HYNET – THE FOUNDATION FOR OUR FUTURE HYDROGEN ECONOMY

ED SYSON
CHIEF SAFETY AND STRATEGY OFFICER CADENT

#h2nw
HyNet: the foundation for our future hydrogen economy

Ed Syson
Delivering the Hydrogen Economy
05 June 2019
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

<table>
<thead>
<tr>
<th>Variable</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrogen produced per year</td>
<td>7.0 TWh (180m kg)</td>
</tr>
<tr>
<td>Industrial users</td>
<td>10</td>
</tr>
<tr>
<td>Carbon captured per year</td>
<td>1.5m tonnes</td>
</tr>
<tr>
<td>New hydrogen pipeline</td>
<td>109km</td>
</tr>
<tr>
<td>Blending level</td>
<td>15-20%</td>
</tr>
<tr>
<td>Blend customers</td>
<td>c.2m</td>
</tr>
</tbody>
</table>
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.
Thank you

Ed Syson
E  ed.syson@cadentgas.com