2022 Long Term Development Statement Summary

Wales & West Utilities Ltd

REPORTS

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Foreword

Sarah Williams
Director of Regulation, Asset Strategy & HS&E

Welcome to our Long Term Development Statement for 2022. This document provides an indication of the usage for our pipeline system and likely developments. It is intended to help companies that are contemplating connecting to our system or entering into transportation arrangements to identify and evaluate opportunities. The recent step change in our ramp up towards Net Zero readiness has presented its own challenges as well as opening exciting opportunities for the gas network.

The statement reflects our 2022 planning process and incorporates a reappraisal of our analysis of the market and of the demands on our network. As such it contains the latest information on volumes, the processes we use to plan the development of the system (including demand and supply forecasts), the impact of greater integration of electricity and gas networks, and system reinforcement projects with associated investment.

The previous twelve months have been challenging. The start of a new tough RIIO-GD2 price control and continued disruption from the global pandemic, and other geopolitical issues, including Brexit and the Russian invasion of Ukraine, have resulted in a backdrop of volatility in the commodity and supply markets around the world.

With this in mind it has never been more crucial to continue designing and developing of our long-term plans, as well as listening and responding to the needs of our customers. With the energy sector remaining in the spotlight, we are dedicated to delivering “Net Zero” by 2050, which means that our network will be able to transport green gases like hydrogen and biomethane and to play our part in decarbonising heat, power, and transport.

Our current focus builds on the changes we are already seeing in the energy sector, with gas and electricity, transmission and distribution fast becoming a series of complex and dynamic interactions. All work undertaken is based on a broadly defined whole systems approach to decarbonisation.

Turning now to look back at our performance this year, some highlights include:

- WWU continues to develop the Pathfinder 2050 model that enables low carbon alternatives to be evaluated at individual property level. This year we have launched an Energy System’s Toolkit which incorporates a ‘lite’ version of Pathfinder along with a decarbonisation knowledge base document. This was developed through the Tools of Engagement project and is being made available to support stakeholders such as Local Authorities and community groups with their Local Area Planning work.
- The development of our Regional Decarbonisation Pathways project, delivered by Energy Systems Catapult and Costain, has developed Net Zero scenarios for our regions and assessed the implications for WWU’s network. It provides a baseline for network and local area energy planning.

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Our focus on putting customers and colleagues first has brought significant success again in 2022, this year our efforts have been recognised across the board with:

- We were the first gas network to be awarded ISO45001, the new International standard for Occupational Health and Safety Management Systems and were re-certified in October 2022. Certification against this onerous standard demonstrates our commitment to the health and safety of colleagues and customers alike.
- We have published our first Annual Environmental Report. The report demonstrates our commitment here at WWU to, doing everything we can to respond to the climate emergency and supporting customers to transition to green energy, and create a more positive impact on the environment.
- We received our ninth “Gold Award” from RoSPA in 2022, once again recognised for our industry-leading health and safety performance and commitment.
- We are working towards being one of the first companies to be accredited against the new ISO22458 Inclusive Service Standard.
- We continue to hold the ISO 14001 accreditation from the International Organisation for Standardization (“ISO”) following a recertification audit of the Environmental Management System which was undertaken in October 2022.
- We received accreditation for Achilles Health & Safety achieving 100% for the eighth successive year.

We are proud of all these achievements as we continually seek to further improve the service we provide to today’s customers and plan to deliver a net zero future for tomorrow’s consumers.

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1. Executive Summary

1.1 Context

This document contains our annual and peak demand and supply forecasts. These forecasts have been developed in conjunction with National Grid – Electricity System Operator (NG-ESO) and through our own modelling and analysis.

We are required to publish this annual statement in accordance with Standard Special Condition D3 of our Gas Transporters Licence and Section 4.1 of the Uniform Network Code (UNC) Transportation Principal Document.

In recent years we have improved our forecasting techniques include new approaches for forecasting flexible gas generation and compressed natural gas (CNG) connections using the latest market information. Our forecasts are now presented in a range of no-growth to growth scenarios owing to some uncertainty in housing and exit connection growth.

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1.2 Demand and supply outlook

As a result of our modelling our peak demand is now forecast to increase in the range of 7 to 9% in the next 10 years.

