



HYNET – THE FOUNDATION FOR OUR FUTURE HYDROGEN ECONOMY

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#h2nw



DELIVERING THE
HYDROGEN
ECONOMY

North West



HyNet: the foundation for our future hydrogen economy

Ed Syson

Delivering the Hydrogen Economy

05 June 2019

Cadent

Your Gas Network

Agenda

- **Reviewing the vision**
- **Expanding the vision**
- **Progress to date**
- **Getting over the line**

About us

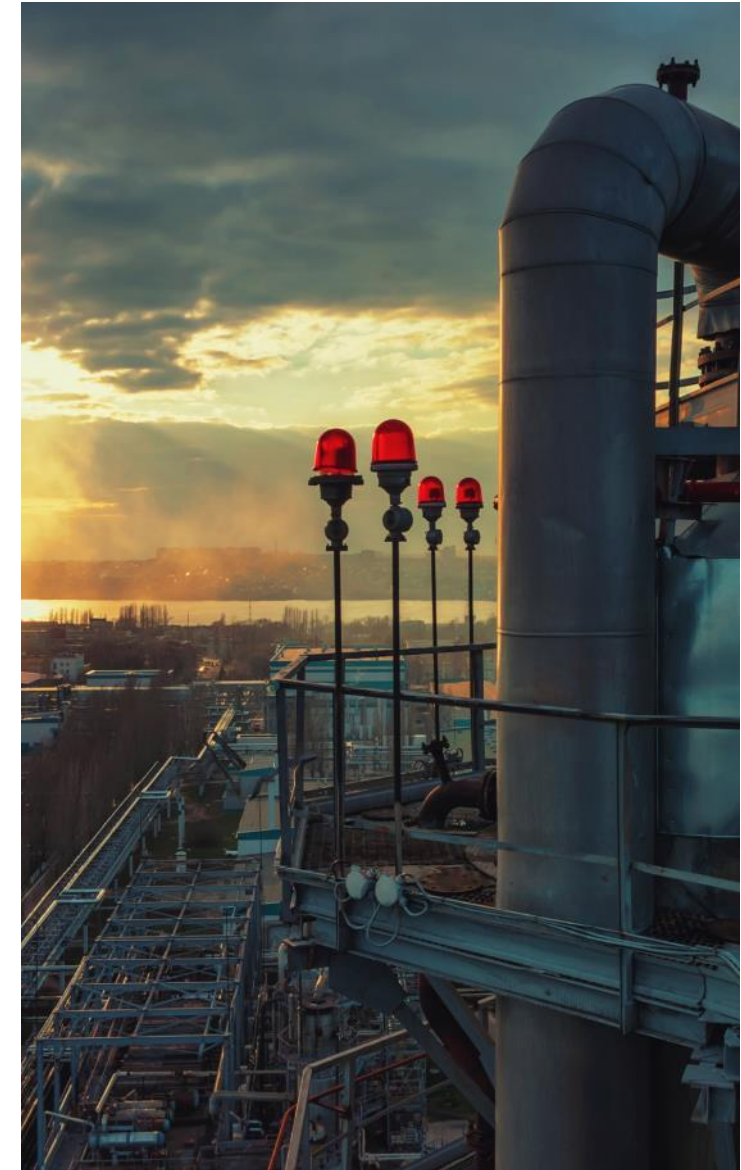
Cadent's role in the UK

- Cadent owns and operates four regional gas distribution networks (GDNs):
 - East of England (including East Anglia, East Midlands and parts of South Yorkshire)
 - North London North West West Midlands
- We are responsible for more than 80,000 miles of pipeline worth £8.7bn
- We operate, maintain and repair gas distribution infrastructure
- Projects include HyNet, HyMotion, HyDeploy, HG2V, FBM



HyNet: reviewing the vision

- A radical concept for an integrated hydrogen approach
- Heat for homes
- Power for industry
- Hydrogen production in the region
- Carbon Capture and Storage
- Repurposing decommissioned infrastructure
- Job creation
- Carbon reduction
- North West the ideal location

