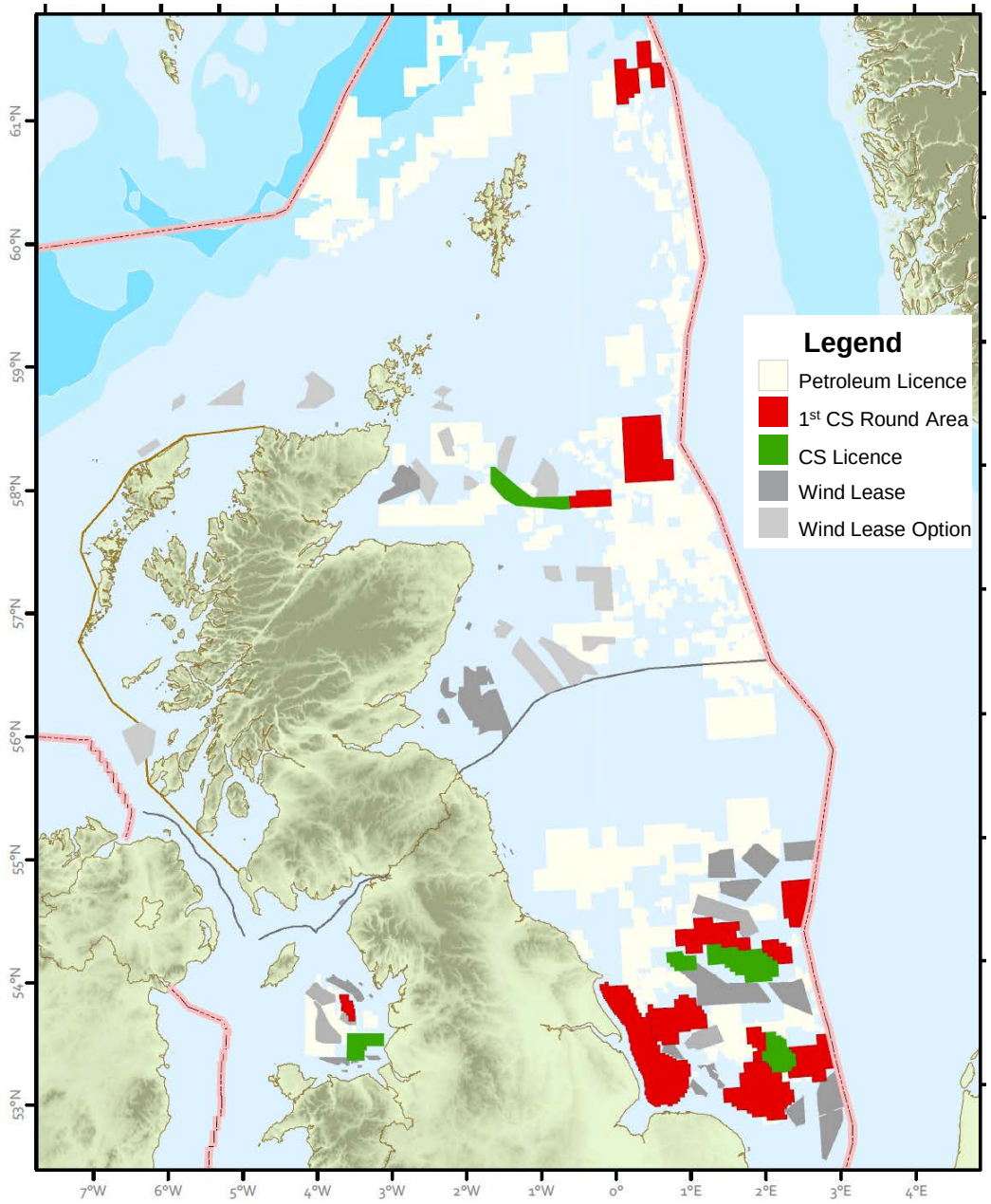