We have continued to work with our biomethane customers who have sites that they wish to connect to our network. We have 20 biomethane sites delivering green gas into our network and have a further 6 accepted enquiries. In total the 26 sites would provide heat to over 190,000 homes if fed into a traditional heating system, or around a million hybrids. Research suggests that significant feedstock is available to support further growth in this area, and the potential for our region is substantial.

We are already experiencing entry capacity issues in parts of our network and have had issues with a small number of sites being backed out at periods of low demand, usually overnight in the summer. We proactively reconfigure local pressure settings to allow the biomethane site to take priority over our adjacent natural gas sites. However, as the number of connections to our network continues to grow, we are looking at smarter, longer term solutions such as automated pressure control, compression and storage.

Our **OptiNet** project, a collaboration with Cadent, is looking to investigate how using compression and other new technologies in parallel might alleviate such constraints and increase entry capacity. Our smart pressure control solution has been trialled successfully through this project and we are now looking at extending this automated control more widely on the same network. This will allow the connection of 4 more bio sites.

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Through our work with the Energy Networks Association (ENA) on the Gas Goes Green (GGG) initiative, we have collaborated with Northern Gas Networks (NGN) to explore the potential for bringing existing biomethane to grid. Following the completion of this review on the available techniques and methods to facilitate this injection like central hubs and reverse compression, we have identified a number of potential projects in the South Wales area to pursue.

1.3 Net Zero Readiness

The UK is committed to legally binding obligations to eradicate the UK's net contribution to climate change by 2050. We are fully committed to achieving these targets and believe that the gas network can contribute to this. We have a clear vision of the role our network will play to decarbonise heat, power, and transport in our regions, what needs to happen to facilitate this, and how much investment is required in RIIO-GD2. Our network will be able to support the required quantities of green gas, eliminating the need to use fossil fuels, as we develop a **Net Zero-ready gas network**. We will have the flexibility to support flexible generation and transport, which in turn, supports the decarbonisation of the electricity and transport sectors.

It is widely acknowledged that whole system solutions that optimise energy flows across gas and electricity transmission and distribution networks will play a major part in facilitating the delivery of a sustainable energy solution for the UK. Increased integration of gas and electricity networks will result in changes on one network having the potential to impact another.
These impacts have again been accounted for in the forecasting models and research that we have undertaken. A couple of examples are given below and these and other projects are discussed further in Appendix 4.

1.4 Investment implications

Our stakeholders have told us that maintaining a safe, reliable gas supply is a key priority. We adopt innovative techniques to ensure efficient investment in network health through use of monetised risk models and have fed this analysis into our business planning processes.

Going forward we anticipate new requirements for compression, storage, and smart control to accommodate increasing demands for flexible gas usage and injection from our customers.

We anticipate that hydrogen uptake will be accelerated in response to the Government's net zero announcement. The mains replacement programme means that our networks are largely hydrogen ready in our low pressure distribution networks. As a result, minimal additional investment would be required to make them properly hydrogen ready in order to support the transformation across to hydrogen. That said, the volumes of hydrogen required to maintain energy demand will be greater when compared to natural gas and this and the transition approach itself will drive some level of investment in the network.

Data from our Regional FES suggested that blended hydrogen will be injected by 2027 in Wales and by 2030 in the Southwest of England. We also anticipate significant use of pure hydrogen to support industry in South Wales from 2030 which would then offer opportunities for use in other cities along the M4 during RIIO-GD4

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1.5 Innovation

Innovation is part of our DNA. It has helped us deliver benefits that go far beyond financial benefits to encompass safety, customer experience, value, and reliability.

From our engagement we know that investing in innovation and working collaboratively with the wider industry to support national strategic energy challenges is an important priority to our stakeholders.

Our innovation focus areas for the 2020s build on the ENA's Gas Network Innovation Strategy. They are centred on the steps needed to deliver a net zero ready network to support decarbonisation, providing more from our current network to the homes and businesses that rely on us in their daily lives. Our network facilitates secure and resilient energy for heat, power and transport and enabling cleaner, greener energy is central to our ambition.

We are pleased that Ofgem have allowed the Network Innovation Allowance (NIA) expenditure in their final determinations and are keen to continue to work with them to develop the rules of the NIA and Strategic Innovation Fund (SIF) including the use of the benefits measurement framework.

The continuation of the NIA funding mechanism will allow us to collaborate widely to create solutions to meet the challenging targets of Net Zero and address consumer vulnerability. Additionally, in supporting innovation, Ofgem has also developed the Net Zero & Heat Policy re-openers and the new SIF mechanism.

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