

Developing a CCS Cluster in Yorkshire and Humber

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UK CCS Community Network Meeting Programme
14-15 September 2010, University of Leeds

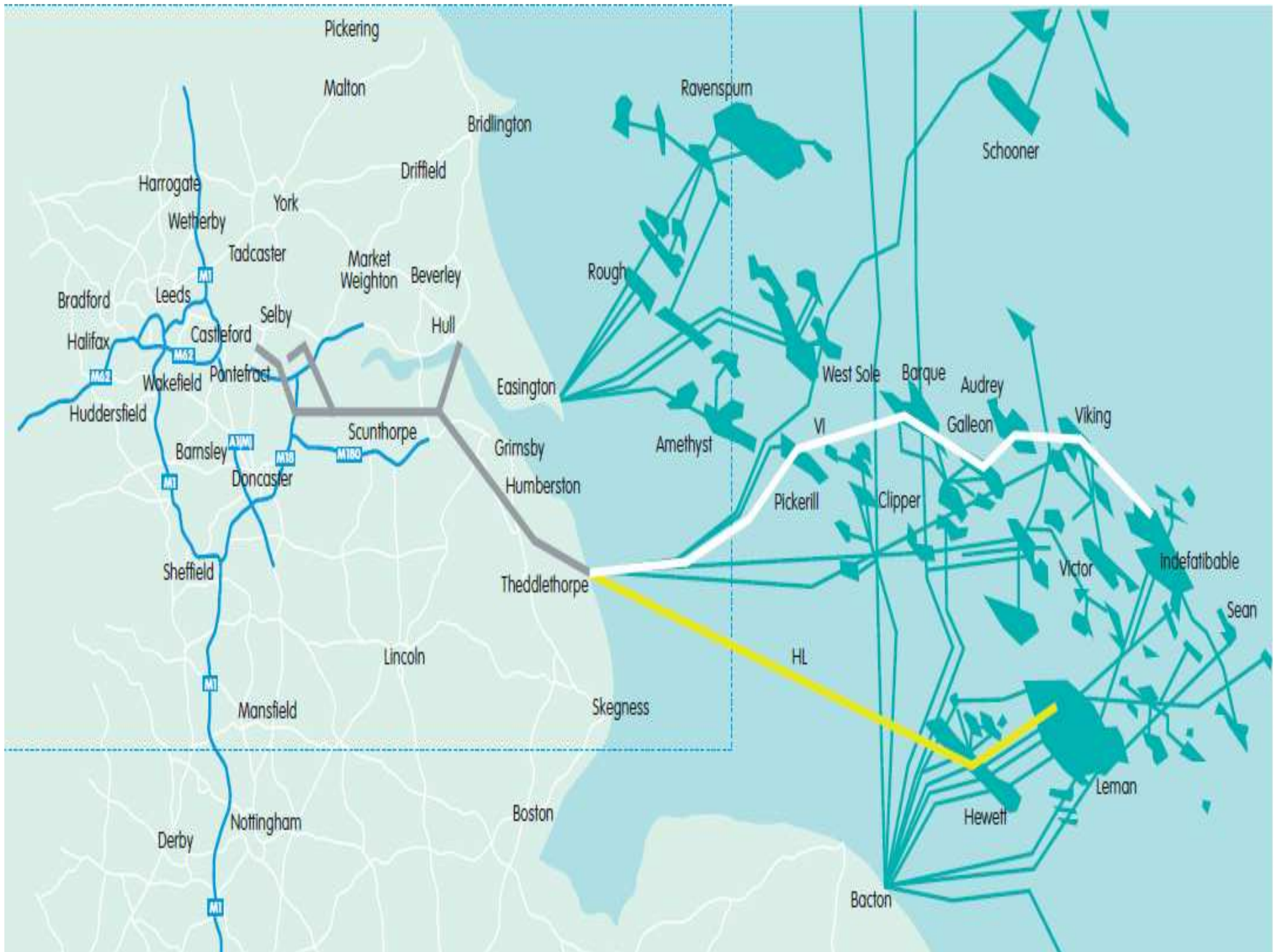
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Why Yorkshire and Humber?

- 60Mt of CO₂ emissions from single point sources
- Range of sectors – not just coal-fired power generation
- Located in a relatively small geographic area
- Adjacent coastline to southern North Sea gas fields
- Considerable industry interest
- Opportunity to gain a world lead for the region

Why Develop a Cluster ?

