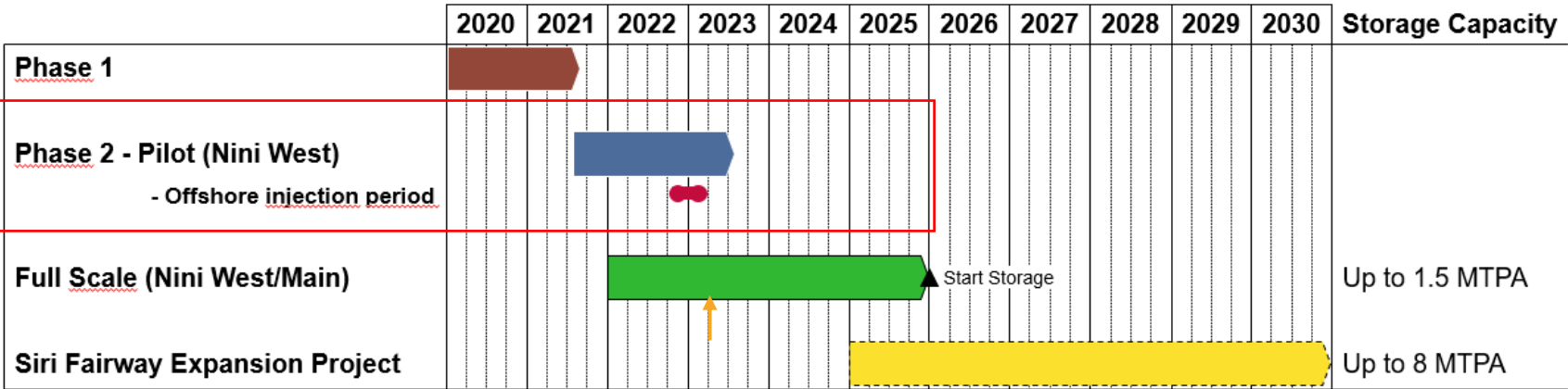
Key Objectives:

- Test reservoir injectivity (rate/cyclicality)
- Develop pilot full value chain and learn!
- Verify applicability of monitoring technology
- Establish and kick-off full scale maturation process

EUDP O

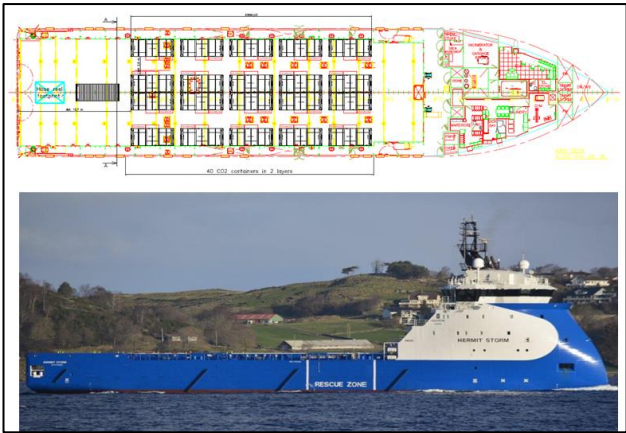
Det Energiteknologiske Udviklings- og Demonstrationsprogram

Government funding of 197 MMDKK received from EUDP in Dec 2021 to support **Phase 2** activities in 2022/23



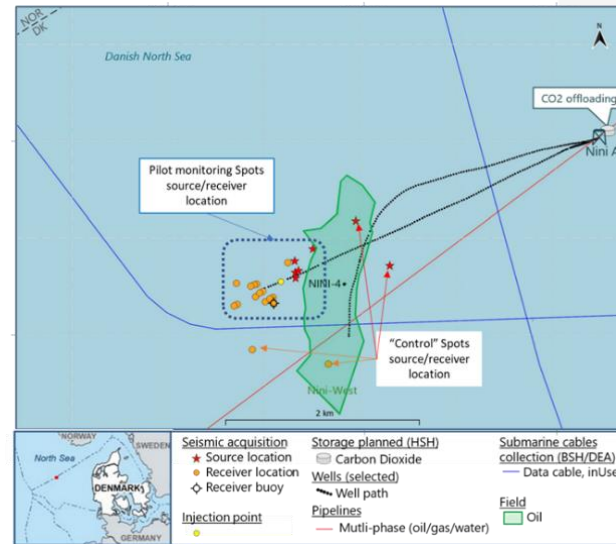
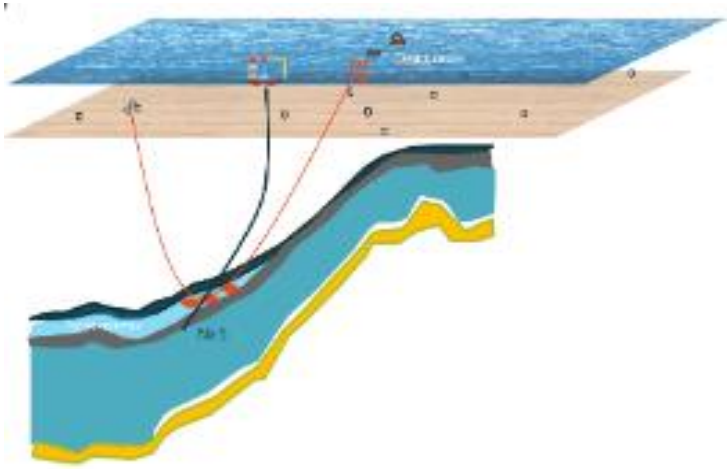
Greensand Project Phase 2