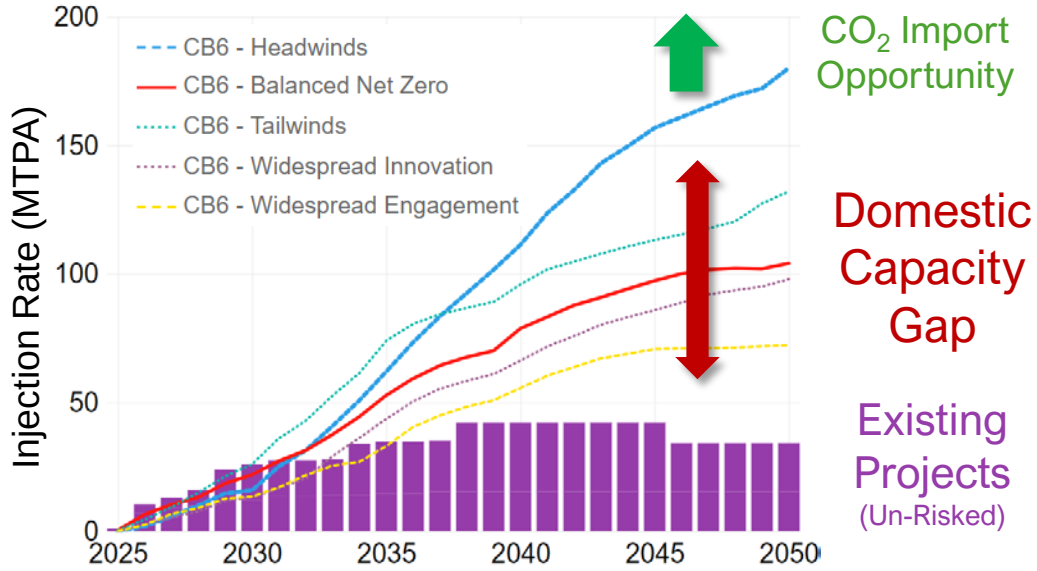


