Gas (Wales & West Utilities)

Infrastructure Delivery Plan Topic Paper

1.0 Introduction

1.1 In the UK, Wales & West Utilities (WWU) own and maintain more than 35,000 kilometres of gas pipes. We supply gas to around 2.5 million households and businesses, serving a population of 7.5 million people. Our network covers an area that stretches from North Wales to Cornwall. As a regulated gas distribution network operator, we don't sell gas; instead, we operate the network of pipes that transport gas to homes and businesses. It's our responsibility to maintain those pipes and other assets and to respond to gas emergencies. Within South Gloucestershire WWU owns and maintains over 1000km of gas pipes serving approximate 285,000 people.

1.2 For the UK to reach net zero carbon emissions, we need to change virtually everything about the way we generate and use energy across our society. Today, most energy used in the UK is from fossil sources.

1.3 Delivering net zero means a combination of one or more of the following:

- Energy will need to come from alternative cleaner sources such as wind, solar, biomethane, green and low-carbon hydrogen;
- Carbon emissions will need to be mitigated;
- Customers will need to change the technologies they use.

1.4 Ultimately, the transition is likely to include all three of these elements. Due to the scale of the role gas currently plays in our system, the need to meet seasonal demands and the need to minimise disruption and cost, means gas distribution networks will continue to play an important role through the transition and likely for the long term. The energy transition can be accelerated by maintaining a reliable and efficient network, continuing to invest in emission-reducing activities and ensuring the network is ready to carry low-carbon gases such as hydrogen and support a fully renewable energy system.

2.0 Current Investment Programme

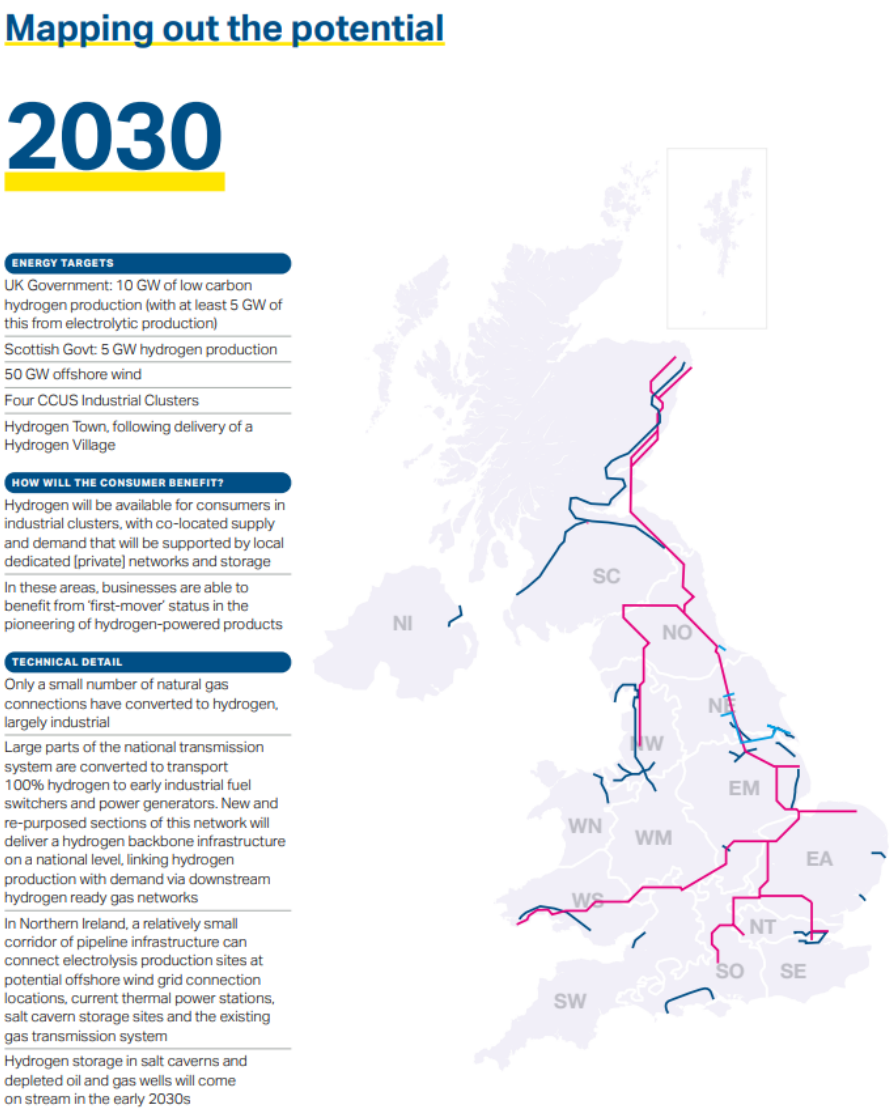
2.1 As such, WWU will continue to invest in the maintenance and upgrade of the network in line with regulation set out by OFGEM. The gas distribution networks work across price control periods set out by the regulator. At present WWU is working under a price control running until 2026, known as GD2 – information on

this can be found here Network price controls 2021-2028 (RIIO-2) - Gas distribution price control 2021-2026 (RIIO-GD2) | Ofgem.