Phase 2 injection pilot – the CO2 journey



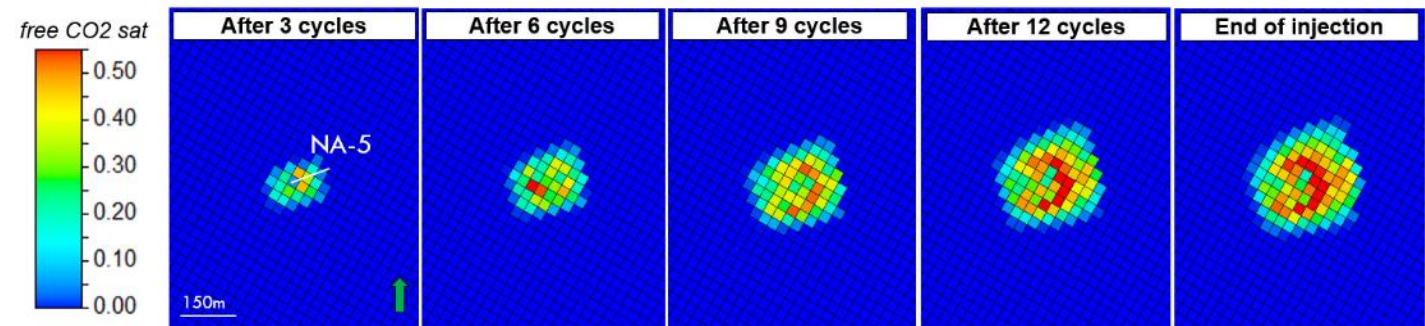
Greensand Phase 2

CO2 Plume Monitoring with Focused Seismic



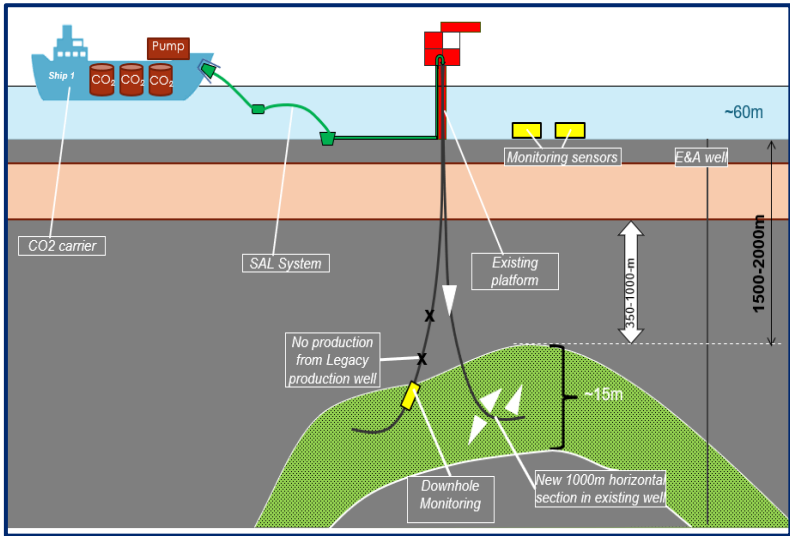
Key Objectives

- Single Source / Single Receiver Seismic survey design
- Demonstrate detectability of CO2, lean alternative to 4D seismic
- According to simulation model, seismic detection limited reached after 3-4 injection cycles
- Learn to acquire seismic from a supply vessel



Greensand Full Scale Project

Starting with a 1.5 MTPA capacity – Transport by Ship and Storage in the Nini A area



