East Coast Hydrogen

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A plan to connect hydrogen production and storage with industrial users in our region

Data and Information Challenges

East Coast Hydrogen

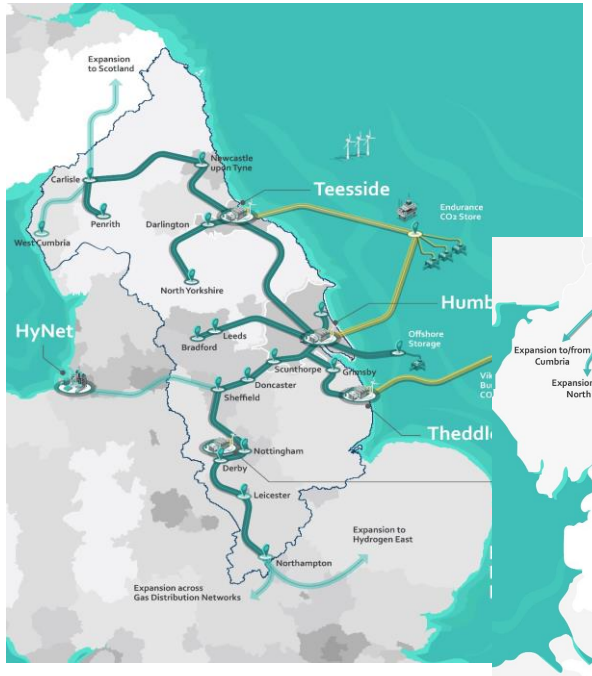
Northern Gas Networks

Cadent
Your Gas Network

national gas

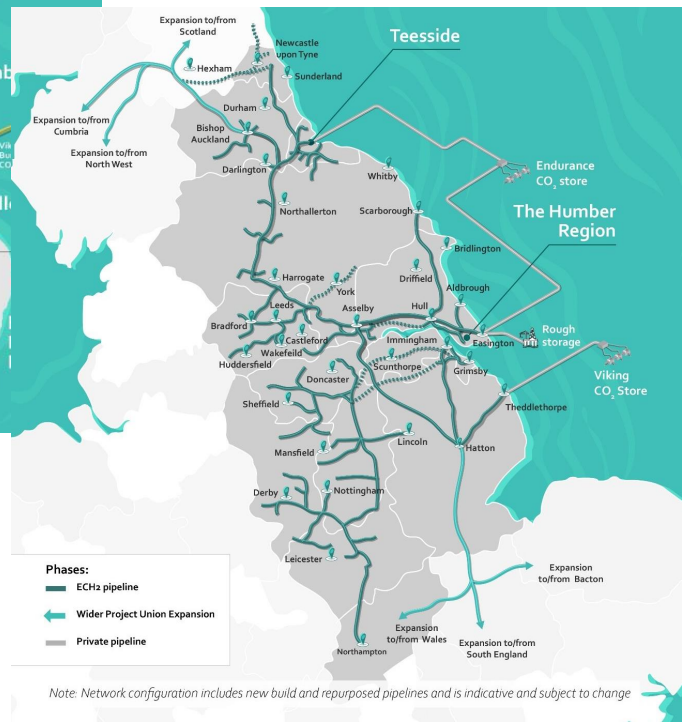
Project Phases

East Coast Hydrogen is a long-term project that will be carried out in multiple, discrete phases to decarbonise industrial processes in the East Coast region.



Feasibility Study

Pre-Feed Study



Phase 1 - Feasibility Study (2021)

Definition of the strategic business case for East Coast Hydrogen

Phase 2 (2022 – 2026)

Delivery Plan , Completion of Pre-FEED, FEED Study and hydrogen production development

Phase 3 (2024 – 2030)

Hydrogen transmission system development and initial hydrogen distribution system

Phase 4 (2028 – 2037)

Wider expansion of transmission and distribution networks

Delivery Plan

Connect hydrogen supply with hydrogen demand across multiple customers commencing with industrials fuel switching to hydrogen

