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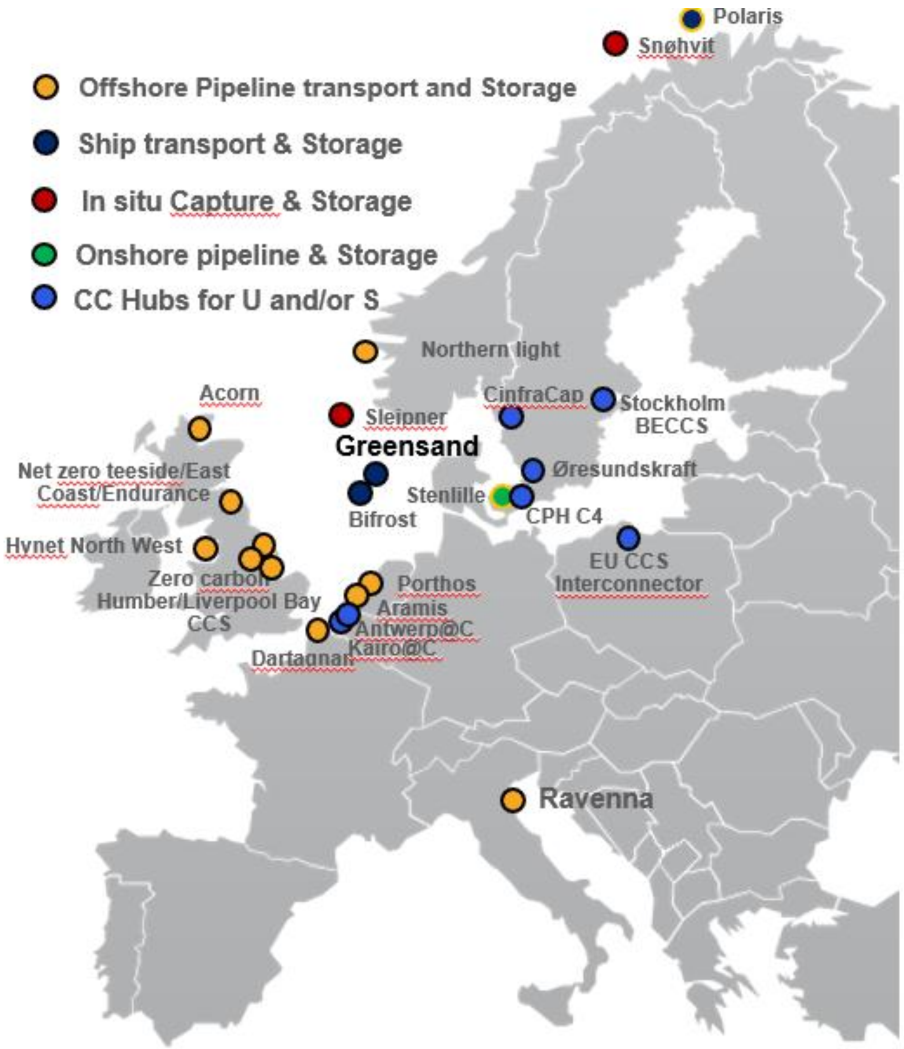
The Greensand CO2 Transport and Storage Project

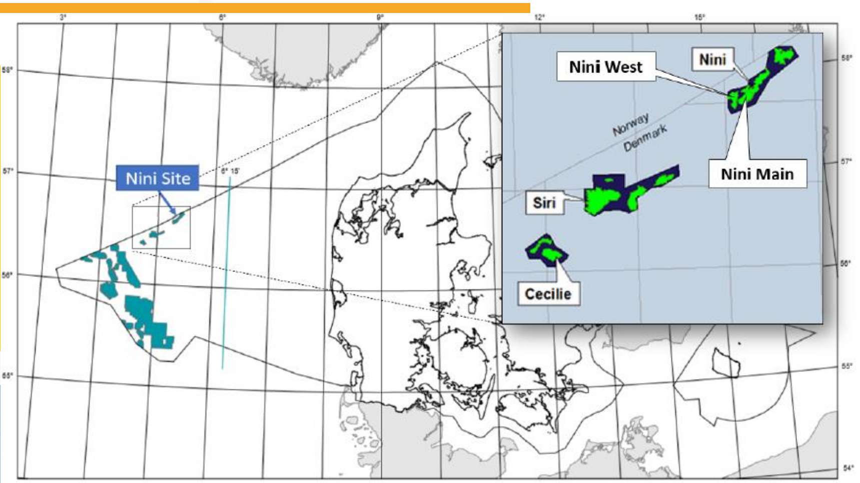
INEOS Energy and Wintershall Dea

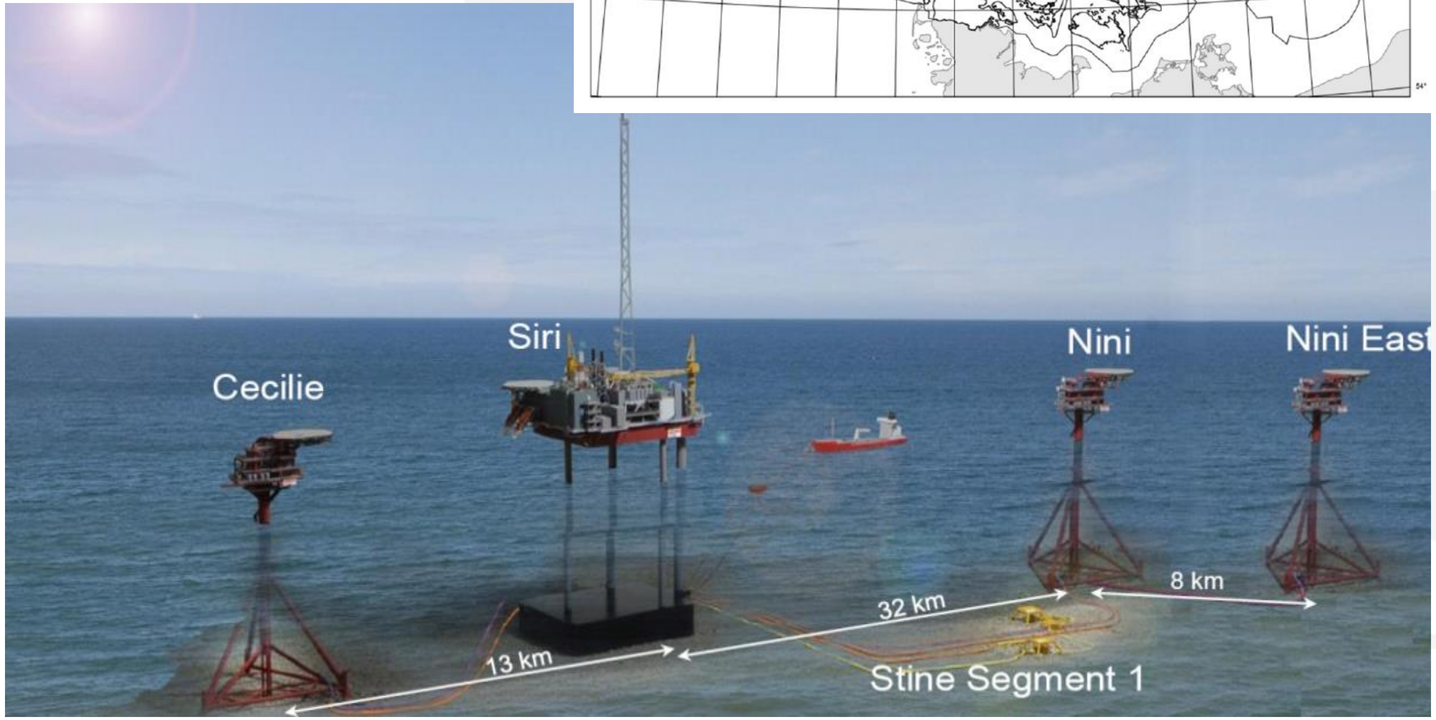
Status and Outlook

Greensand in the European CCUS expanding landscape!



