

Cadent's Net Zero Priorities

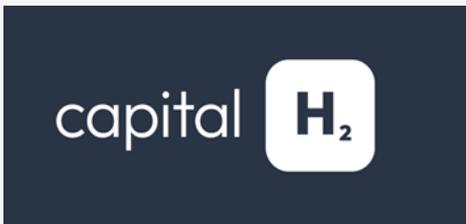
To support the UK Government's net zero ambitions by 2050

Transition the current UK natural gas network over to low carbon hydrogen

Near-term focus on distributing hydrogen for heavy industry, power generation and transport



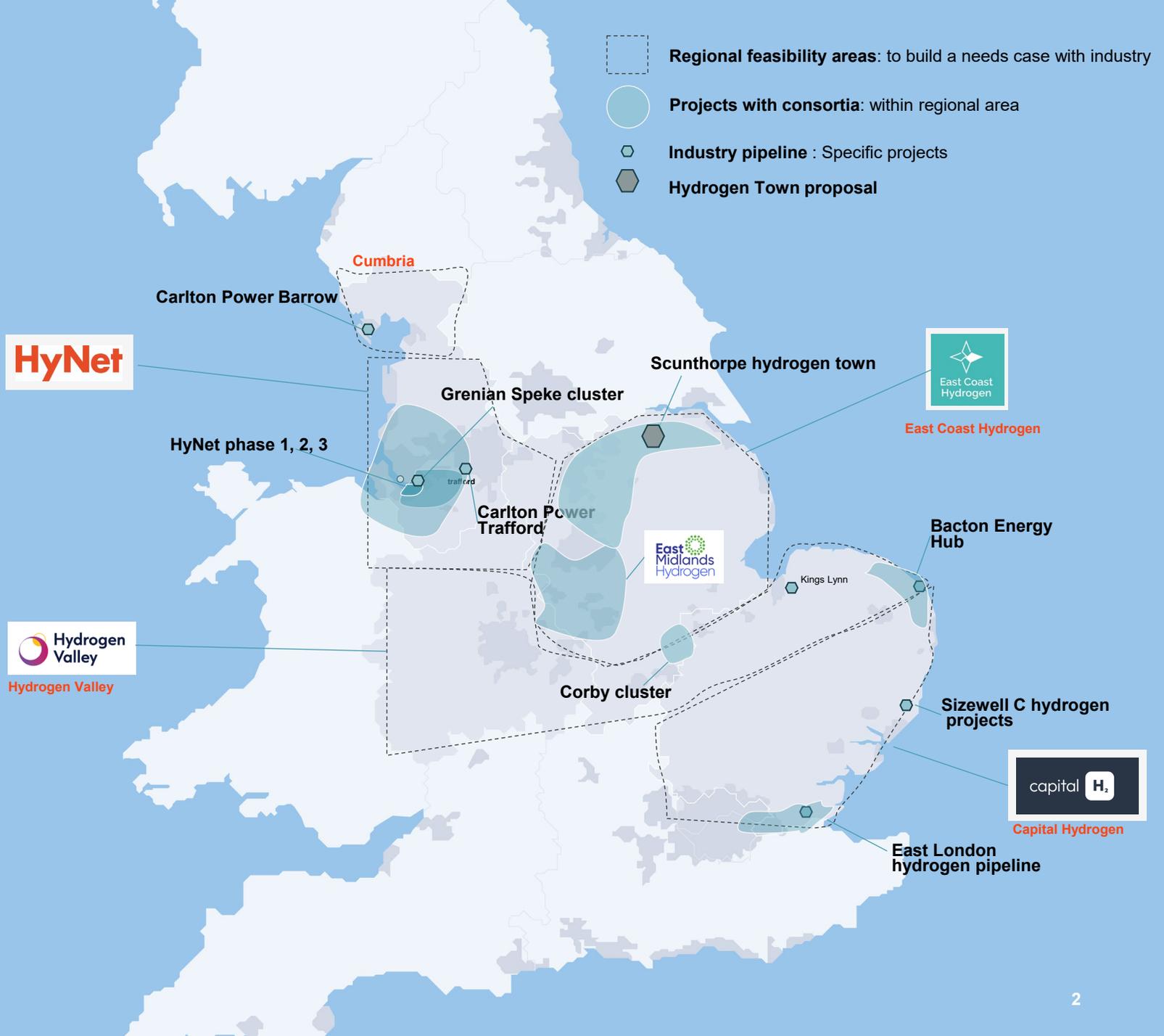
HyNet



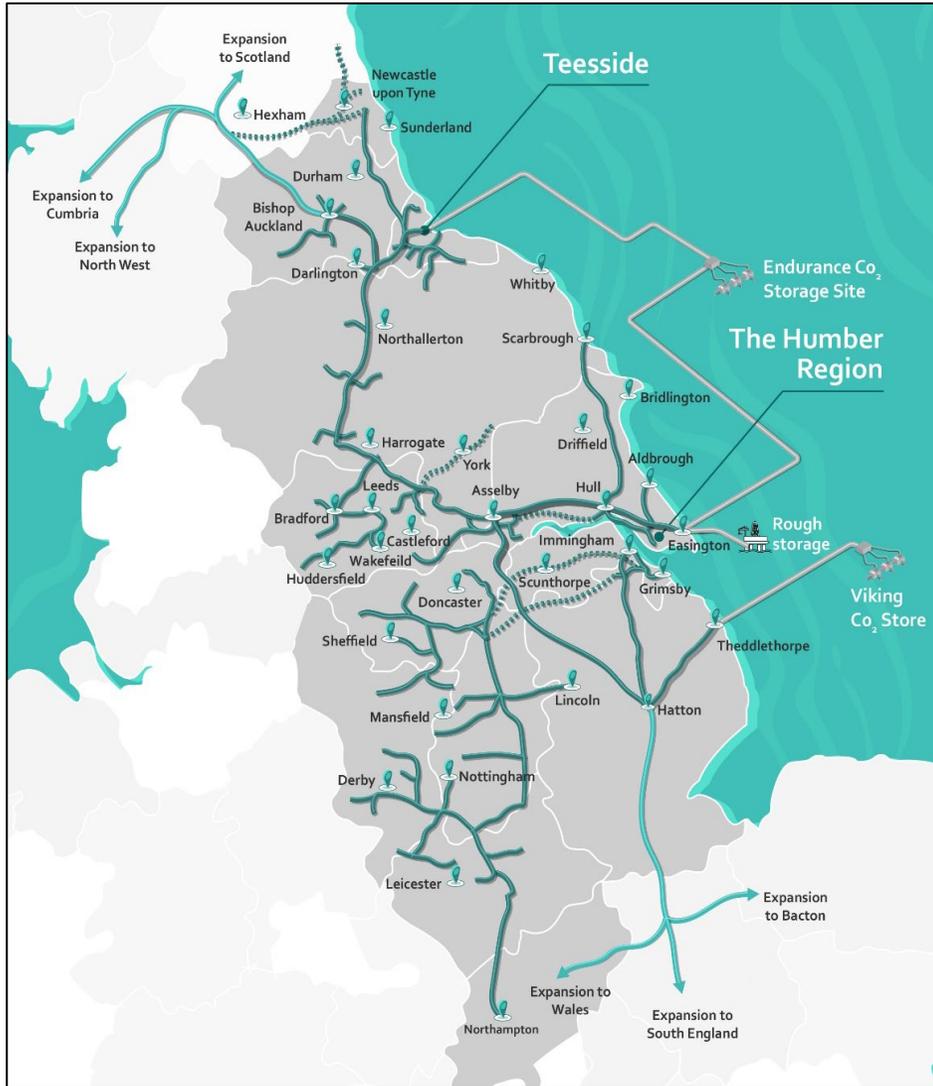
HyNet

Hydrogen Valley

capital H₂



East Coast Hydrogen Delivery Plan Published



Demand



Over 63TWh

identified industrial, commercial, power and aviation hydrogen demand by 2037



44%

annual industrial, commercial and power natural gas demand potentially switched to hydrogen



11 MtCO₂

annual avoided industrial, commercial, power and aviation emissions



Production



Over 88 TWh

current planned hydrogen production by 2037 in the East Coast region



Up to 4.6 GW

green hydrogen capacity is planned by 2030, meeting 92% of the UK Government targets