North Sea Transition Authority

CCS growth scenarios[1]



78 $GtCO_2$

Potential storage capacity (BGS estimate)

100s yrs

of UK's storage needs in the UKCS

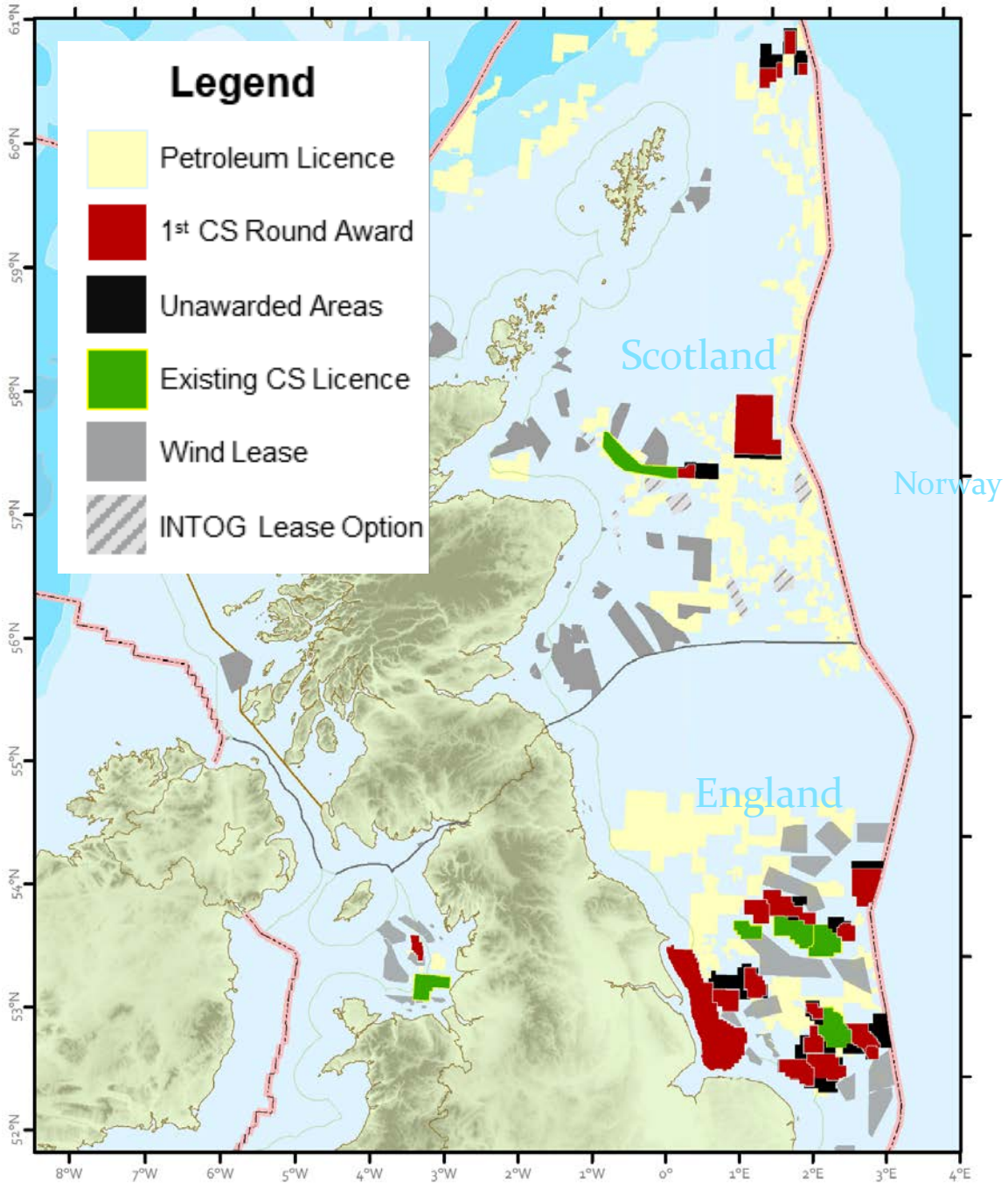
75-180

$MtCO_2pa$ injection required by 2050 (full range of CCC scenarios)

£20 bn

Government funding commitment over 20yrs.

1) Climate Change Committee: Net zero pathways (2021) "Balanced" and "Headwinds" cases
2) North Sea Transition Deal (NSTD, 2021) and British Energy Security Strategy (2022)



North Sea Transition Authority

- **20 Licences** Offered for Award
- Covering **~12,000 km²**
- Awards in **all areas** made available for application
- Diversified Portfolio (Aquifers & Depleted Fields).
- Some projects potentially injecting before 2030.

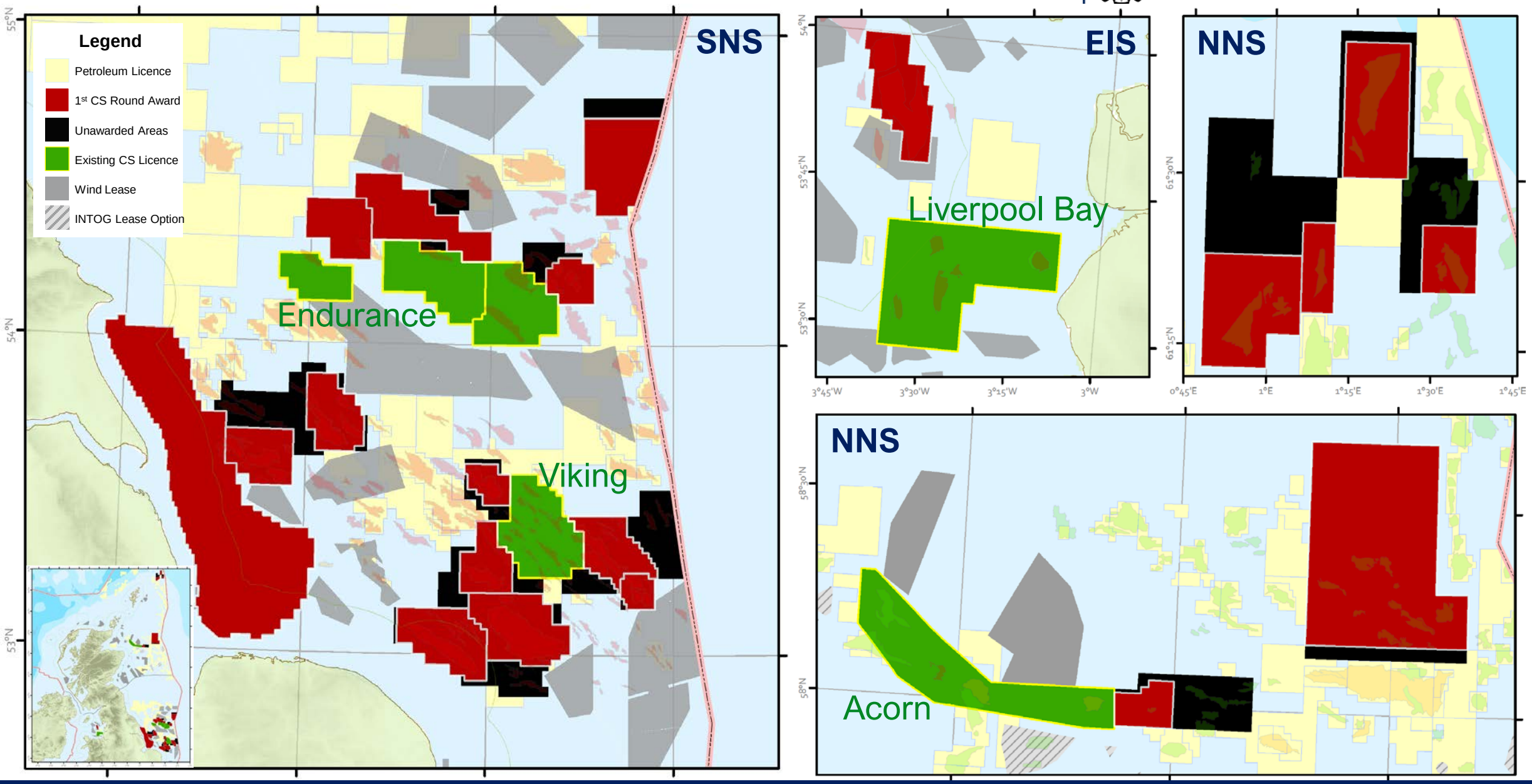
Key Success Metrics

If all offers accepted,

- **5 Firm** Wells/Tests (**9 Contingent**)
- **4 Firm** Seismic Shoots (**5 Contingent**)
- Additional reprocessing and studies commitments

Expectation that licensees will work collaboratively with each other, and with marine users from other sectors.

North Sea Transition Authority



UK 1st Carbon Storage Round Offers of Award

Elements of a CS Licence Term

North Sea Transition Authority

Exploration and Appraisal Phase

- Early risk assessment
- Initial Site and Complex Characterisation
- Above Ground Preliminary Assessment

Assess Phase

- Final site and complex characterisation

Preliminary:

- Risk assessment
- Monitoring and corrective measures plans
- Development planning
- Financial security assessment

Define Phase

- Storage permit application submission incl. final:
- Risk Assessment
- Storage site Characterisation
- Development Plan
- Monitoring and corrective measures plans
- Provisional closure and post-closure plan

Carbon Storage Permit Decision

Project Execution

- Build Onshore Co2 gathering system
- Build Offshore T & S infrastructure
- Drill injection wells
- Commission facilities

Storage Operations

- Ongoing transportation and offshore injection
- Monitoring of CO2 migration
- Provisional closure and post-closure plan

Typically 2+ yrs

Typically 2- 3 yrs

Up to 30 yrs

EAST CO_2AST CLUSTER

Decarbonising the North East of England at scale

Andy Lane, Managing Director

24 May 2023

EAST CO_2AST CLUSTER

Unites the Humber & Teesside to remove almost **50% of industry cluster CO2 emissions** and deliver **25,000 jobs per year** to 2050