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





Disclaimer: Map produced by Greensand Project based on available public data, not complete and only illustrative

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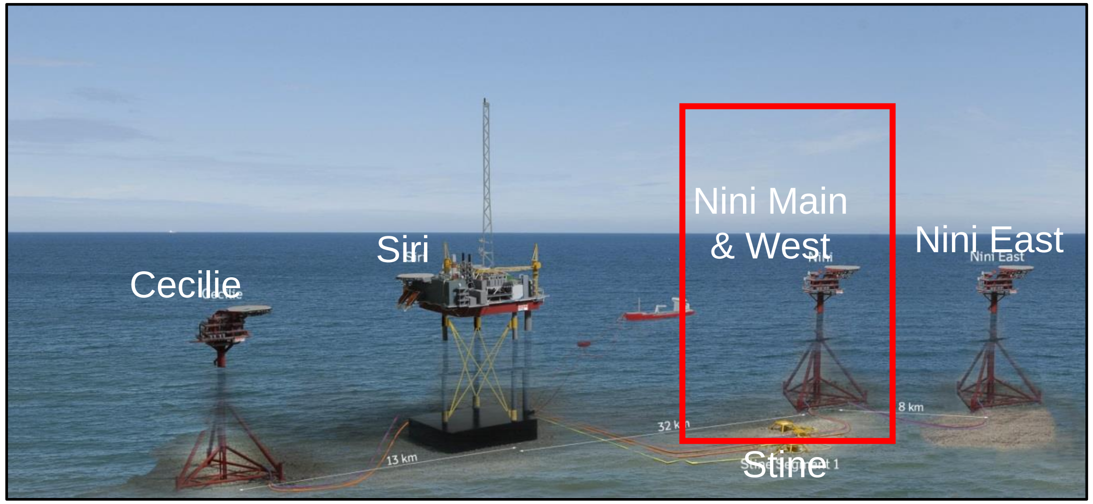
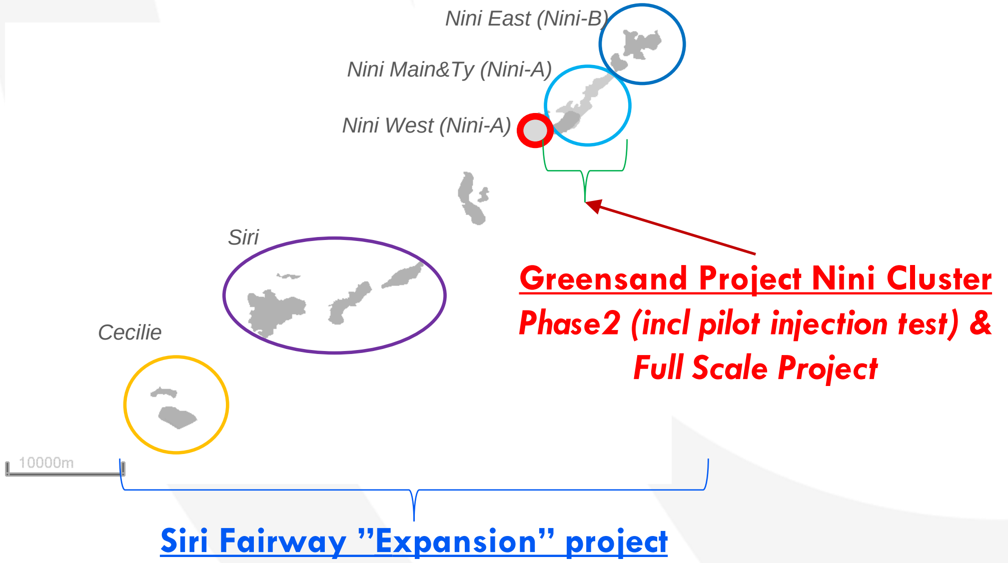
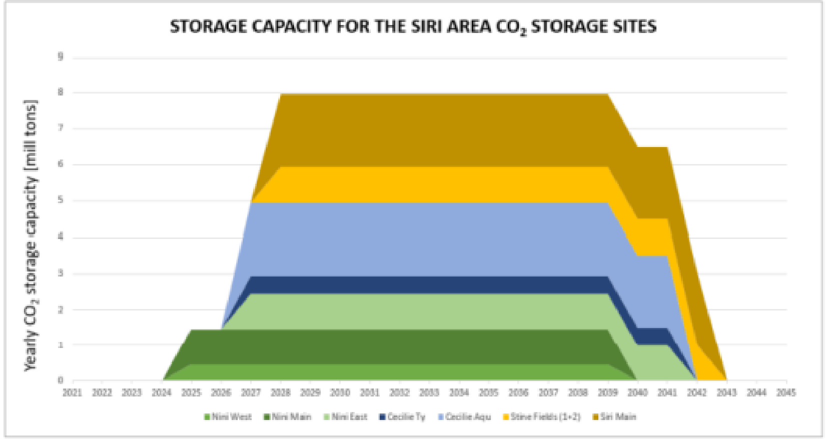
Greensand Project – Transport and Storage of CO2
Overview



