A network for green gasses

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We have a vision for a green gas grid

A resilient energy system with green gas at its centre

- Our **reliable, resilient gas network** is at the heart of the energy system today, heating most British homes, supplying industry and keeping the lights on
- The way we generate and use energy is changing. We are **working to achieve net zero targets and deliver reliable, greener energy for heat, power and transport**
- We aim for our network to be **net zero ready** by 2040
- We are working with **industrial clusters** on hydrogen rollout plans

22 biomethane production plants connected now

Capacity to meet demand from **160,000+** homes

Connecting and managing a greener gas system

- We are working now to **connect more biomethane production** to our network and **increase capacity** for existing and new connections
- We are working collaboratively to **implement hydrogen blending** on GB networks
- We have considered **interactions between biomethane and hydrogen**, identifying that we need to
  - Consider how we manage **dedicated biomethane or hydrogen networks**
  - Understand the role of **technologies which help manage green gasses**

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Capacity for biomethane and hydrogen

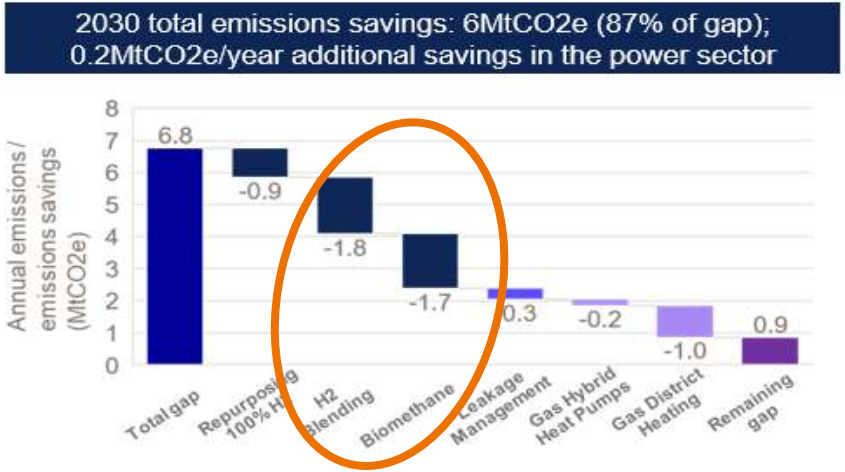
Smart Pressure Control

- Increases green gas entry capacity through automated control of network pressure
- Successfully demonstrated through innovation project including field trial in 2022
- **Control systems being installed on 9 sites across a geographic area of c. 100 miles**
- Additional capacity could displace natural gas required to heat almost 50,000 homes and save over 100,000tCO2eq annually

Other activity

- Supporting third party investment in Reverse Compression for biomethane entry site in Devon
- Developing industry implementation plan for hydrogen blending
- Seeking new options to expand distributed capacity

Analysis of impact on carbon budgets for buildings & industry



Accelerating Progress Towards 2030s Carbon Budgets | The Institution of Gas Engineers and Managers (IGEM)

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A strategy for hydrogen development

Supporting industrial clusters and developing wider rollout plans

- We are formally engaged with:
  - **South Wales Industrial Cluster** plan launched April 2023
  - **North East Wales Industrial Cluster** plan launched February 2025
  - **West of England Industrial Decarbonisation** plan launched March 2025
- WWU-led **Decentralised Alliance for Southwest Hydrogen** informing plans for dispersed developments
- In parallel we are assessing representative areas of the network for repurposing


Haverfordwest
Carmarthen
St. Brides Bay
Milford Haven
H2
Pembroke
Tenby
Carmarthen Bay
Neath
Port Talbot
Swansea
Swansea Bay
KEY
HyLine Cymru
EXISTING INFRASRUCTURE
National Transmission System (NTS) Feeder 2
National Transmission System (NTS) Feeder 28
Local Transmission System (LTS)
Liquifued Natural Gas (LNG) import terminal
National Transmission System (NTS) offtake
Industrial gas users
Offshore hydrogen production
H2
Onshore hydrogen production
HyLine Cymru

We can develop new production sources

Increasing potential for green methane in the UK

- Our collaboration with Wild Hydrogen on the **Rising Pressure Reformer** in Gloucestershire explores use of synthetic gas from waste and other materials, blending a methane / hydrogen mix into the gas grid
- In Wiltshire we are engaged with the proposed connection of a **synthetic methane plant** producing gas from solar power and captured CO_2

Reducing the cost of hydrogen

- Working under the Ofgem/UKRI Strategic Innovation Fund, we are developing two demonstration sites using Hydrostar's **NextGen Electrolysis** technology to make hydrogen directly from industrial wastewater in Somerset and sewage treatment effluent in Cardiff

Yeo Valley Organic

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HYDRO

Dŵr Cymru Welsh Water

nationalgrid

Thank you

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