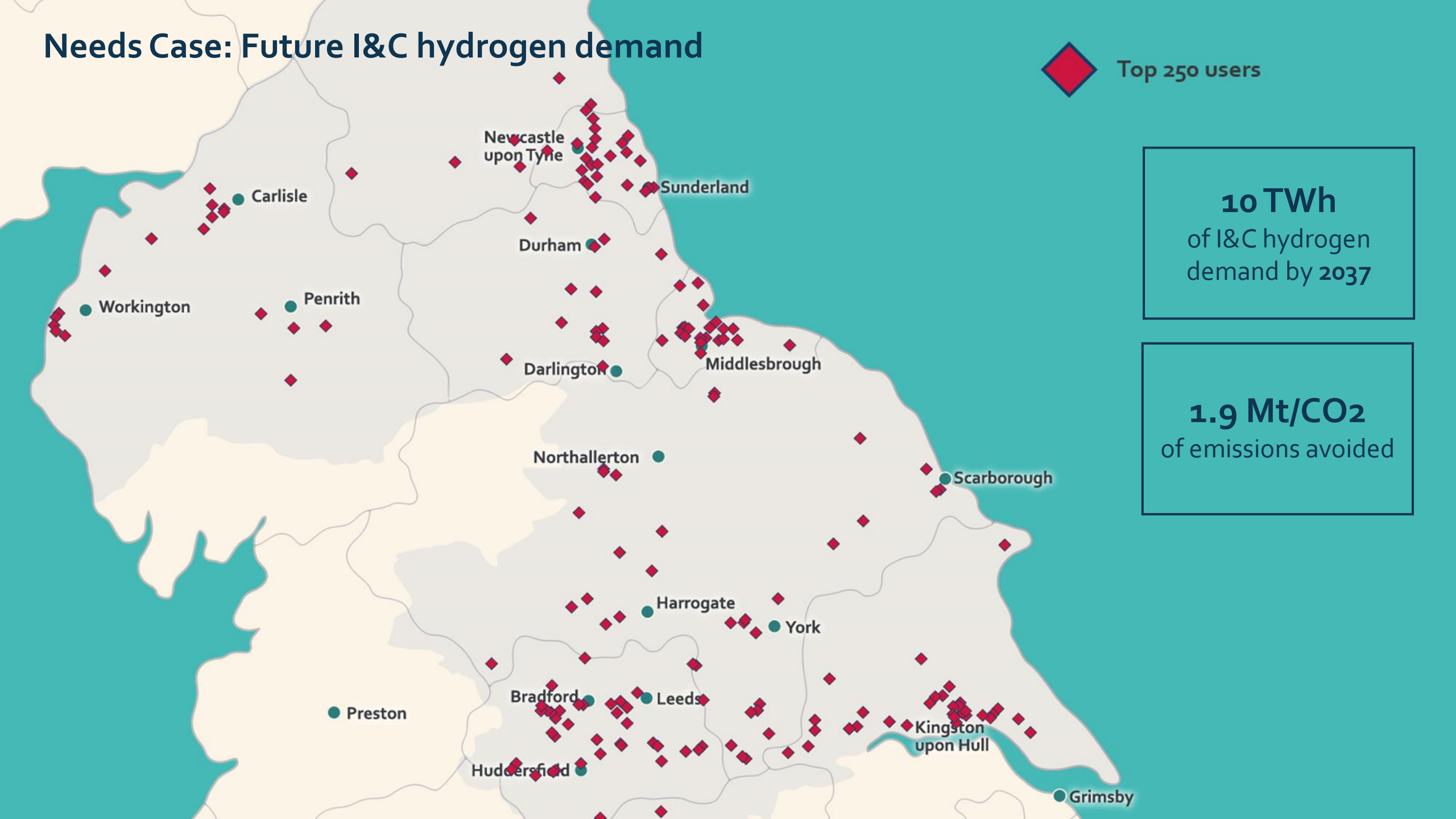
Transport hydrogen through repurposed and new build pipelines to industrial users first, with further potential to supply domestic users through town pilot

Build resilience with the interconnectivity of the Humber and Teesside industrial clusters and storage facilities across the East Coast Hydrogen region

Support efficient market growth by balancing supply and demand and enabling connections across the East Coast Hydrogen region

Note: Network configuration includes new build and repurposed pipelines and is indicative and subject to change

Needs Case: Future I&C hydrogen demand



10 TWh
of I&C hydrogen demand by **2037**

1.9 Mt/CO2
of emissions avoided

East Coast Hydrogen Consortium members who have provided Letters of Support and/or provided H2 forecasts

East Coast Hydrogen

Upstream
Hydrogen Production

bp
sse Thermal
equinor
uniper
kellas MIDSTREAM
STATERA BALANCING THE GRID

Cross Value Chain
Hydrogen value chain participants

BOC A Member of The Linde Group
ITM POWER Energy Storage | Clean Fuel
ecOnergy Powering renewables.
CPH2 CLEAN POWER HYDROGEN
EAST CO2AST CLUSTER
CHINOOK HYDROGEN
DelpHYnus
EQUANS EMPOWERING TRANSITIONS
ECO ENERGY WORLD
PHILLIPS 66
VPI
HiiROC
SIEMENS energy
N-Gen UK