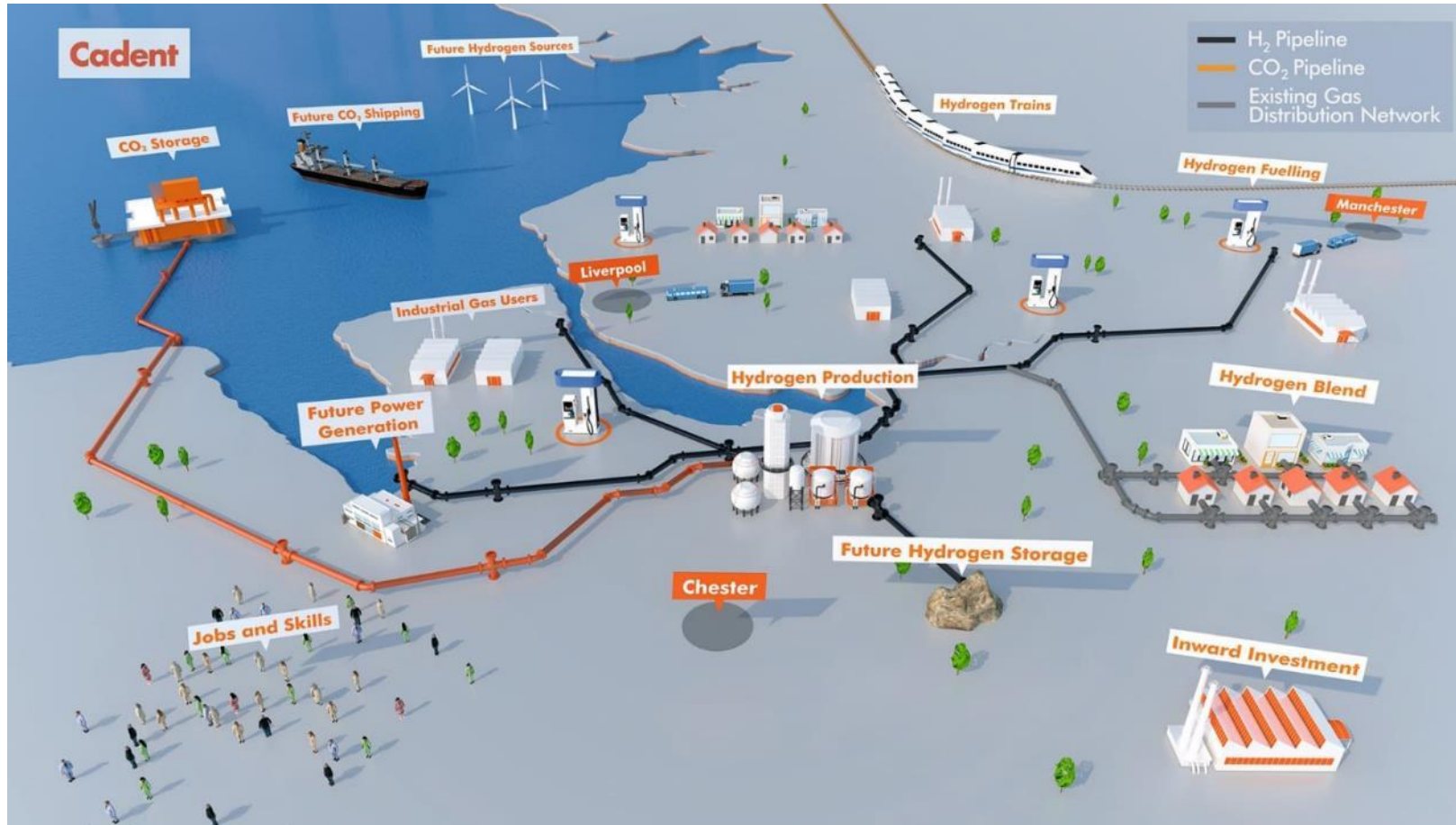


HyNet: expanding the vision

- Networked hydrogen enables decarbonisation of other sectors
- Requiring less investment than other alternatives
- Networked hydrogen for Fuel Cell Electric Vehicles: longer range, faster refuelling
- Trains, buses, HGVs, cars etc
- Move from tube trailers to cost effective pipelines
- With the prospect of Brexit, more possibilities:
 - Job creation and maintenance
 - Retention of industrial employers
 - Creation of a home-grown industry
- The North West and UK – world leaders in hydrogen



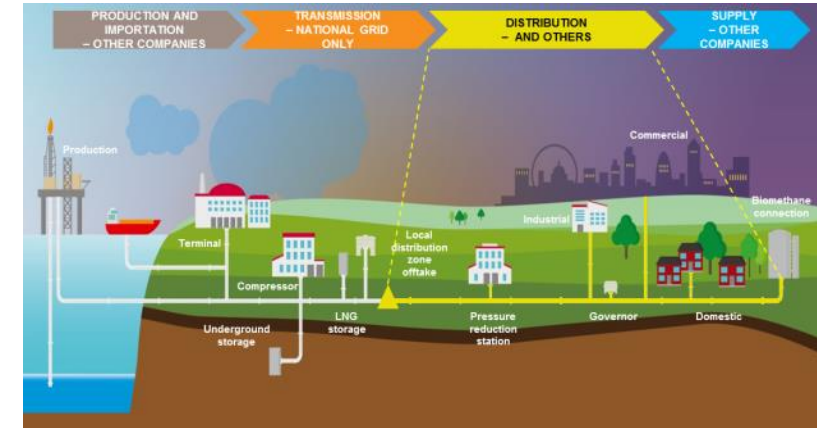
Multiple benefits through integration



Variable	Value
Hydrogen produced per year	7.0 TWh (180m kg)
Industrial users	10
Carbon captured per year	1.5m tonnes
New hydrogen pipeline	109km
Blending level	15-20%
Blend customers	c.2m

