



# Greensand Pilot

**Abhi Kohok**

*Subsurface Director, INEOS Energy*

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# INEOS Group Overview

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- \$68bn Sales
- 25,000 employees
- 26 businesses



# INEOS Energy

## Overview



### Offshore Oil & Gas **25kbd**

Sanctioned projects increasing production to circa 35kbd in 2024



### CCS **5 MPTA**

Project Greensand injection rate of 1.5 MPTA by 2025, increasing to 5+ MPTA



### Onshore Oil & Gas **35kbd**

Leases covering 172k net acres and 2,300 wells in South Texas



### LNG **1.4 MTPA**

1.4 million tonnes of LNG export per annum from the US gulf coast for 20 years



### Hydrogen **£25m**

Strategic investor in HydrogenOne Capital fund



### New Energy **Future Investment Targets**

Actively looking at new clean energy investment opportunities in biogas, ammonia, green hydrogen and others

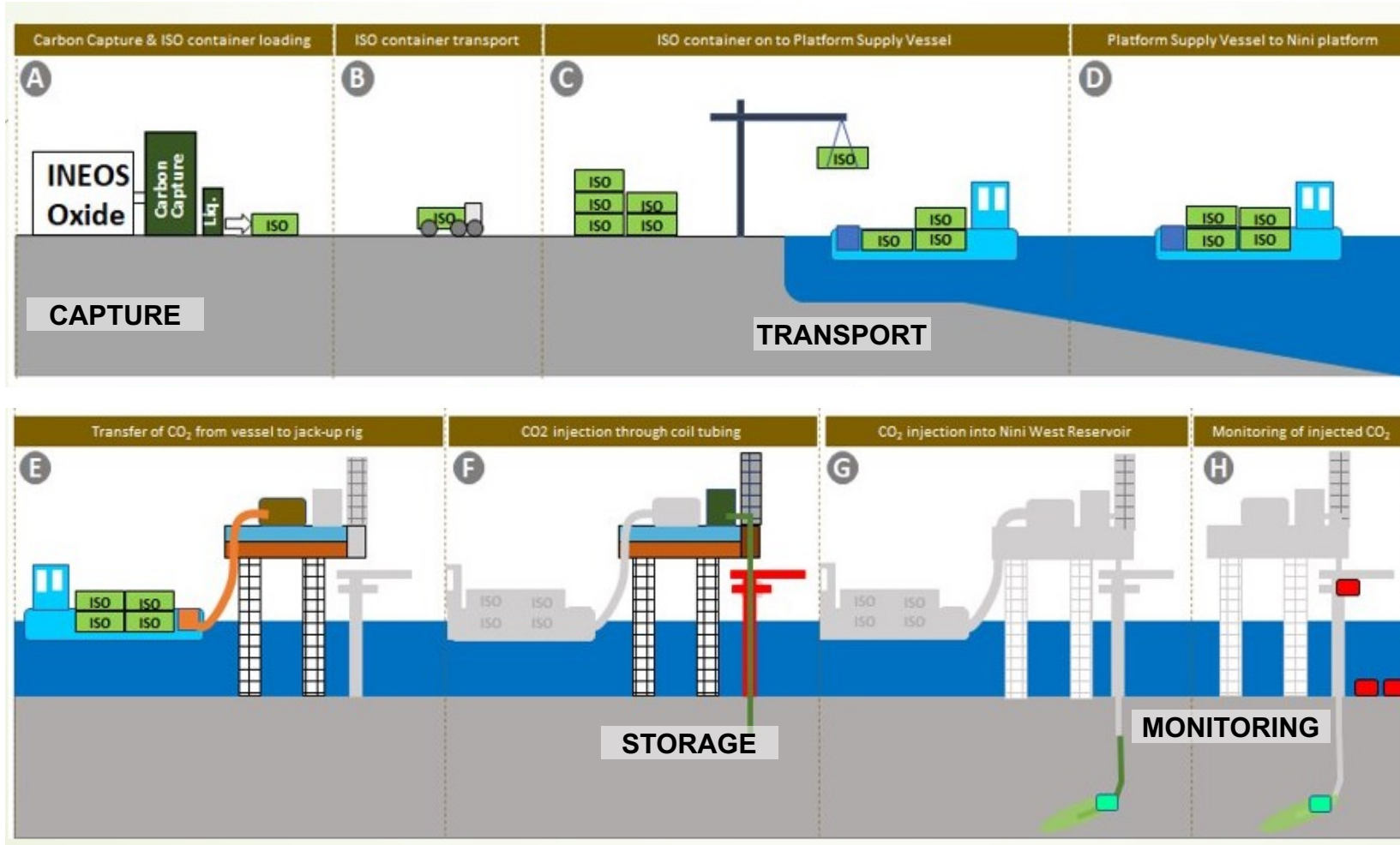
# Greensand Project



- **Phase 1** – Feasibility phase – **Concluded**
- **Phase 2** – First injection (Pilot project) – **Concluded**
- **Phase 3** – Commercial viability – **Ongoing**