2.2 The gas distribution network in South Gloucestershire is already approximately 85% replaced with a new (hydrogen ready) Polyethylene (PE) network which is part of the ongoing Iron Mains replacement programme that needs to be completed by all gas distribution networks in accordance with HSE requirements by 2032. Information on this programme can be found here – Iron mains risk reduction (hse.gov.uk)

3.0 National Vison

3.1 The existing gas network across the UK is fed by a national transmission system which is then split out into Distribution zones amongst 4 gas distribution networks (GDN's). The vision for the conversion of the national transmission system has been detailed in a recent publication by the energy networks association (ENA) which details a hydrogen scenario for conversion by 2050, whilst also recognising the potential for rollout at various points and how that would support the governments UK wide ambitions. An example illustration of the 2030 vision can be seen below.



3.2 Alongside development and planning for any scenario there will also need to be consideration, discussion and collaboration between local authorities, local enterprise partnerships and energy networks within areas, including South Gloucestershire to consider potential for large scale local renewable energy generation and distribution utilising the existing infrastructure as much as possible to support this.

4.0 Moving Forward

4.1 WWU is looking to engage with local authorities to understand their plans for growth and development and the potential impact on demand for the energy networks in the future. With this knowledge this will allow WWU to work closely with other utility companies to ensure the right levels of investment and business planning are undertaken in future price control periods to support the ambitions and plans for local areas.

4.2 WWU owns a whole system energy modelling tool (known as Pathfinder) which is available to use by local authorities and third parties to explore scenarios and opportunities to transition the energy system within their area to net zero. We can share this with Councils to assist in development of scenarios towards net zero.

4.3 Utilising scenario modelling, coupled with authority plans and ambitions around growth and renewables, specific areas can then potentially be identified for further development of locally generated renewables. Existing and planned energy networks can then be checked to ensure the infrastructure can support new development or make the necessary commitments to support these developments longer term as part of the whole energy system and transition to net zero.

4.4 Utilising our existing resources WWU can support scenario modelling within South Gloucestershire. To complete this a small working group would need to be established in collaboration with the authority to obtain baseline data applicable to the area and to understand the ambitions of the authority.

4.5 Alongside this WWU has innovation funding set out as part of each price control period (GD2). This funding allows for the research and implementation of innovative ideas that could support the trial of new technologies and solutions to support a transition to net zero, including development of hydrogen technologies within the local area. Across our network over the past 12 months, we have invested a total of £2.2m to support the governments net zero ambitions on specific projects across our area.

4.6 We continue to work collaboratively with other energy networks developing knowledge and understanding of emerging technologies, including supporting local authorities and third parties with support on bids for innovation funding through UKRI (Innovate UK – UKRI).

4.7 A full suite of all energy innovation projects that are in progress, complete or under development are readily available to view and the outputs can be used to support developments of further projects relevant to local authorities, or be utilised to begin building a pathway to further infrastructure development required within the authority. These are available to view here - ENA Innovation Portal (energynetworks.org).

4.8 In so far as development on or near existing gas pipelines there are strict guidelines that must be adhered to. Depending on the type of development and the size and age of the gas main different legal wayleaves and excavation offsets may apply. In the case of high-pressure gas mains, Health & Safety Executive (HSE) consultation zones must also be considered. WWU should therefore be contacted prior to any engineering operations near a gas main to ensure the appropriate buffers and methods are accorded with. For enquiries when sites are proposed to be developed the contact is dig@wwutilities.co.uk.

References

WWU Sustainability strategy - sustainability-strategy-2023.pdf (wwutilities.co.uk)

WWU Regional decarbonisation pathways - regional-decarbonisation-pathways.pdf (wwutilities.co.uk)

WWU Annual innovation report - network-innovation-allowance-annual-summary-2022-23.pdf (wwutilities.co.uk)

2050 Energy Pathfinder - 2050 Future Energy Pathfinder | Wales & West Utilities (wwutilities.co.uk)

RIIO – GD2 - Network price controls 2021-2028 (RIIO-2) - Gas distribution price control 2021-2026 (RIIO-GD2) | Ofgem

Iron Mains Replacement programme - Iron mains risk reduction (hse.gov.uk)

ENA Hydrogen vision - ENA_HydrogenVision_Reduced.pdf (energynetworks.org)