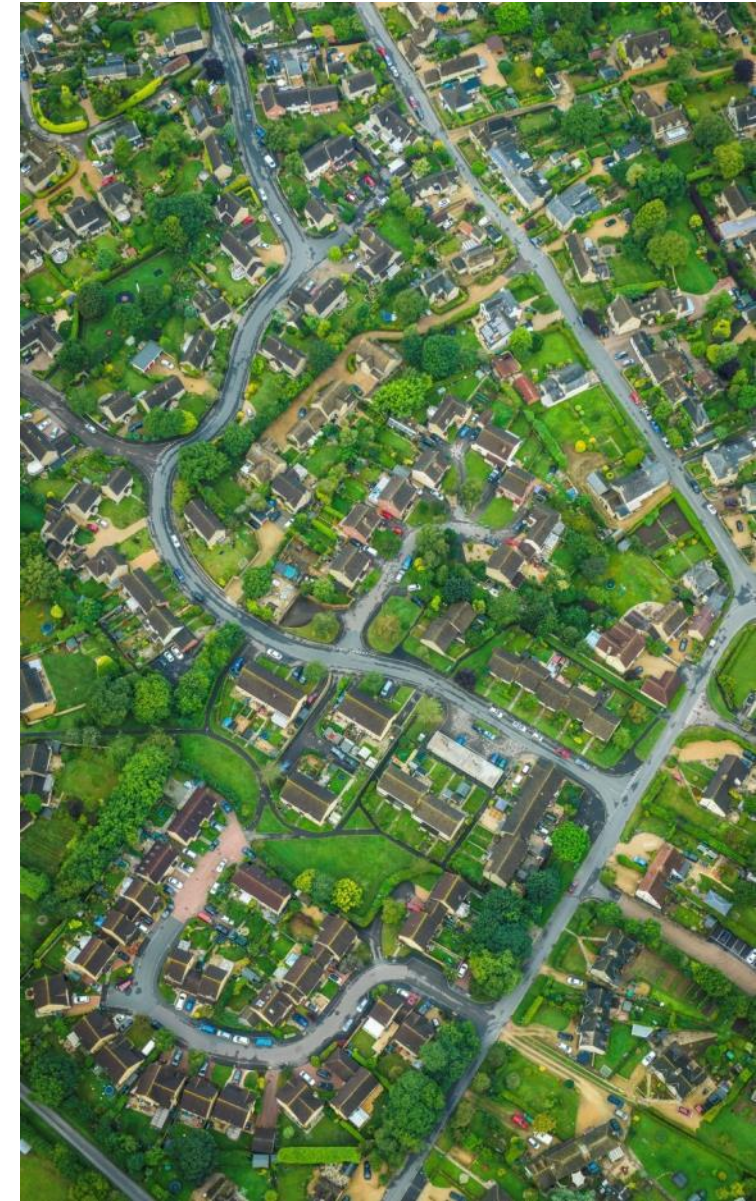
HyNet: progress to date

- Well documented delays to policy at central government level
- CCC: pressure to shorten timeline to zero emissions
- Hydrogen in homes: starts this September at Keele
- Power for industry: included in regional energy proposals
- Hydrogen production/Carbon Capture: good news coming
- Job creation potentially even more than 5,000 with transport
- Hydrogen increasingly supported as part of the mix



HyNet: getting over the line

- Time to stop talking and start doing
- Actual demonstrations of how it can work
- Closer working between us all
- Educate the general public and stakeholders on the realities behind electrification and hydrogen
- Remember that our billion pound asset – the gas network – is ready for the next stage of HyNet, underpinning all future developments.
- You don't have to pay for it, but we'll get further if we work together to convince government and engage customers.



First UK
Carbon Capture, Usage and Storage infrastructure

1 million tonnes+ CO₂ savings
per annum

Up to 100%
for 10 energy intensive industry sites

£31bn
estimated GVA for UK economy

Over 5000 jobs
created in the NW from now to 2025

A UK centre for hydrogen and CCUS skills and knowledge for export in a global low carbon economy

Hydrogen for future transport
(buses, HGVs, trains)

130 million tonnes
capacity at Liverpool Bay oil and gas fields

Simple CO₂ savings
for 2 million+ homes and businesses

Deliverable by 2026

Thank you

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Your Gas Network