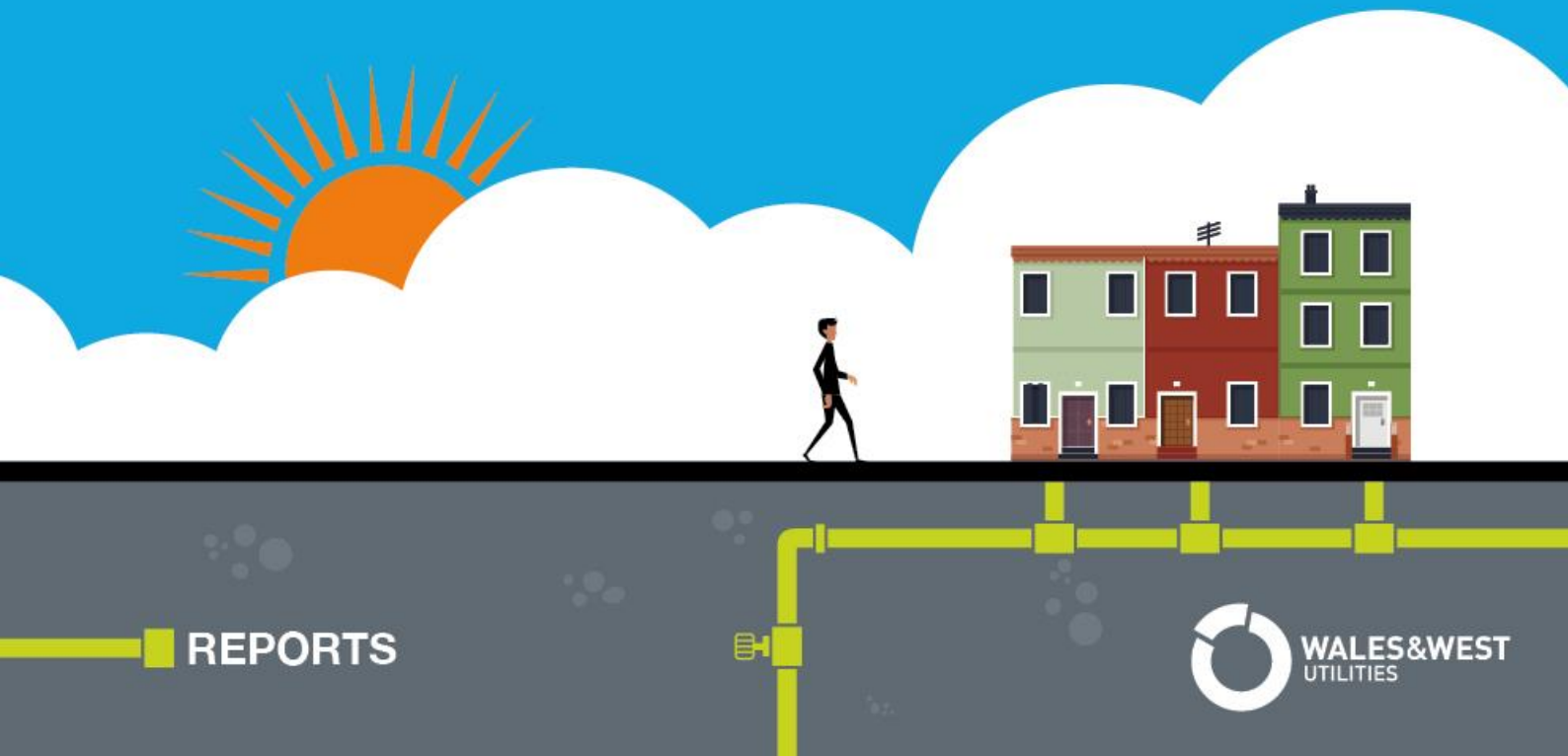
Wales & West Utilities

2017 Long Term Development Statement Summary



REPORTS

WALES&WEST UTILITIES

Foreword

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Director of Asset Management,
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The 2017 Long Term Development Statement is published in accordance with Standard Special Condition D3 of our Gas Transporters Licence and Section O4.1 of the Uniform Network Code (UNC) Transportation Principal Document (TPD).