- Lead by INEOS Energy, Project Greensand is a full value chain CCS project in Europe
- Utilizing depleted INEOS Energy' oil & gas fields in the Danish North Sea
- Awarded **\$32m** in December 2021 from Danish Government (funding available from Denmark CO2 demonstration pool)
- Estimated to deliver **5+ Mtpa** of stored carbon dioxide by 2030

# Greensand Pilot Plan



## Key Objectives:

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



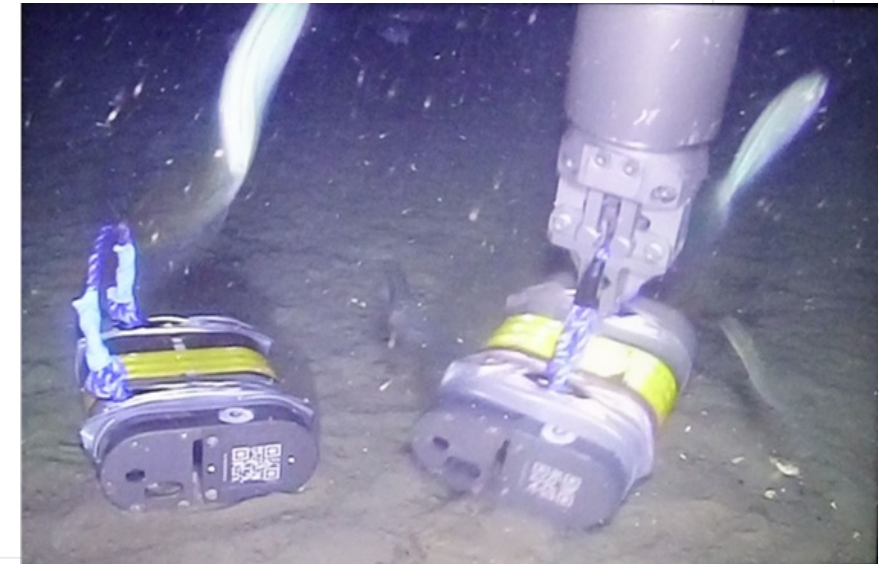
Demonstration of full value chain from capture to storage + test of monitoring techniques

# Key Applications

Applications	Requirements
<b>Bilateral agreement DK - Belgium</b>	Before transport of CO2 across countries and discharge at sea in DK
Pilot storage permit Incl environmental impact assessment	Before CO2 injection
Change from water injector to CO2 injector	Before CO2 injection
Notification for coiled tubing operations	Before installing CT
Rig debris survey	Pre-rig move survey
Rig permit to operate in DK waters	Before rig move
Chemicals use and discharge permit	Before use
Monitoring survey Incl environmental impact assessment	Before deployment of monitoring equipment offshore