Northern Endurance Partnership

Endurance

145km

103km

Expansion stores

5 stores, up to 10 MTPA by 2030
further potential to 23 MTPA beyond

REDCAR
MIDDLESBROUGH
DARLINGTON
HULL
YORK
GRIMSBY
SCUNTHORPE
LEEDS
SHEFFIELD

NORTH SEA

KEY

Selected for Track 1 Project Negotiation List
Potential ECC expansion projects

PROJECTS IN TEESSIDE

BIOENERGY WITH CCS
MGT Teesside
Lynemouth Power

INDUSTRIAL CARBON CAPTURE
CF Fertilisers Billingham Ammonia CCS
Norsea Carbon Capture
Redcar Energy Project
Tees Valley Energy Recovery Facility (TV ERF)
Teesside Hydrogen CO2 Capture
Lighthouse Green Fuels
STV 1+2 Energy from Waste Carbon Capture
STV 3 Energy from Waste Carbon Capture
Teesside Green Energy Park Limited

HYDROGEN
H2 Teesside
H2NorthEast

POWER
Net Zero Teesside Power
Whitetail Clean Energy
Alfanar CCGT Teesside

- *Industrial carbon capture*
- *Clean power with post combustion capture*
- *Bioenergy with carbon capture (BECCS)*
- *Hydrogen*
- *CO_2 Transportation and Storage (T&S)*

PROJECTS IN THE HUMBER

BIOENERGY WITH CCS
DRAX Bioenergy with Carbon Capture and Storage

INDUSTRIAL CARBON CAPTURE
Humber Zero - Phillips 66 Limited Humber Refinery
Prax Lindsey Oil Refinery Carbon Capture
ZerCaL250
Altalto Immingham waste to jet fuel
North Lincolnshire Green Energy Park
Saint-Gobain Glass Carbon Capture

HYDROGEN
Hydrogen to Humber (H2H) Saltend
Uniper Humber Hub Blue Project

POWER
Keadby 3 Carbon Capture Power Station
C.GEN Killingholme
VPI Humber Zero

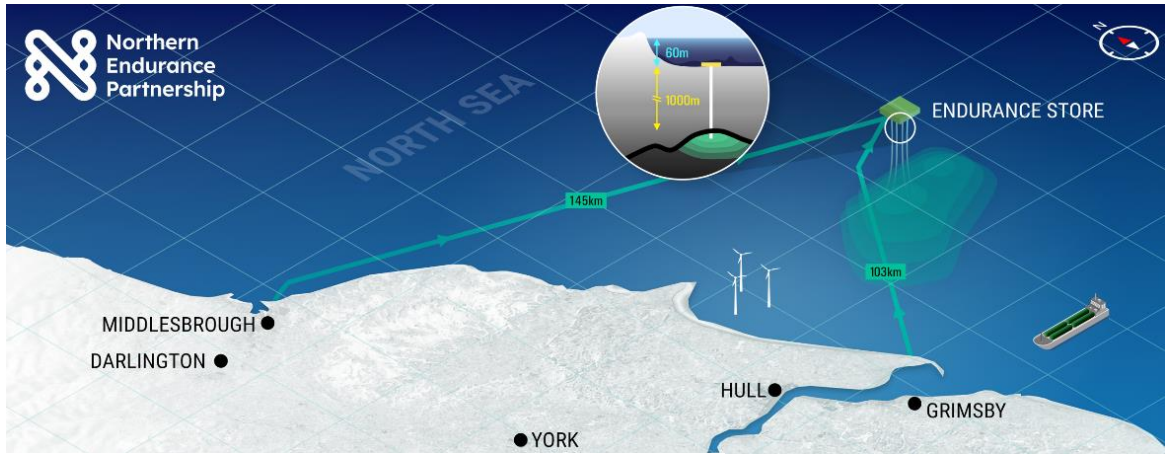
The NEP is developing a wide portfolio of CO2 stores – ready to serve the ECC expansion