- Exploit existing industrial infrastructure
 - Fuel/material supply
 - Grid connection
 - Pipeline wayleaves
 - Offshore assets
- Mitigate price/volume risk in CO₂ transport
- Intuitively cost effective and efficient
- Attract new investment
- But – requires oversizing of pipelines in early years



CCS network to the future

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- CCS – what & why
- Why Y&H
- Costs, benefits and making it happen
- The commercial approach
- Building on the opportunity

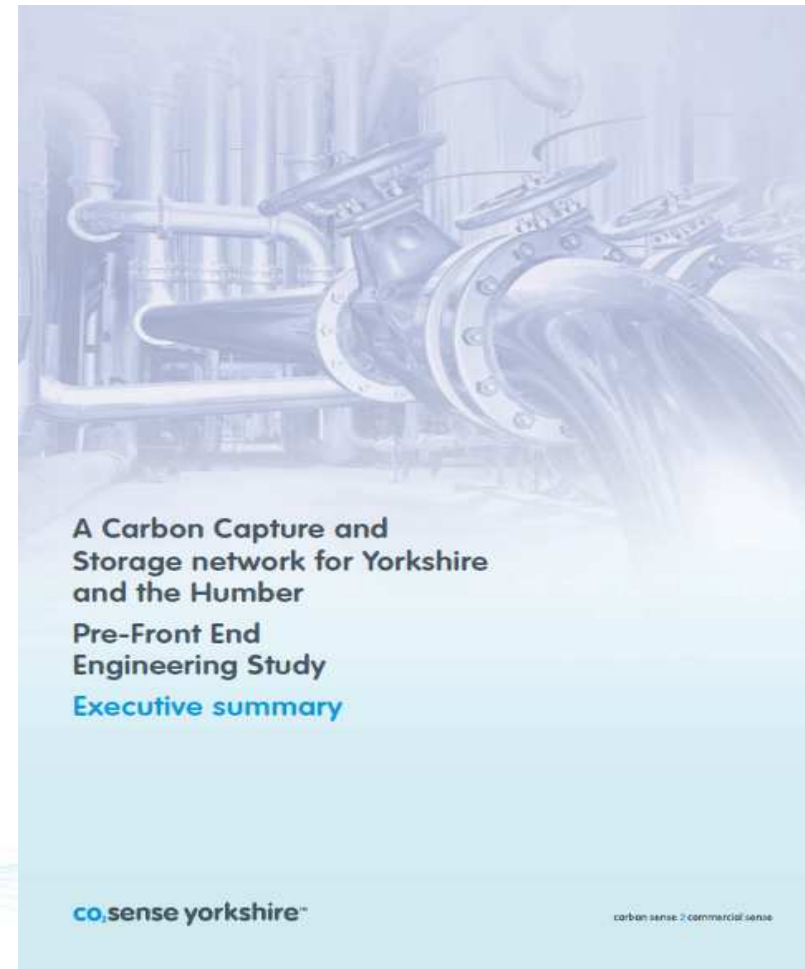
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Pre-FEED Study

- Model scenarios for initiation of CO₂ pipeline
- Develop a transport technical specification data book
- Scope storage capacity
- Model financial and economic aspects
- Results to be used by any project developer

Steering Group

- CO2Sense Yorkshire (Chair)
- AMEC
- Powerfuel Power Ltd
- Corus
- Drax Power Ltd
- National Grid Carbon