Off-takers
Sector-specific utilisation

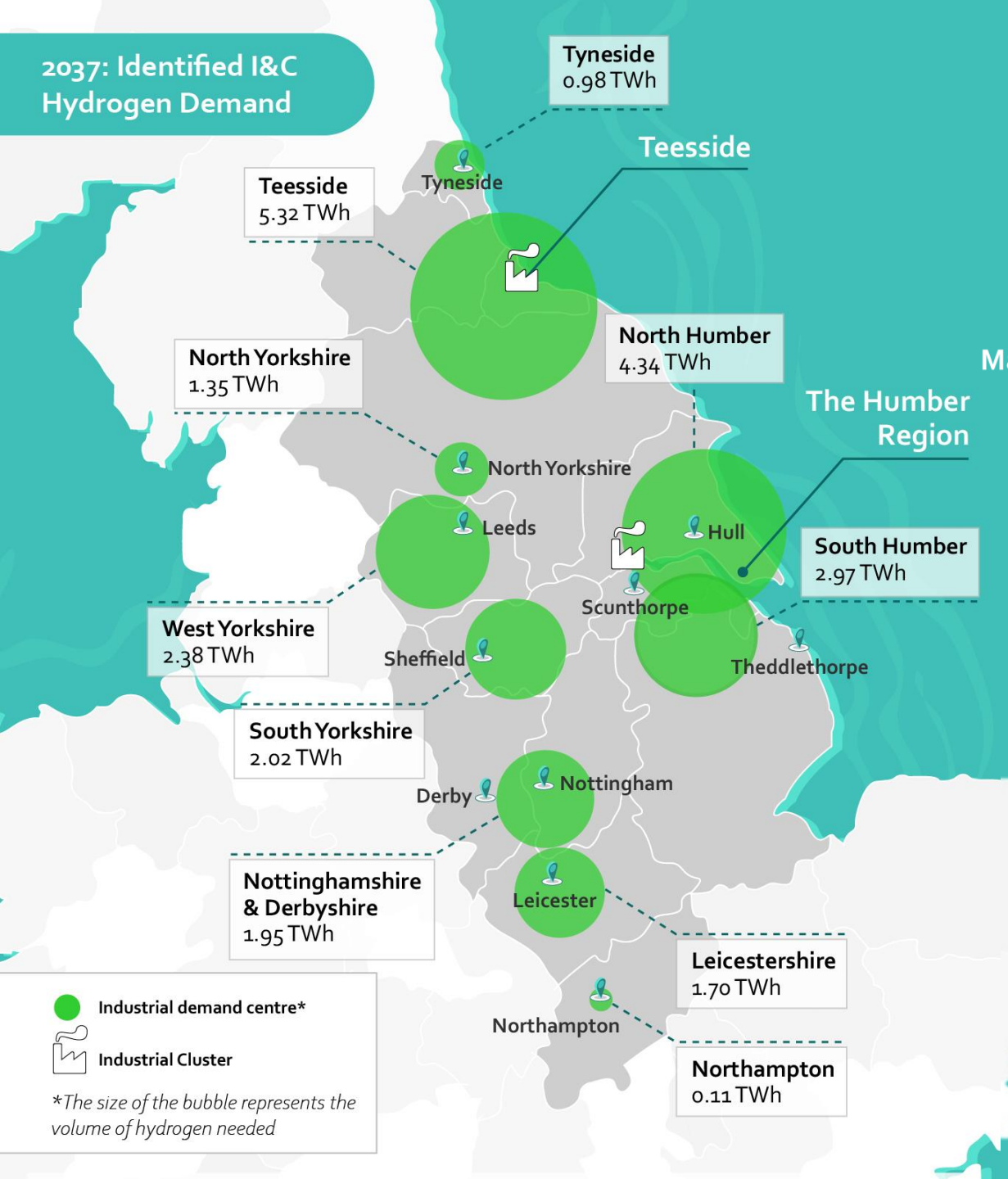
NHS England
West Burton Energy
Smith+Nephew
Wienerberger
absl
Liberty
zentia
ipn Inspired Pet Nutrition
Calbee
syngenta
VELOCYS
Triton Power
Nufarm
Rolls-Royce
Knauf
Mercia Power Response
Forterra
l'Anson Quality Feeds
Aggregate Industries
Greencore
Solenis Strong bonds. Trusted solutions.
sembcorp
Boots
Naylor
University of Nottingham UK | CHINA | MALAYSIA
2 sisters Food Group
Nestlé
Premier Foods
H+H Partners in Wall Building
University of Sheffield
Guardian Glass See what's possible
Molson Coors beverage company
Lenzing Innovative by nature
Sofidel
Vaillant
RSF
Toyota
inVivo
Groupe Soufflet
British Sugar
Beatson Clark Delivering the difference
Singleton Birch
Alstom mobility by nature
Enertek International
Hanson HeidelbergCement Group
PepsiCo
Nestlé
Cranswick plc Great British Taste
Loughborough University
Saint-Gobain
Samworth Brothers Quality Foods
Ardagh Glass Packaging

Midstream
Transportation and storage

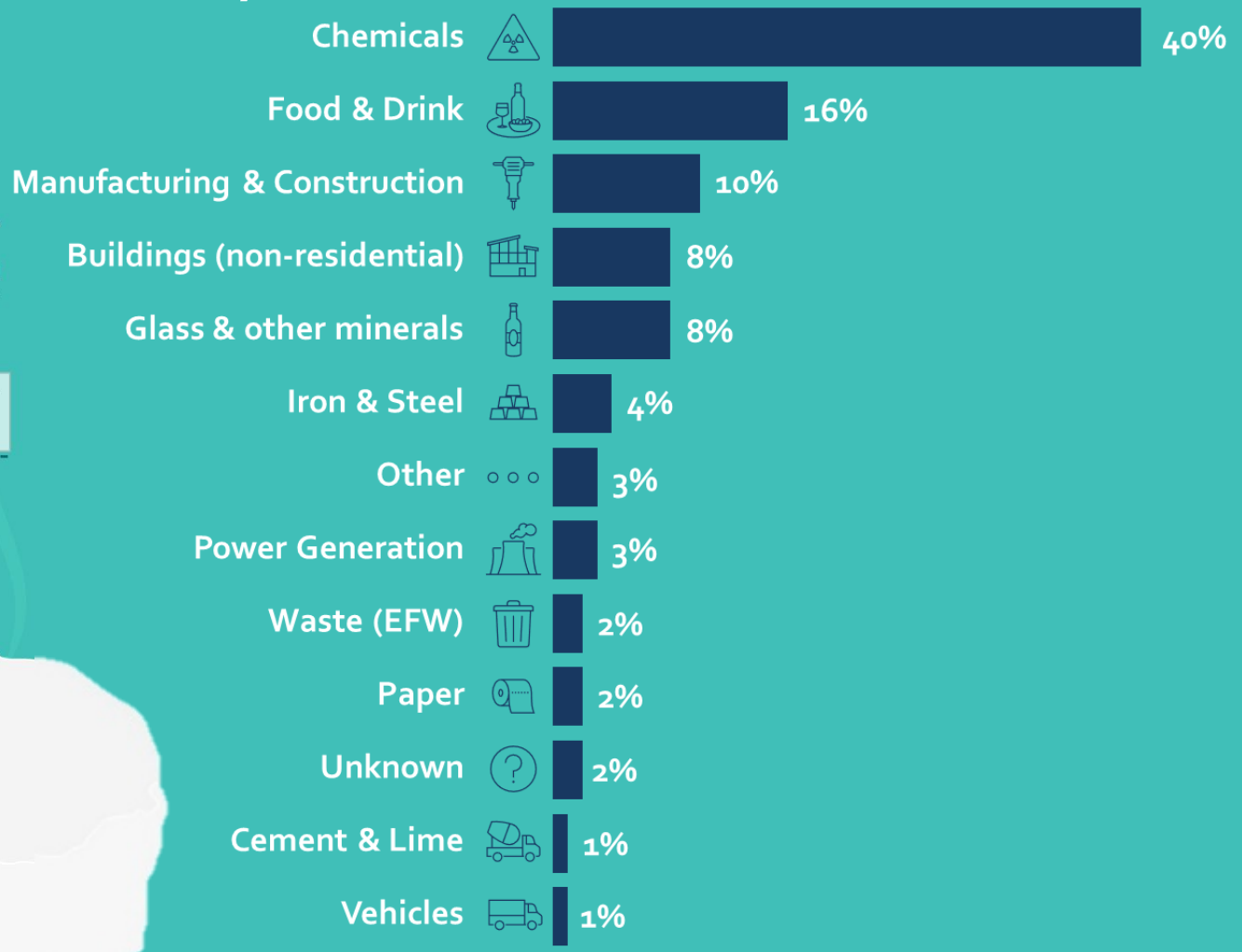
centrica energy storage+
Navigator

Local stakeholders
Regional and local partners

Midlands Engine
Tees Valley Combined Authority
Greater Lincolnshire Local Enterprise Partnership
North East Local Enterprise Partnership
D2N2 Derby Derbyshire Nottingham Nottinghamshire
East Midlands Development Company
West Yorkshire Combined Authority
Gateshead Council
CATCH

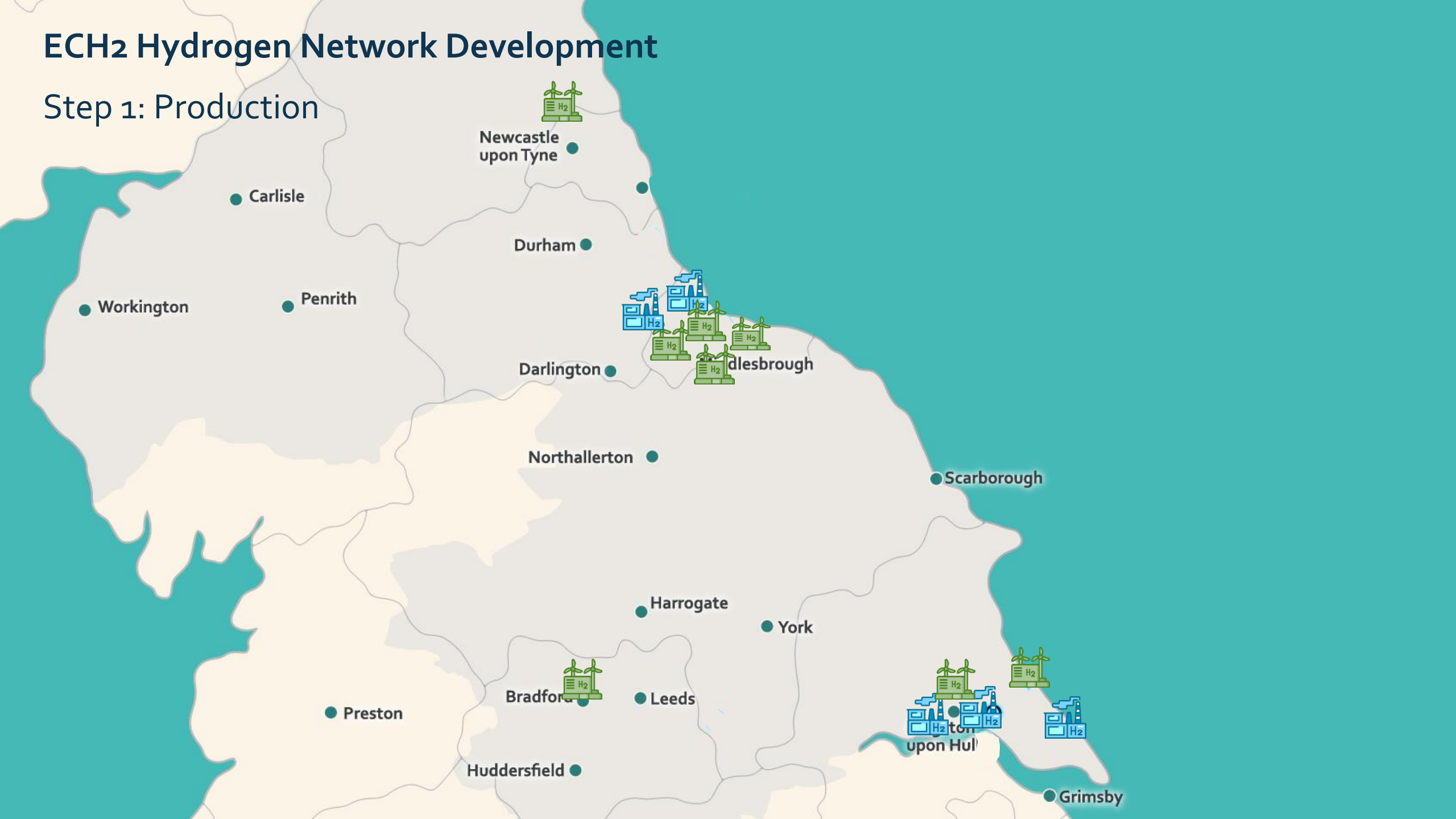


I&C demand of methane by industry

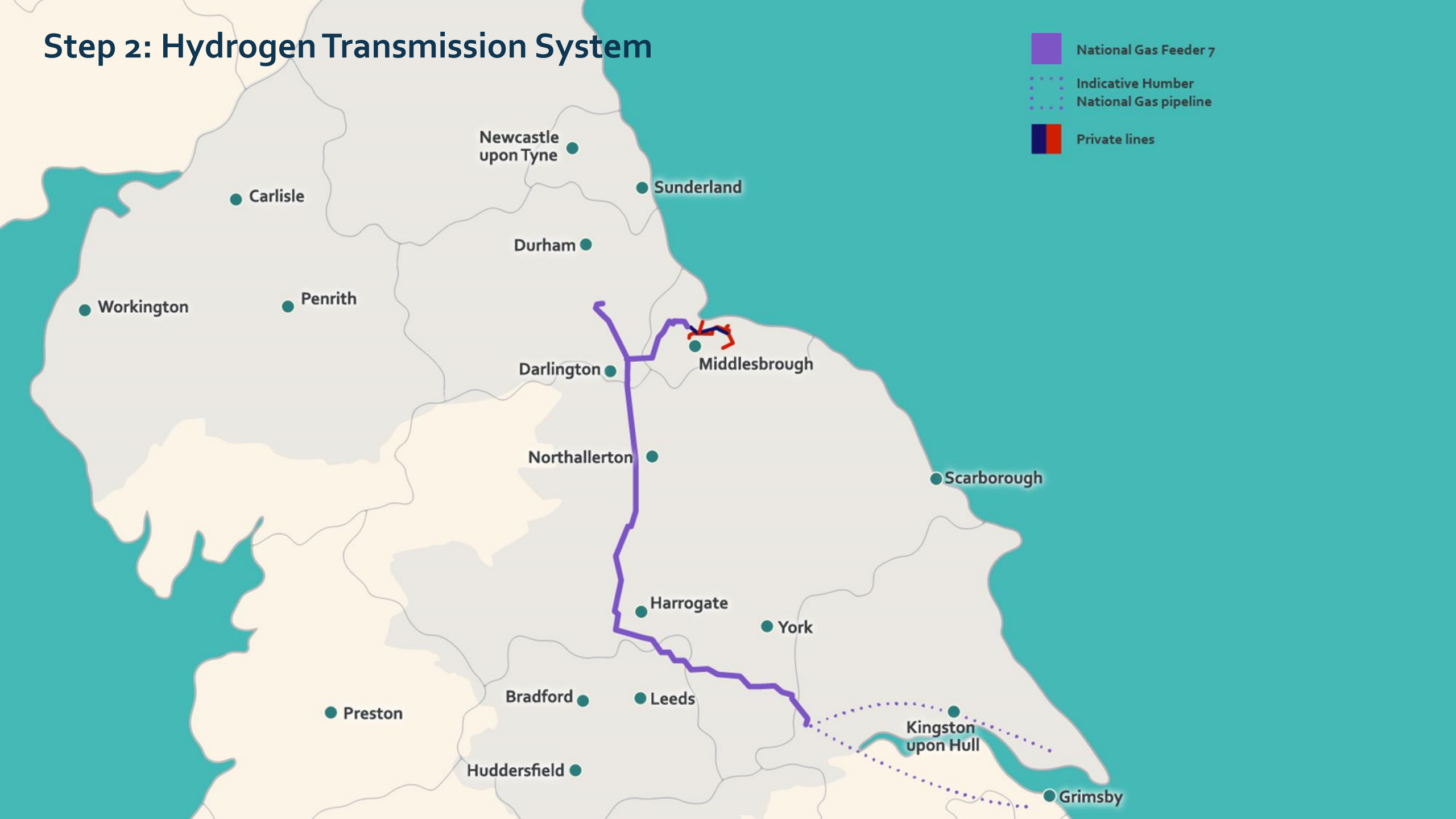


ECH2 Hydrogen Network Development

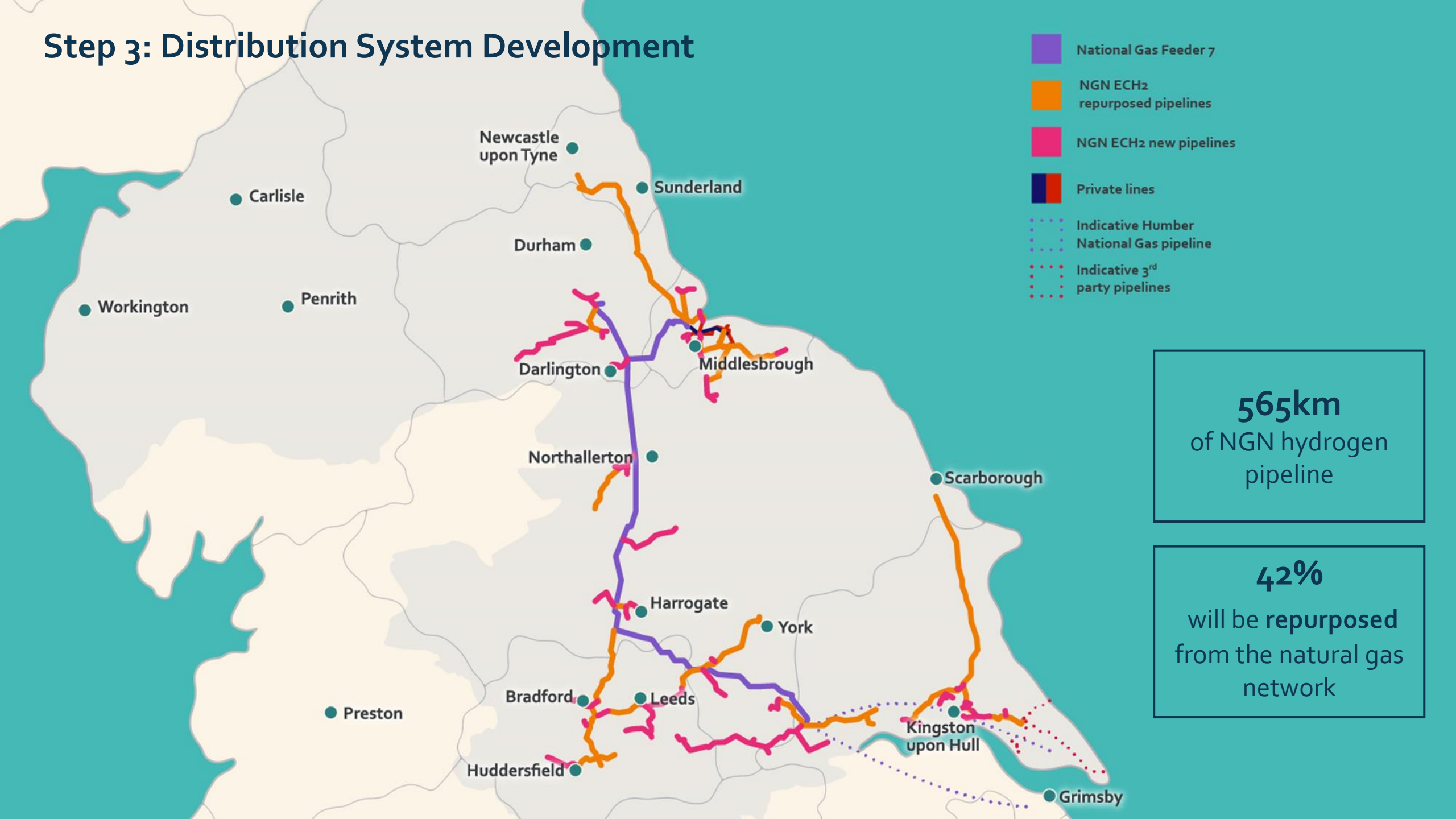
Step 1: Production



Step 2: Hydrogen Transmission System



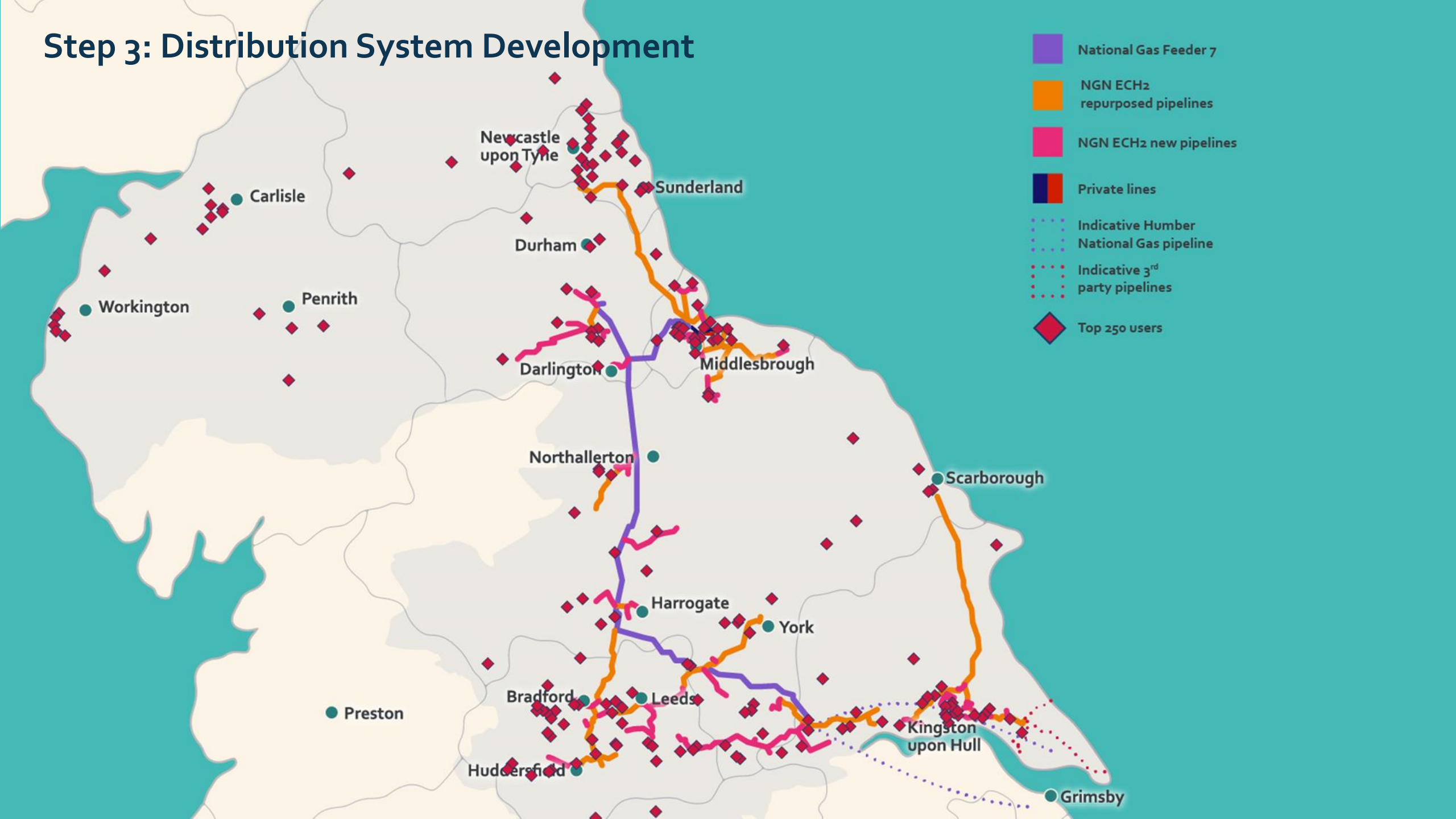
Step 3: Distribution System Development



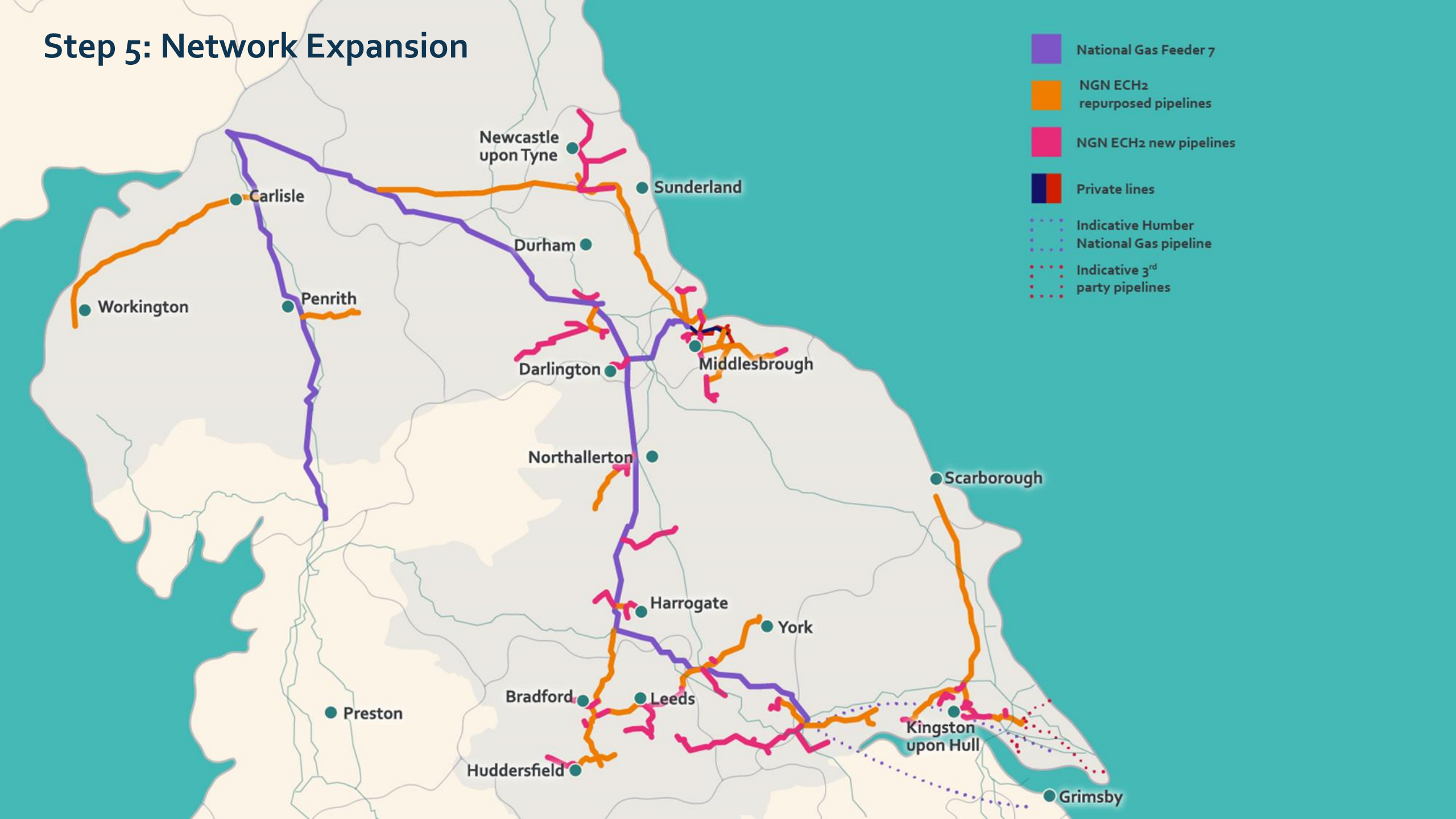
565km
of NGN hydrogen pipeline

42%
will be **repurposed** from the natural gas network

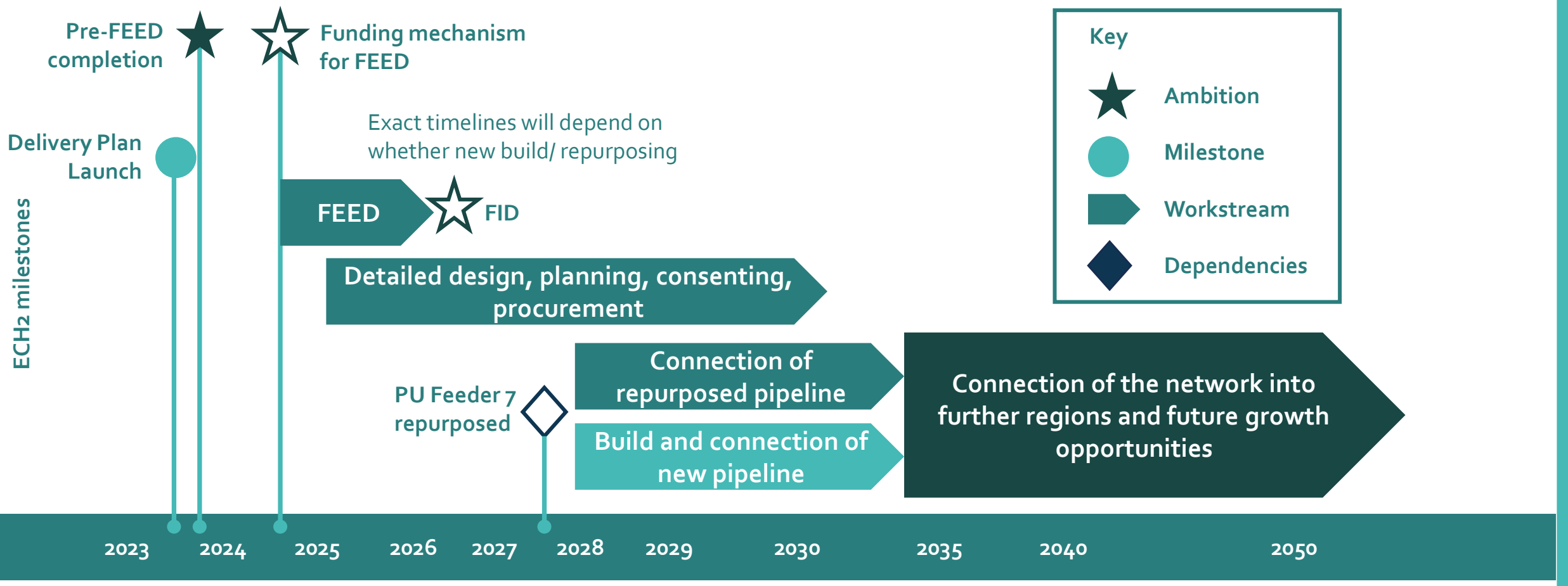
Step 3: Distribution System Development



Step 5: Network Expansion



The next step for all networks is FEED; the target date for re-purposed transmission lines is 2028 with first new build phases live around 2030



Information and Data - Challenges

Who we are connected to.
Who are our customers and what they use energy for

Plans for decarbonisation – Industry and Domestic
Understanding the future demand for Hydrogen and methane and the future utilisation of the network

The condition of our existing network
Can we repurpose our network

Policy, legislation and regulation for Hydrogen Networks

Digitalisation and management of data will be a key factor for the development of Hydrogen Networks and achieving Net Zero