These require that a Long Term Development Statement is published annually.

The Statement provides an indication of the usage for our pipeline system and likely developments. Companies that are contemplating connecting to our system or entering into transportation arrangements can use the statement to help identify and evaluate opportunities. It has been published at the end of the 2017 planning process following a reappraisal of our analysis of the market and demands on our Network within the South West (SW), Wales North (WN) and Wales South (WS) Local Distribution Zones (LDZs).

The Statement contains information on actual volumes, the process for planning the development of the system, including demand and supply forecasts, system reinforcement projects and associated investment. It also looks forward and considers the impact of heat, power and transport decarbonisation on the WWU system.

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Disclaimer

This Long Term Development Statement is produced for the purpose of and in accordance with Wales & West Utilities' obligations under the Standard Special Condition D3 of the Gas Transporters Licence and Section O 4.1 of the Uniform Network Code in reliance on information provided pursuant to Section O of the Uniform Network Code. Section O 1.3 applies to any estimate, forecast or other information contained in this Statement. Wales & West Utilities' Long Term Development Statement is not intended to have any legal force or to imply any legal obligations as regards capacity planning, future investment and the resulting capacity.

Executive Summary

The purpose of this document is to outline our assessment of the future use of our gas distribution network and highlight any investment requirements. The assessment is based on our annual and peak supply and demand forecasts for gas usage in Wales and the South West of England.

Data and analysis is provided for the three local distribution zones (LDZs) that constitute the Wales & West Distribution Network (WWU). The three LDZs are:

- South West
- Wales South
- Wales North

The Wales & West gas distribution network is supplied by seventeen National Transmission System (NTS) Offtakes and seventeen biomethane supplies.

1.1 Context

This document contains the Wales & West Utilities annual and peak demand and supply forecasts which have been developed in conjunction with National Grid UK Transmission (UKT) and WWU local knowledge.

WWU are currently developing a new Long Term Forecasting Model which will drive future investment. This will be the last year that the Long Term Development Statement will be based on the existing methodology.

1.2 Use of Our Network

Many of the gas industry long term forecasting processes and models have been developed using historic gas usage patterns and relationships between annual and peak demands. Key inputs have been around the anticipated weather patterns for heat load and econometric and fuel price data for forecasting industrial growth or decline. Little consideration was given to interactions between gas and electricity demand requirements and even less to how customer energy usage patterns within day may be optimised based on available gas and power tariffs. Following involvement and shared learning from a number of industry innovation projects in 2016, we decided in that year to develop 2 models to help us understand firstly, how an integrated power and gas energy network may operate in the future via our "2050 Energy Pathfinder" model, and secondly what capability our networks would need to deliver this via our "Investment Model".

1.3 Demand and Supply Outlook

Our current demand forecasts show a small variation from the forecasts in 2016. WWU's position on demand remains similar to last year with just a slight reduction in both Peak and Annual demand. The 2017 Forecasted annual demands show a slight fluctuation over the years ending with a small decrease by 2026. Despite the forecasted decrease in annual demand, peak demand is considered to remain relatively flat for the 10 year horizon and remains at a similar level to that predicted last year.

It must be noted that the current supply/demand outlook excludes the awaited policy on heat and the impact of the "Clean Growth Strategy". These could have a influence on the methodology used in next years' long term forecasts.

1.4 Investment Implications

Even when we experience small overall increases in demand, this does not necessarily mean investment in the network is required. Conversely, when we experience small reductions in overall forecast demand we can often see localised growth in some areas across the network and there is an annual below 7 bar investment plan to accommodate this.