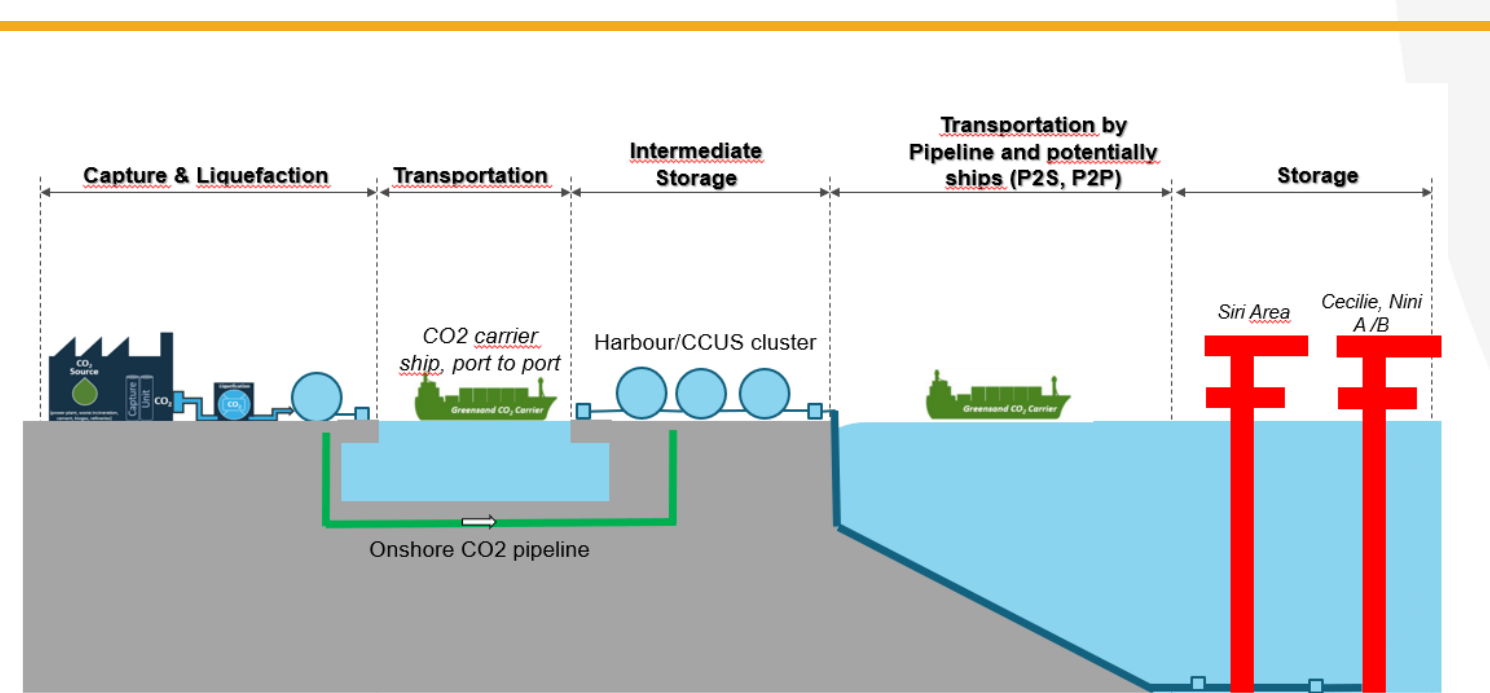
- ### Key Activities Ongoing
- Mature Nini Main reservoirs
 - Mature Development concept
 - Ship design (LP/MP/HP & Size)
 - Offloading/Transfer system
 - CO2 injection wells
 - Monitoring set-up
 - Establish logistical & commercial model
 - Authority approvals
 - DnV Storage Site & Site Development CoC's
 - Commercial contracting