- Use of Siri Area for CO_2 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 CO_2 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





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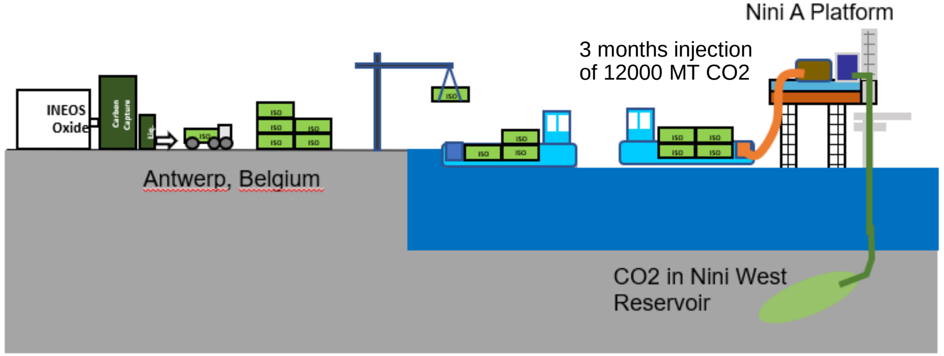
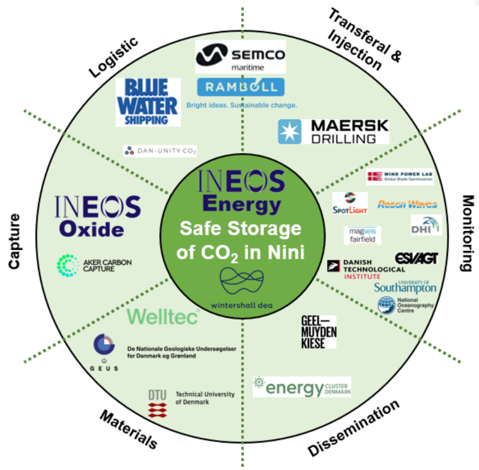
Greensand Project Phase 2