We are still seeing high levels of enquiries for power generation which is providing a quick response alternative to renewable energy sources. Since last year's publication, we have connected a further 11 sites which brings our total number of power stations to 30 which includes 7 legacy sites made up of older peaking generation fleet and larger plants. An additional 10 sites have accepted and are due to connect over the next 12 months, with over 200 additional enquiries in since April this year; this connected number is expected to grow.

If we had 100 of these sites connected and using an average daily load and profile then this would mean an additional 4.7 million cubic meters per day (mcm/d) on our peak day demand which is roughly 10% of total network demand and would trigger the need for more significant reinforcement post 2020 and into GD2.

The immediate impact that these sites are having is on our storage rather than peak demand due to the way in which they take gas to cover the breakfast and tea time peaks. We are in storage deficit at some of our Offtakes and because of this; we have identified placeholders of over £1m in our 8 year budget plan for this regulatory period to increase our line pack storage (costs associated with operating differently rather than installing pipe). We've also included provisions for installing high pressure storage facilities in the next price control period and feasibility studies will be started soon.

As commercial sites move to combined heat and power (CHP) the demand for gas also increases to produce power. Our commercial sector accounts for 17% of total network demand and if this demand was to increase by 20% to account for this move then an additional 1.637 mcm/d gas demand would be required adding to our peaks and driving investment.

This drive towards fast acting renewable backup coupled with a move towards CHP in the commercial sector means we could well see an upsurge in gas demand. This raises some big questions: Will backup generation equal renewable gas by 2025? Will these power generation enquiries start to die down for WWU with planning being made more difficult for > 10MW sites in Wales and Hinckley Point C operating?

There is still uncertainty about what gas demand will look like but confidence is growing that gas network will provide a crucial part of an integrated credible future energy scenario, supported by results from WWU projects; Bridgend Study & Cornwall Energy Island. Support for this view is spreading amongst DNs, industry and government.

The key point is that this area is not impacting peak demand at the moment but a flag is needed for potential reinforcement in 2020's for increases in peak demand and storage.
Even though we are not currently investing in the network, we are still investing in resources and process developments to manage these enquiries and new loads.

1.5 Innovation & Projects

WWU have produced an innovation management toolkit, adapted from Change Management Expert John Kotter's processes to fit our needs. This uses a range of tools and techniques that produce clear project strategies and plans, engages stakeholders in our vision, encourages project success and supports the roll-out of equipment, products, research findings and procedures. It will help us to manage projects effectively to give them the best chance of success.

During 2016/17 we have continued to evolve our innovation portfolio while investing a further £1.8m on innovation activities using NIA funding that will help us to harness knowledge, expertise and potential to meet the challenges of the future.

During the year, a total of 148 new innovation project ideas were submitted to our team for review and evaluation. These ideas became 15 new projects using NIA funding as well as 14 projects which were supported by other means including self-funding to demonstrate the new equipment, materials and technologies in a real world environment. This demonstration is vital if benefits of innovation are to be realised.

WWU are currently working on a new investment model (as discussed in Section 3) and a vision of the future is emerging. Our research has told us that the full electrification of heat comes at an excessive cost. We are committed to, alongside partners, delivering an energy future that addresses the UK energy trilemma: providing consumers with affordable, secure, and low carbon energy. Some of the research made possible by the incentive funding includes:

- Freedom; a unique £5.2m demonstration project being pursued in collaboration with electricity network Western Power Distribution, that bring efficient integration into the home by installing a hybrid heating system and contributing to carbon reduction targets. (See Section 8.1)
- Development of a flexible energy simulator; a simple, flexible energy simulator that can be used to assess different energy supply scenarios, supporting evidence-based public policy and future investment policy for energy networks and other utilities. (see Section 8.2)

1.6 Next Steps

This Long Term Development Statement will be published on the WWU website (WWU - Long Term Development Statement). WWU actively solicit views and comments from interested parties.