# Installation Activities





# Pilot Implementation

## CO<sub>2</sub> injection successfully performed in Q1 2023

### Capture



### Transport



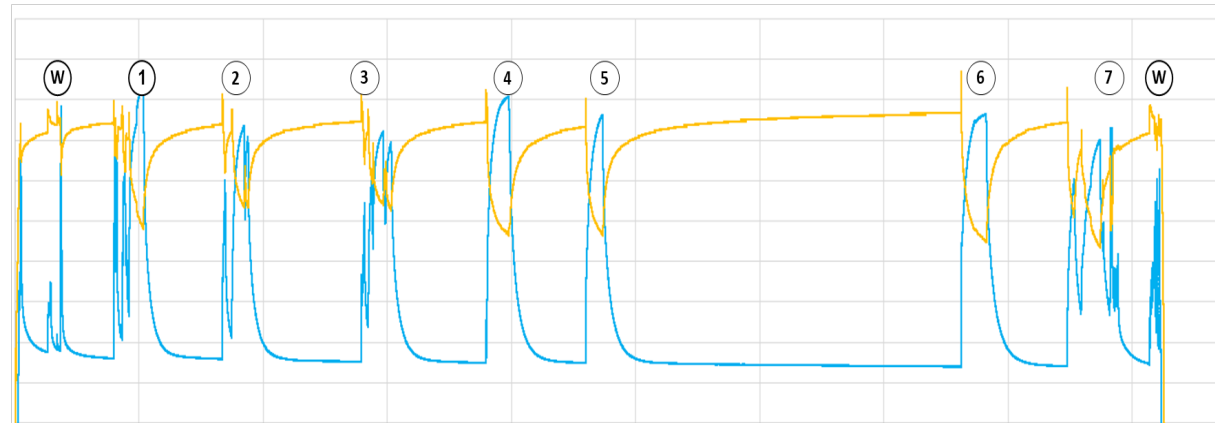
### Storage



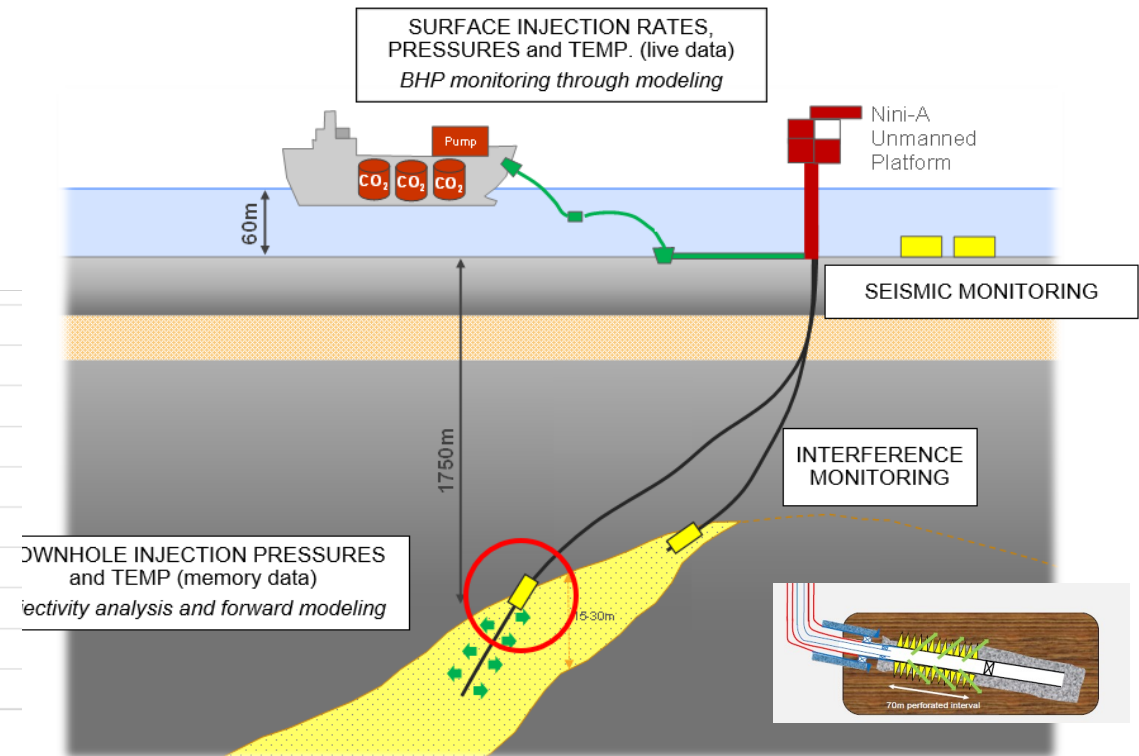
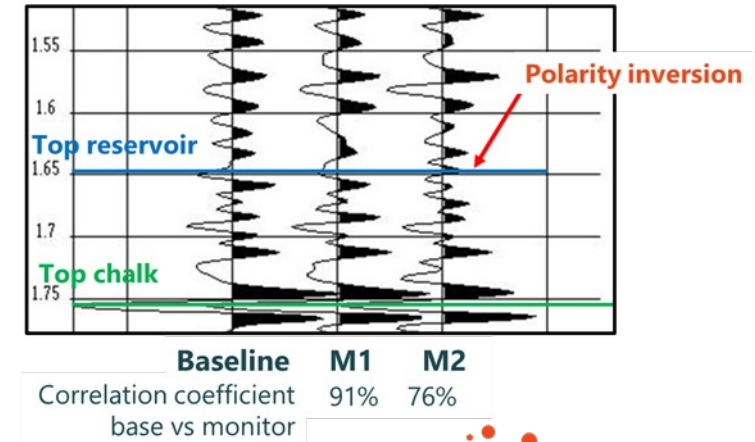


# Pilot Injection Results

- Operation conducted **Safely**
- CO<sub>2</sub> shipped from capture plant at Antwerp in ISO containers, **550 kms to Nini**
- ~4200 tons** of liquid CO<sub>2</sub> Injected via 7 Cycles
- CO<sub>2</sub> Injectivity preserved through repeated injection cycles
- 3 seismic surveys conducted** – *results promising*
- Results and Lessons Learned being used in ongoing project maturation

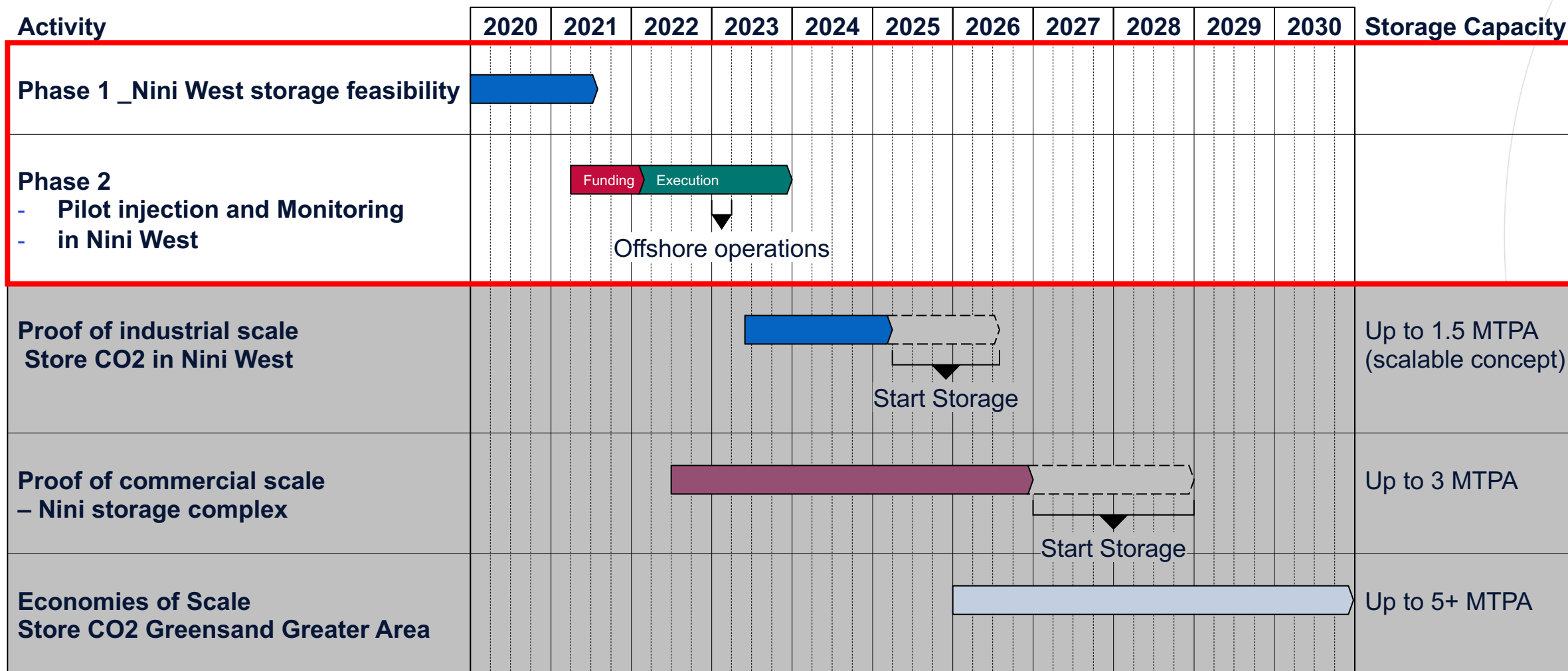


Spot close to the injection point



# Greensand Project Development Phases

Building competence, mitigate risks and phased economic exposure





# Q&A

# Greensand Project teaming up with Greenport Scandinavia (GPS)

Creating a CC(U)S hub to Harvest the Economies of Scale throughout the Value Chain

## Port of Hirtshals (PoH) 2.0