Basis for final investment decision (FID) in 2nd half of 2023

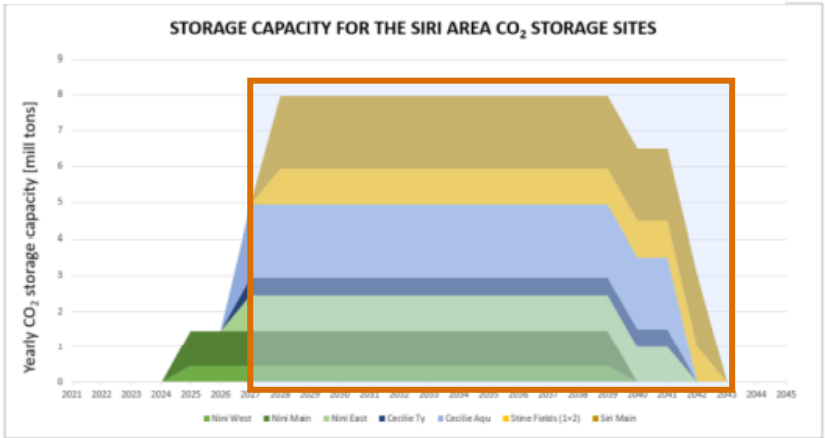
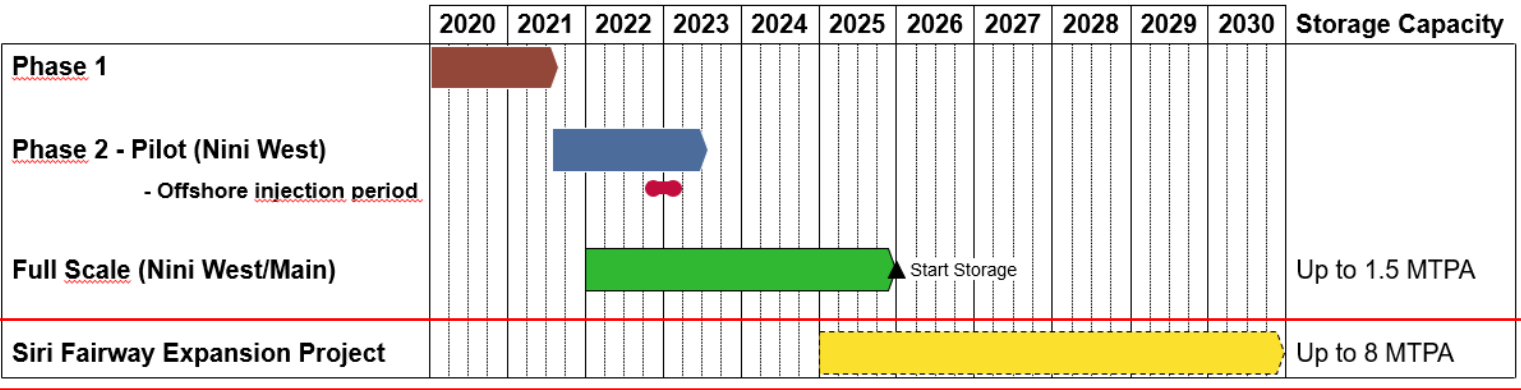
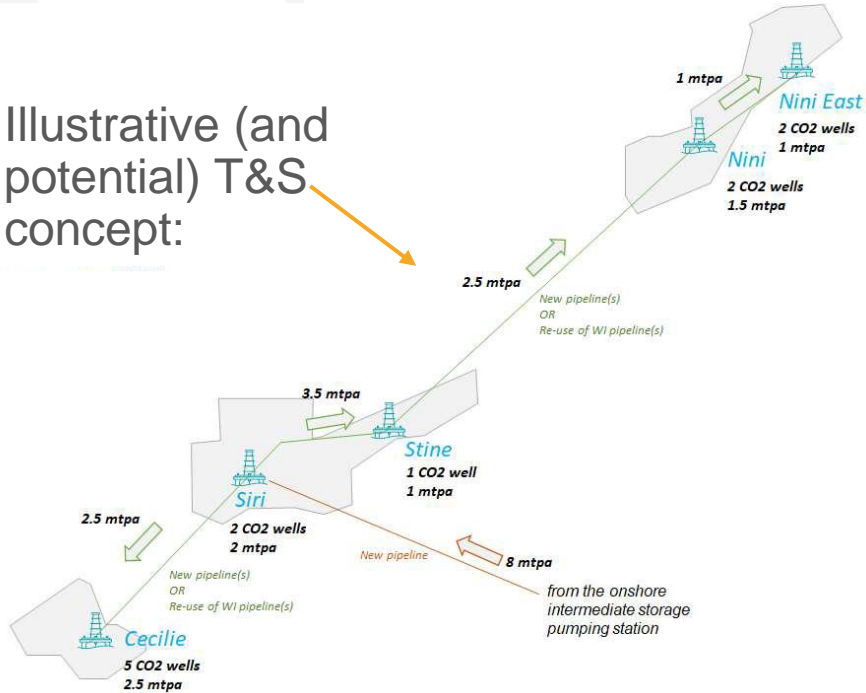
	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Storage Capacity
Phase 1												
Phase 2 - Pilot (Nini West) - Offshore injection period												
Full Scale (Nini West/Main)												Up to 1.5 MTPA
Siri Fairway Expansion Project												Up to 8 MTPA

Greensand – Expanding beyond Full Scale capacity of 1.5 MTPA

Delivering up to 8 MTPA capacity in existing Oil fields – Siri Hub case



Illustrative (and potential) T&S concept:



(Current) Challenges ahead for the Greensand project and the CCS industry in general.....

- Human resource – skills and availability
- Supply chain delays and price fluctuations – fierce competition for materials
- Low carbon emission T&S concept – competitive edge
- Overcome remaining regulatory barriers – work but authorities equally motivated
- Continued collaboration throughout the value chain despite competition picking up!
- CCS market flexibility/redundancy
- Access to further funding CAPEX/OPEX



Greensand Project – Transport and Storage of CO₂

Thank You for your attention

See more on www.greensandproject.com