Pilot CO2 injection trial, monitoring testing and further maturation

Pilot Injection Sequence

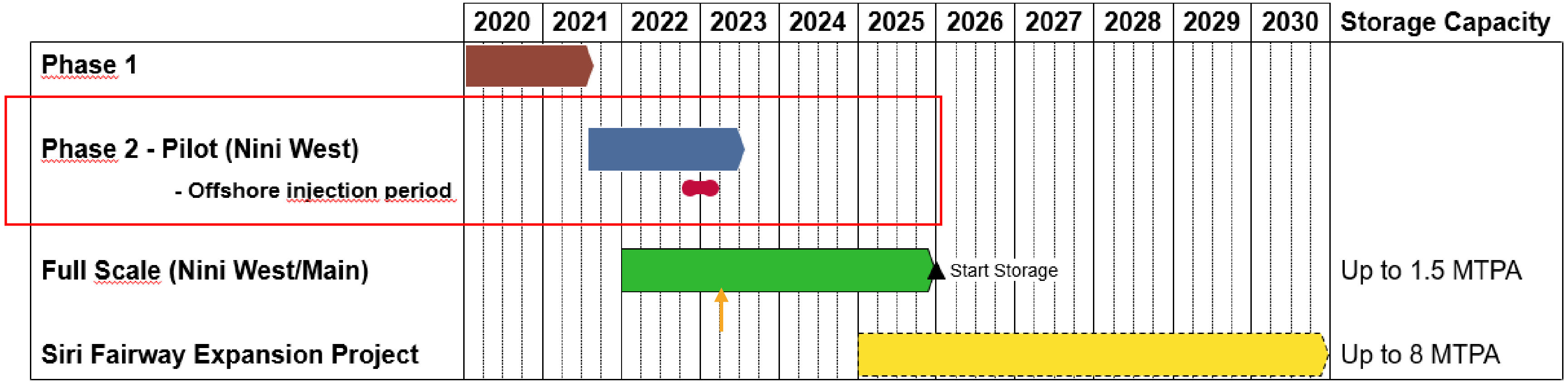


Strong Phase 2 Consortium of 23 Companies



Key Objectives:

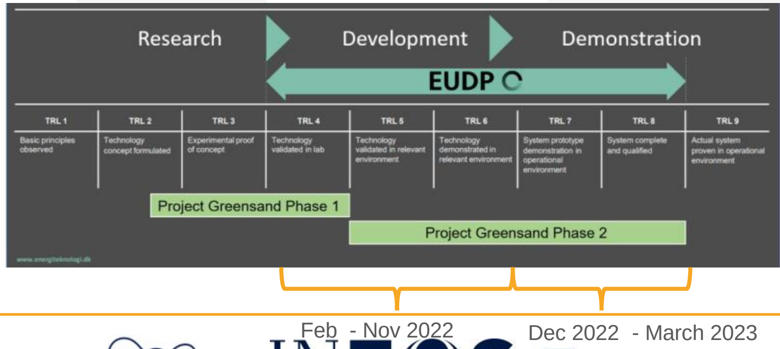
- Test reservoir injectivity (rate/cyclicity)
- Develop pilot full value chain and learn!
- Verify applicability of monitoring technology
- Establish and kick-off full scale maturation process



EUDP

Det Energiteknologiske Udviklings- og Demonstrationsprogram

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



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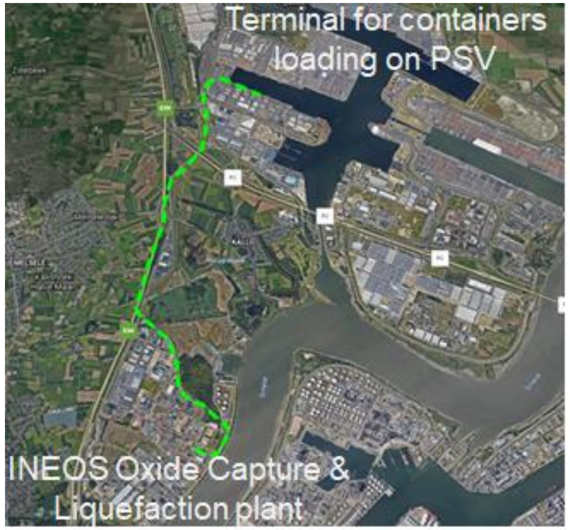
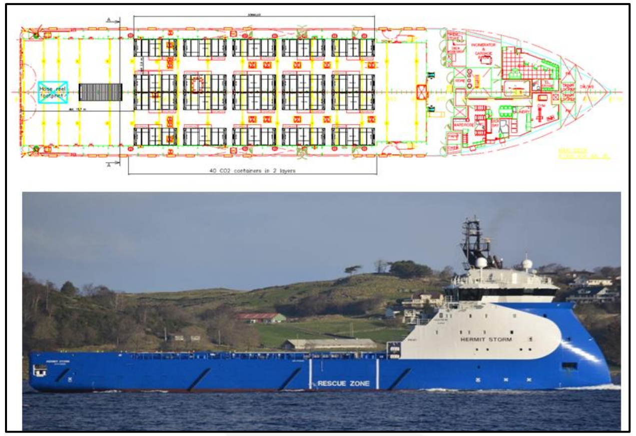
Greensand Project Phase 2