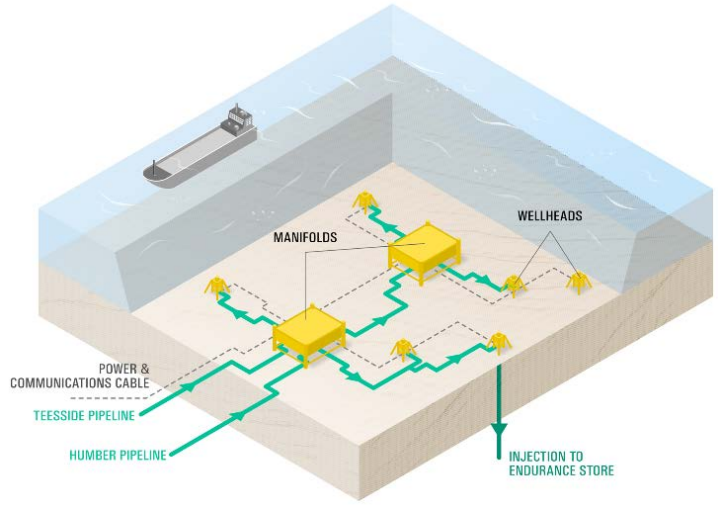
Our Ambition

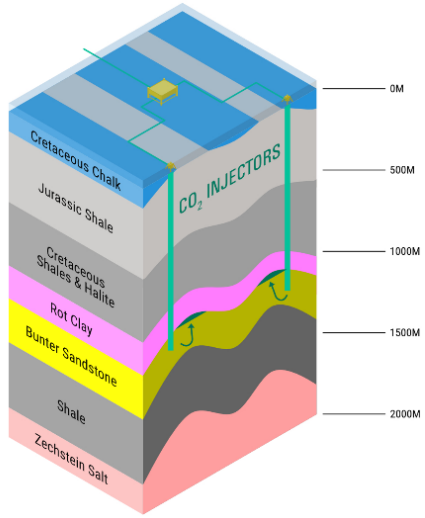
- DESNZ have selected 3 projects - Net Zero Teesside Power, H2Teesside and Teesside Hydrogen CO2 Capture – who will connect first to the East Coast Cluster – subject to business model negotiations.
- An average of around 4.1 million tonnes of CO2 per year will be captured and stored from these projects from first cluster operations in 2027.
- The NEP is investing to develop at pace our portfolio of storage sites which will more than double annual CO2 storage to an average of around 10mtpa by 2030 – ready to serve the expansion projects from both Teesside and the Humber as they are selected by DESNZ.
- The NEP hold a storage licence for the Endurance Store, and two expansion store licenses – giving access to a total of up to 5 stores. We are also awaiting the outcome of our application to the NSTA for a further licence – which means we could unlock up to 7 stores in total.
- The NEP aims to capture and store an average of 23mtpa by 2035.

Our Infrastructure

- First-of-a-kind offshore low carbon CCS infrastructure in the UK.
- Largest saline aquifer in southern North Sea – capacity to store 450m tonnes of CO2 with potential to extend capacity to around 1 billion tonnes with nearby stores.
- Includes CO2 pipelines from Teesside and the Humber.
- Compression and pumping systems to a common subsea manifold and well injection site at the Endurance store.



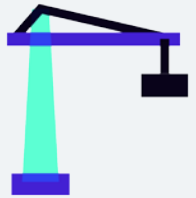




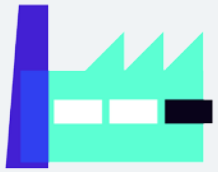
The socio – economic benefits of a fully deployed East Coast Cluster

25,000+
jobs up to 2050
(average per annum)

~41,000
jobs peak
in 2026



Construction
9,400 direct jobs/yr
12,300 indirect jobs/yr



Operations
2,200 direct jobs/yr
13,300 indirect jobs/yr

25,000
potential additional
induced jobs/yr

£2bn+
average GVA
up to 2050

Thank You