

# 2019 Long Term Development Statement Summary

Wales & West Utilities Ltd



REPORTS



## Foreword

Welcome to our Long Term Development Statement for 2019, which 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 statement reflects our 2019 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 and associated investment.



Andrew Hopkins - WWU  
Director of Asset Management,  
Health, Safety & Environment

We are publishing the statement just five weeks before we submit our business plan to Ofgem for the period 2021-26. Our plan will set out our ambitious vision, which is for our network to be net zero ready in our regions by 2035. This is our response to the climate change challenges we face, informed by the needs and wants of our stakeholders and underpinned by extensive research (both our own, and that of others). Our vision will also support the UK Government's commitment to a zero carbon energy system<sup>1</sup>.

Our vision takes account of 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. It is based on a broadly defined whole systems approach to decarbonisation.

Turning now to look back at our performance this year, some highlights of 2018/19 include:

- We have seen the results of our innovative Green City Vision, a project demonstrating whole system thinking using our Pathfinder model. The project was a joint collaboration with UKPN and SSEN and was led by Progressive Energy. By integrating supply-based and demand-based solutions across both networks, the scenarios modelled indicated that continued operation of both the gas and the electricity networks will provide the least disruptive pathway to compliance.
- We have completed our Regional Future Energy Scenario (FES) project, a ground-breaking initiative with our partner Regen to create a set of regional scenarios for gas and heat for the south west of England and in Wales. These growth scenarios, backed by extensive analysis and stakeholder engagement, have been used to help us and other stakeholders understand the future requirements and usage of the gas network.

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<sup>1</sup> The Government amended the Climate Change Act in June 2019 in response to the Committee on Climate Change's report 'Net Zero – The UK's contribution to stopping global warming' (May 2019).

- We have delivered a comprehensive and efficient set of physical site security upgrades at all relevant sites as identified by the Centre for the Protection of National Infrastructure (CPNI).
- We are playing an increasing role in supporting third parties such as community energy projects and local authorities as they look for solutions to their energy needs and, in the case of local authorities, seek to act on their climate emergency declarations.

Our focus on putting customers first has brought significant success. It has also helped us meet our outputs under our regulatory framework, which we are on track to deliver for the full eight years. Our efforts have been recognised across the board with:

- A 'RoSPA Gold' Award for the sixth year in a row, resulting in our achieving 'Gold Medal Status' (which is only awarded after five consecutive Gold Awards). We are currently the only network to hold this achievement.
- The RoSPA Oil & Gas Sector Award for industry-leading health and safety performance.
- Accreditations for performance in Occupational Health and Safety (ISO45001), Asset Management (ISO55001), and the Environment (ISO14001).
- Awards for our Freedom Project including the Network Awards 'Gamechanger Award', and 'Best Collaborative Project' and 'Best Emerging Cross-Vector Technology' in the Energy Innovation Awards.
- We won the IGEM customer service award, alongside our partners Morrison's Utility Services, in recognition of our Customer Service Officers and the proactive approach taken to communicating and safeguarding customers, especially those in vulnerable circumstances.

We are proud of all of these achievements as we continually seek to further improve the service we provide to customers.

Andrew Hopkins  
Director of Asset Management, Health, Safety & Environment

# 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 UK Transmission (UKT) 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 Transportation Principal Document.

Our forecasting methodology has encompassed the results of our Regional FES innovation project, as well as the final results of our collaborative GDN Gas Demand Forecasting project. Improved forecasting techniques include new approaches for forecasting flexible gas generation using electricity market information.

## 1.2 Demand and supply outlook

As a result of our modelling our peak demand is now forecast to increase by 11% 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 already connected 19 biomethane sites delivering green gas into our network and although we have not connected any further sites this year, we do have a further 7 accepted enquiries. In total the 26 sites would provide heat to 175,000 homes if fed into a traditional heating system, or around a million hybrids. Our current projections to achieve net zero are for a further 25-35 sites to connect during GD2.

Research<sup>2</sup> suggests that significant feedstock is available to support further growth in this area, and with a high proportion of the country converting to hydrogen the potential for our region is substantial.

We are already experiencing entry capacity issues in parts of our network and have had issues with 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, with some success. However, as the number of connections to our network continues to grow, we will need to look at longer term, more sizeable solutions such as 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.

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<sup>2</sup> [https://www.smarternetworks.org/project/nia\\_nggd0093](https://www.smarternetworks.org/project/nia_nggd0093)

### 1.3 Industry developments

The UK is committed to legally binding obligations to eradicate the UK's net contribution to climate change by 2050. The UK Government's June 2019 decision provided much greater certainty about the timeframes our sector has to deliver a zero carbon energy system.

We are fully committed to achieving these targets, and believe that the gas network can contribute to this. Our business plan, which we will publish in December, will set out our ambitious plan to decarbonise heat, power and transport in our regions, delivering a net zero ready network by 2035.

We have a clear vision of the role our network will play, what needs to happen to facilitate this, and how much investment is required in GD2. Our network will be able to support the required quantities of green gas, eliminating the need to use fossil fuels. 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 been taken into account in the forecasting models and research that we have undertaken this year.

- For example, through our GDN Gas Demand Forecasting project we are already developing models that forecast the impact of electric vehicle charging on gas generation requirements.
- Our Freedom project, a collaborative project with Western Power Distribution, has shown how use of hybrid gas and electric heating systems in homes can significantly reduce costs and carbon whilst avoiding significant and unnecessary investment on the electricity distribution networks to meet peak heat demand. The full report is now available on our website: [Project Freedom Final Report](#).
- Our Green City Vision has assessed more broadly the interactions between gas and electricity networks and has determined feasible solutions for decarbonisation in a real location. This project has engaged local stakeholders to develop decarbonisation scenarios that will be further developed through use of our Pathfinder 2050 model and the more recent update of Pathfinder 2050, the Pathfinder Plus model. The new model includes a range of new functionality including significant improvements to the way in which economic parameters such as levelised costs can be forecast for the specific scenario being analysed.

#### 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 also 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 investment would be required to make them properly hydrogen ready in order to support the transformation across to hydrogen.

Data from our Regional FES indicates that blended hydrogen will be injected by 2027 in Wales and by 2030 in the south west 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 to Bristol during GD4.

#### 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.

We therefore very much welcome the recent decision by Ofgem to retain the Network Innovation Allowance (NIA). This funding will be used in GD2 to support projects that will deliver customer benefits and provide the lowest cost pathway to heat carbonisation. It will also build on our excellent record of research, demonstration and engagement in GD1

In preparing our business plan, and having discussed our proposals with wide-ranging stakeholders, we have determined our innovation focus areas for the 2020s. These areas build on the ENA's Gas Network Innovation Strategy (March 2018). They are centred on the steps needed to deliver a net zero ready network by 2035, 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.