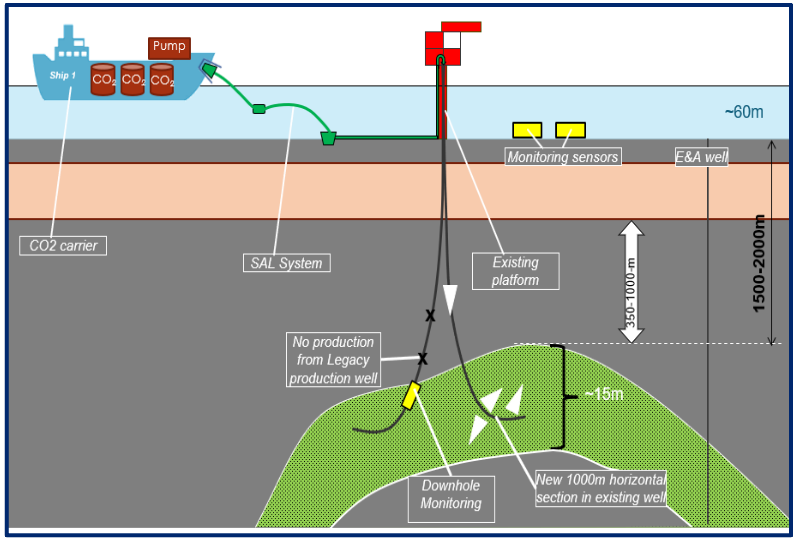
Phase 2 injection pilot – the CO_2 journey





Greensand Full Scale Project

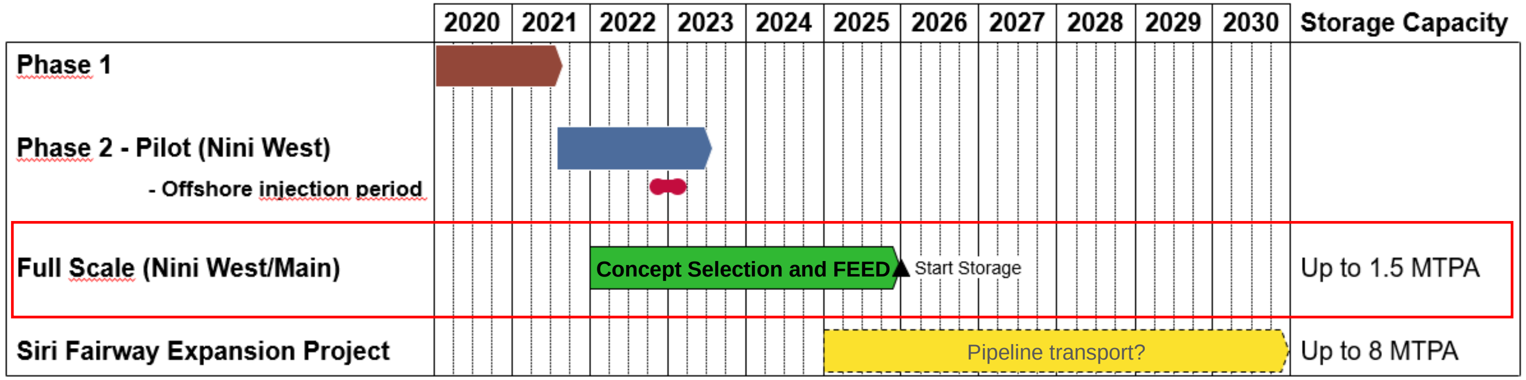
Starting with a 1.5 MTPA capacity – Transport by Ship and Storage in the Nini A area



Key Activities Ongoing

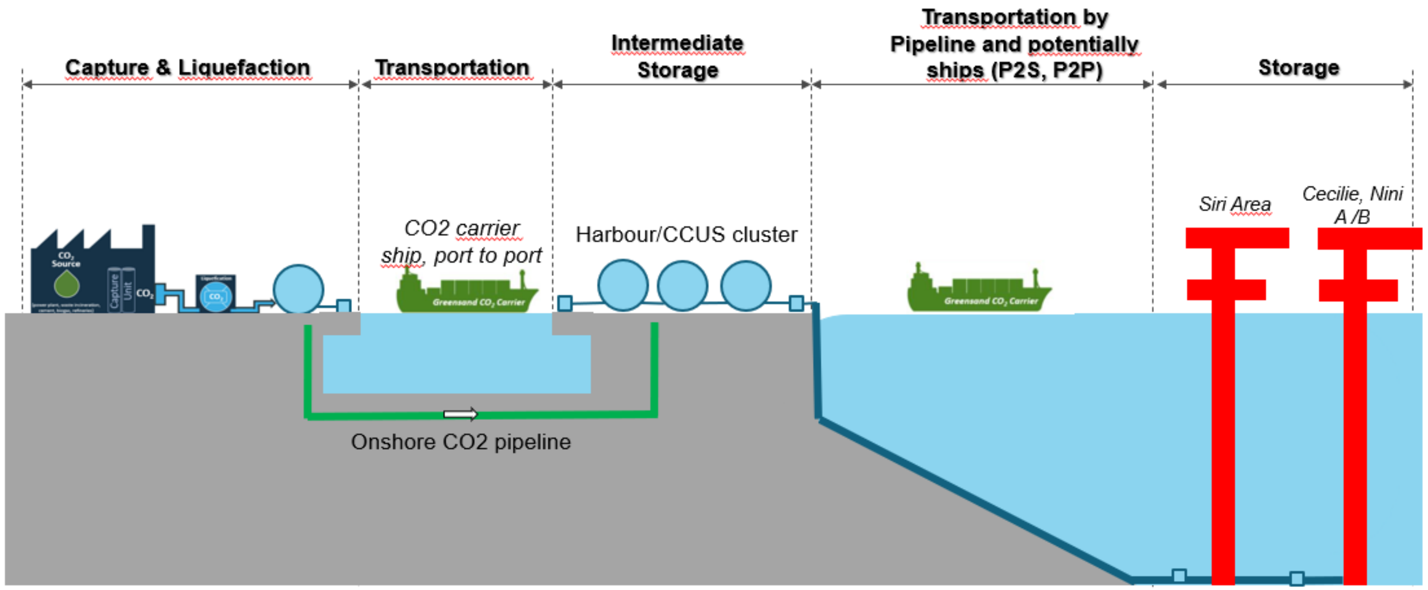
- Mature Nini Main reservoirs
- Mature Development concept
    - Ship design (LP/MP/HP & Size)
    - Offloading/Transfer system
    - CO2 injection wells
    - Monitoring set-up
- Establish logistical & commercial model
- Authority approvals
- DnV Storage Site & Site Development CoC’s
- Commercial contracting

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

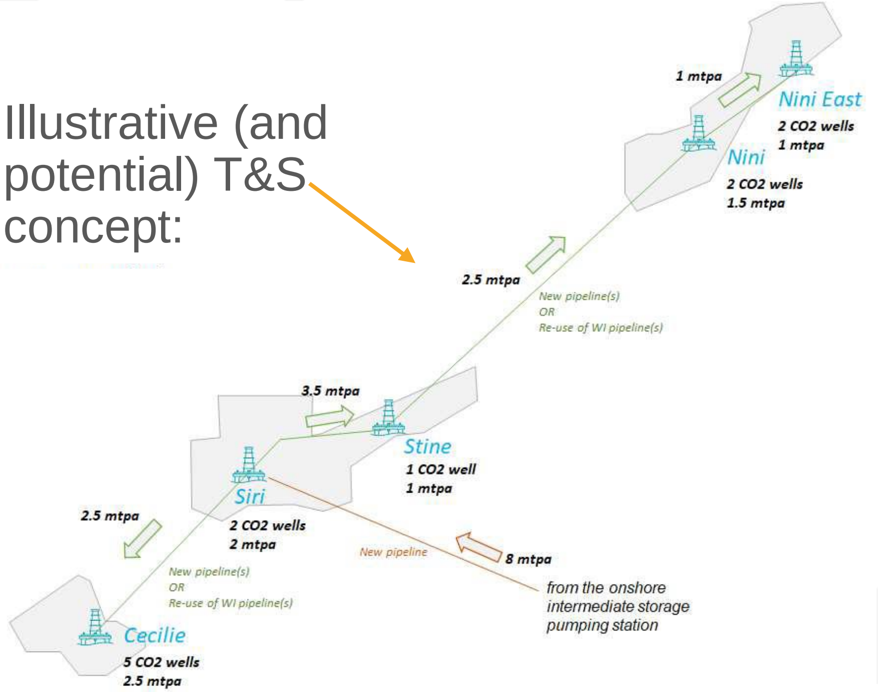


Greensand – Expanding beyond Full Scale capacity of 1.5 MTPA

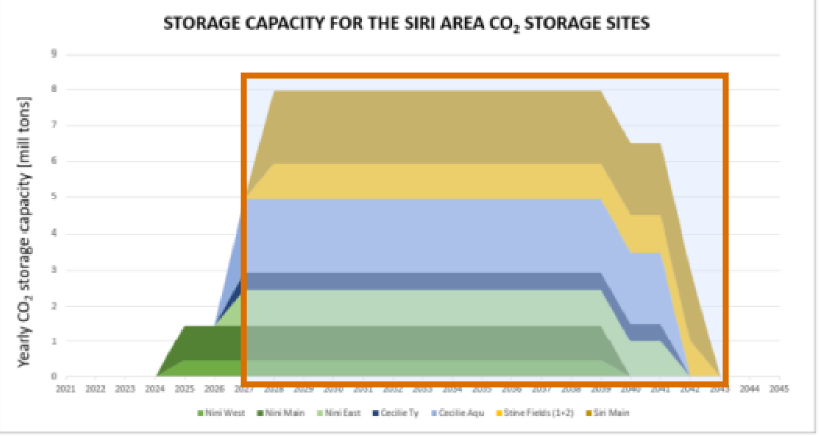
Delivering up to 8 MTPA capacity in existing Oil fields – Siri Hub case



Illustrative (and potential) T&S concept:



	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)							Start Storage					Up to 1.5 MTPA
Siri Fairway Expansion Project									Pipeline transport?			Up to 8 MTPA



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(Current) Challenges ahead for the Greensand project

and the CCS industry in general…..

- Human ressource – skills and availability
- Supply chain delays and price fluctuations – fierce competion for materials
- Low carbon emission T&S concept – competetive edge
- Overcome remaining regulatory barriers – work but authories equally motivated
- Continued collaboration throughout the value chain despite competetion picking up!
- CCS market flexibility/redundancy
- Access to further funding CAPEX/OPEX
- And delivering cost competive concept

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