Pipeline Options

- schematic routings

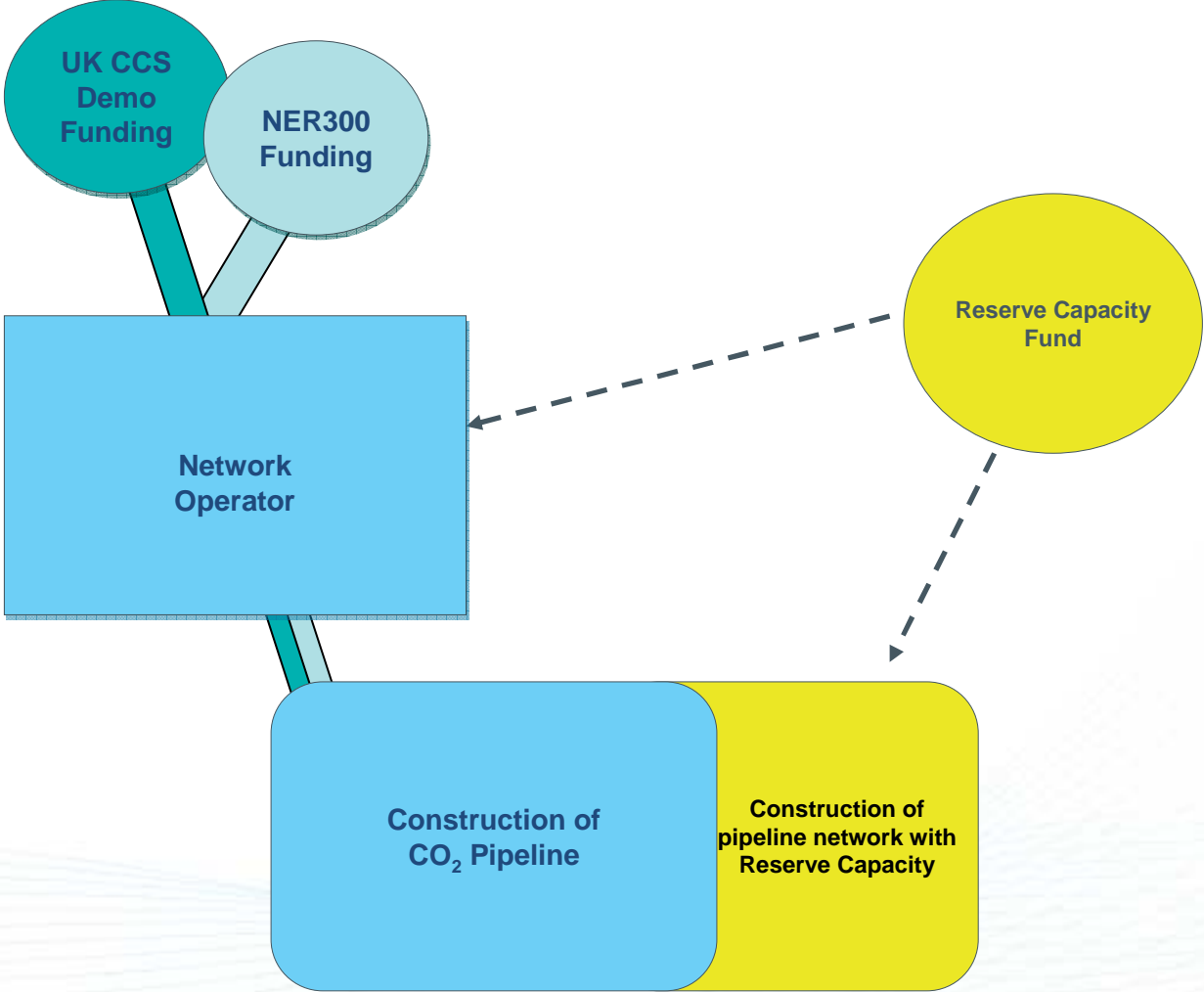


- Two separate phases, £896m
- Two integrated phases, £643m
- At least 10 years 'no regrets' of initial additional capacity

Financing Options

- Independent or merchant investment in the capacity that could be sold to future emitters
- Agreed asset holder bound to provide access and support network development
- Investment by one or more of the initial or future users
- Discrete funding by the UK demonstration levy mechanism
- New European Energy Infrastructure Instrument

Reserve Capacity Fund



Shipping of CO₂



Risk Mitigation

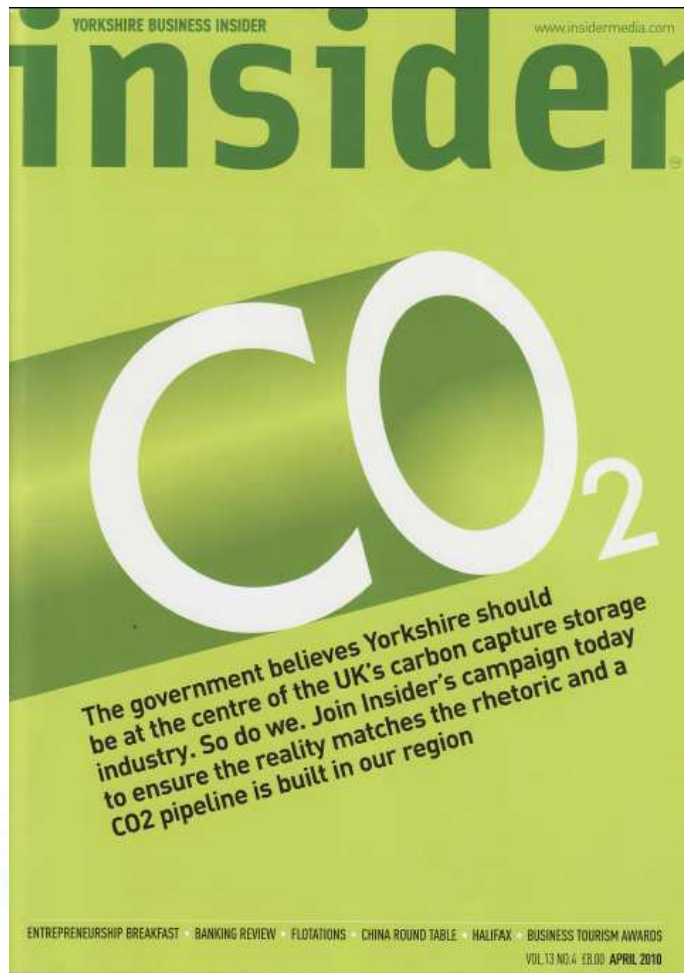
- Emitters
- Storage operators
- EOR operators
- European emitters with access to cost effective shipping

A good revenue increment for the cluster

- An underlying low and decreasing cost base means attractive tariffs
- Short and long term options
- UK is probably the best regulatory regime for CCS

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Telling the Story



- Yorkshire Post
- Look North
- Carbon Capture Journal
- Newsnight
- PM's speech 28th May

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What do the Public Think?

- Sample of 500 adults in Y&H
- 8 question survey
- Covering
 - economy
 - green jobs and engineering heritage
 - climate change
 - CCS (in context of the above)
- November 2009

Results

- Only 1% consider climate change a priority
 - but 74% see it as an important issue
- 80% want ‘cheap and easy’ solutions (CCS?)
- 83% support for green jobs
- 90% support for new investment
- **75% support for CCS projects in Y&H**
 - Job creation seen as most beneficial effect

Next Steps in the Region

- Steering group member with storage licence
- Reserve Capacity Fund study
- Keep raising awareness
 - Local Authorities
 - Business community (CBI, EEF)
 - Community groups & NGO's
- Stakeholder dialogue pilot
- Work more closely with Universities

National Engagement

- Office of Carbon Capture and Storage
 - Offer solutions
- Carbon Capture and Storage Association
 - Communications
 - Environment and Planning
- Coal Forum
- Energy Industries Commission
- British Geological Survey
- HSE & HSL

International Engagement

- EU Sustainable Fossil Fuels Working Party
- Other cluster projects
 - Rotterdam, Victoria, Scotland
- Global Carbon Capture and Storage Institute (GCCSI)
 - Case study
 - Development funding?
- Carbon Sequestration Leadership Forum (CSLF) recognised project



Selected proposals – Carbon Capture and Storage



© EuroGeographics 2001 for the administrative boundaries
Cartography: DG TRCF, September 2009
http://ec.europa.eu/energy_transport/ccc_1.htm

CO2Sense CCS Network

Welcome to CO2Sense Yorkshire's Carbon Capture and Storage Supply Chain Network - Carbon Captur - Internet Explorer provided by

http://www.co2sense.org.uk/Networks/ccs/w/wiki/welcome-to-co2sense-yorkshire-s-carbon-capture-and-storage-supply-chain-network.aspx

Carbon Capture & Storage Supply Chain

A private network for small and medium-sized enterprises in Yorkshire and Humber in the Carbon Capture & Storage supply chain. Click here to request membership.

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CARBON CAPTURE & STORAGE SUPPLY CHAIN - RESOURCES

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WELCOME TO THE CARBON CAPTURE AND STORAGE SUPPLY CHAIN NETWORK

As a new member you now have the opportunity to initiate or respond to discussions on Carbon Capture and Storage (CCS) technology, keep up to date with the progress of our programme through reading our blogs, and use our Resources to learn more about the technology and how this will be implemented in the region. You can view resources added by other members in the Documents section, or upload your own, you can also use the site to view a list of other members and get in touch with them directly.

Through becoming involved in the network and keeping up to date with the progress of CCS deployment in the region you could gain valuable information, and access to key sector contacts enabling your organisation to enter the supply chain taking advantage of the regional, national and world wide opportunities it brings.

For more information on how to use the Network and get the most out of the tools available to you, [visit the Welcome network.](#)

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Next 6-12 months

- Enable at least two demonstration funding bids through NER300 and UK demo programme
- Explore options for Reserve Capacity Fund
- Steering group member with storage licence
- Awareness raising
 - Regionally, Nationally, Internationally
- Stakeholder engagement pilot
- Influencing
 - UK demonstration programme
 - EU SET Plan and structural funds post 2013

Thank You

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