22 projects

provided primary data and forecasts to support network development



Storage



4 large scale sites

connected across North Humber and Teesside



Up to 19% UK's

hydrogen storage requirements could be met by 2050



10.7 TWh

storage to be deployed by 2050



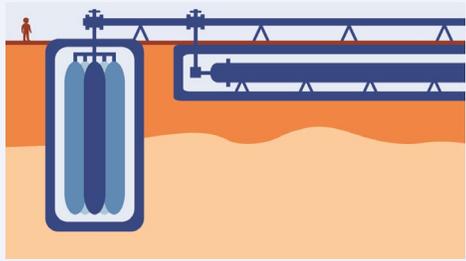
Momentum and ambition across demand, production and storage has grown since the Feasibility Study

Demand forecasts have been refined through primary user data and further secondary analysis

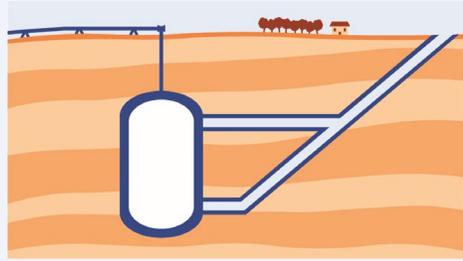
5.2 GW
of additional production capacity under development

0.7 TWh
of additional storage capacity under development in onshore salt caverns

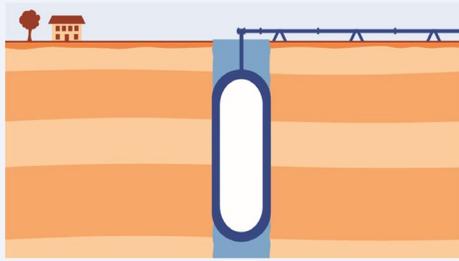
- Hydrogen pipeline networks need storage to operate effectively and resiliently
- Multiple storage technologies were evaluated based on identical parameters



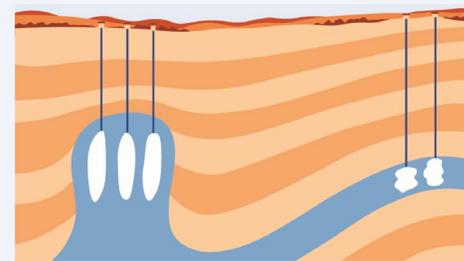
Clustered silos and dedicated pipelines



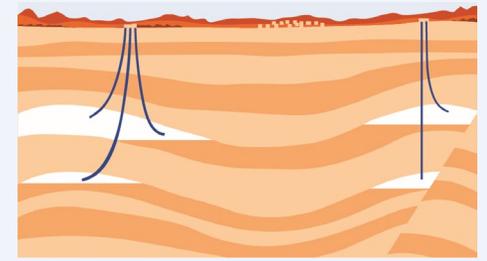
Lined rock caverns



Lined rock shafts



Salt caverns



Porous rock

- Saline aquifers
- Depleted hydrocarbon fields

Parameters assessed

- Storage capacity
- Injection and withdrawal rate
- Potential for upscaling
- Implementation time
- Technology readiness level
- Cost per GWh
- Cost of development
- Life cycle cost savings
- Hydrogen deployment
- Gas treatment requirements
- Cushion gas requirements

East Midlands specific

- Site availability
- Proximity to production centers
- Proximity to end users
- Proximity to future H₂ pipelines

East Midlands Hydrogen Footprint

KEY

-  **PROSPECTIVE INDUSTRIAL HYDROGEN USER - FORECASTS RECEIVED**
-  **PROPOSED HYDROGEN PRODUCTION**
-  **100% HYDROGEN PIPELINE ROUTING OPTION - CADENT**
-  **EAST MIDLANDS FREEPORT SITES**
-  **EAST MIDLANDS FREEPORT FUTURE ENERGY SKILLS HUB**
-  **HYDROGEN TECHNOLOGIES MANUFACTURERS**
-  **SOUTH DERBYSHIRE HYDROGEN REFUSE TRUCKS TRIAL**
-  **MULTIPLE LOCATIONS**
-  **M1 MOTORWAY**
-  **A42 AND A50 MAIN ROADS**
-  **EAST MIDLANDS AIRPORT**



Forecasts were fed into Cadent's East Coast Hydrogen Programme Pre-FEED

Hydrogen forecasts received from:



This fuel switching alone would abate:

