RIIO-GD1 Business Plan 2013-2021

Part A

Executive Overview

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Forward-looking statements or information are identified by their use of terms and phrases such as "believe", "could", "envisage", "estimate", "intend", "may", "plan", "will" or the negative of those, variations or comparable expressions, including references to assumptions.

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This is a redacted copy. We do not indicate where material has been redacted.

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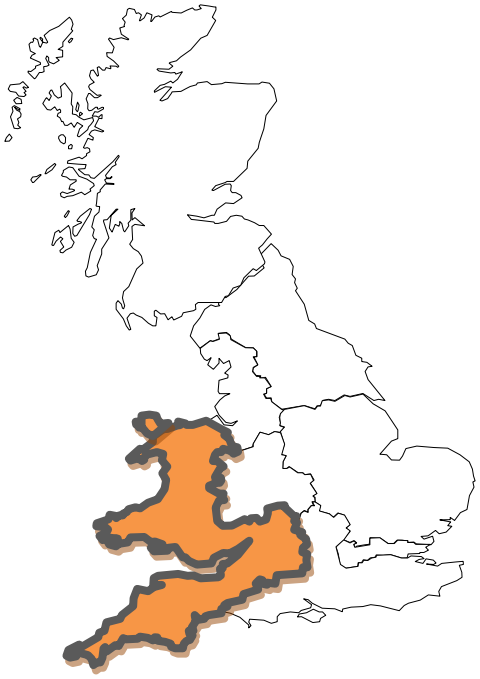
1. Introduction & Headlines[1]

Wales & West Utilities (WWU) is one of eight gas distribution networks (GDNs), operating across a geographical area that covers a sixth of the UK. Our operating area covers 42,000 km^2 - significantly greater than that of the average GDN.

WWU was formed in June 2005 following the sale of four of the gas distribution networks by National Grid (Transco). Our network, covering Wales & the South West of England, was acquired by a consortium of international infrastructure and pension fund investors and became Wales & West Utilities. Our regional footprint is indicated on the map below.



Our primary activity is the transportation of gas to over 2.4 million homes and businesses across our region. We do not sell gas - that is the role of the gas "suppliers".

We take gas at very high pressures from the National Grid Gas Transmission System at 17 connection points across our region, and by progressively reducing gas pressures to levels that can be used in the home or business, we transport it to the meter point of gas consumers.

We own and manage a network of over 35,000 kilometres of pipework and associated assets. The current replacement value of our assets is over £8 billion.

We also provide a 24 hour x 365 day gas emergency service to all consumers and the public.

The headlines of our Business Plan for RIIO-GD1 are as follows;

- Our primary objective is to maintain our high standards of compliance with all relevant statutory and licence obligations - and continue to deliver leading customer service through the period.
- We have achieved significant cost reduction since business start up - around 23% against the starting base in 2005. This results in us being the most efficient GDN to meet our standards of performance in 2010-11. Notwithstanding the level of cost reduction to date, we have set ourselves a challenge of taking almost 8% more cost out by the end of the 2013-21 period – thereby keeping the consumer bill impact of our plan to the minimum possible.

[1] Throughout this document references are made to GDPCR1 and RIIO-GD1. These cover the 5 year regulatory period from 1st April 2008 to 31st March 2013 and the 8 year regulatory period from 1st April 2013 to 31st March 2021 respectively.

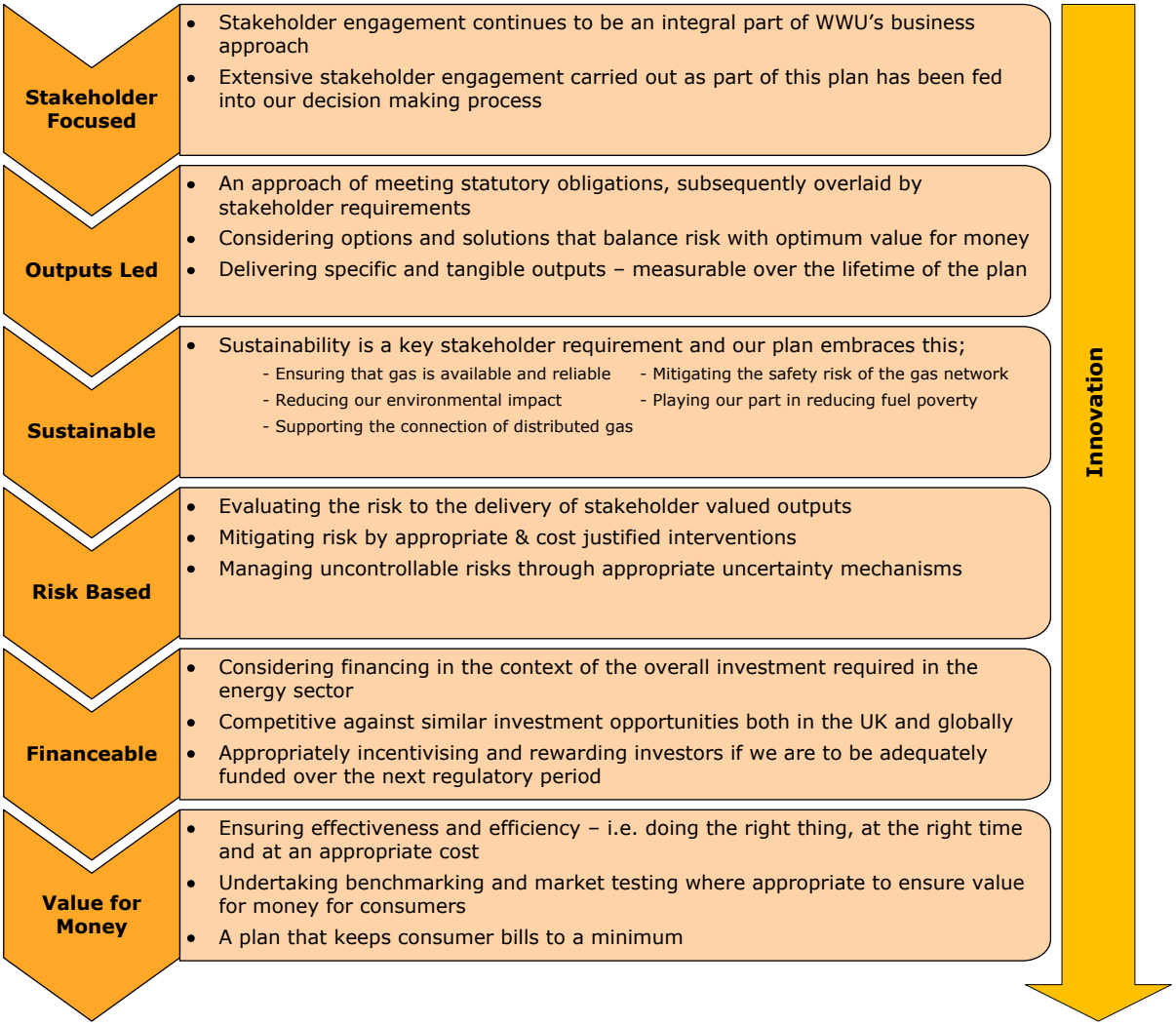
- The impact of our business plan and associated efficiency challenge will mean the distribution element of consumer bills will be around 3% higher in real terms on a like for like basis by 2021 compared with the end of the current period in 2013. This equates to a £4 increase in customer bills. We are currently the second cheapest GDN per supply point amongst the eight gas networks (Section 3.4), and we believe the minimal cost impact of our business plan on consumers will maintain our positive position.
- In determining our specific business plan outputs we have undertaken extensive stakeholder engagement[2] - with the feedback reflected in our plans wherever possible. A good example of this is the consistent stakeholder feedback supporting the continuation of the mains replacement programme to address safety and environmental concerns.
- With the above in mind, and to continue to address public safety and risk issues, our planned replacement programme increases to around 460km per annum from the current 420km per annum to ensure the tier one work is completed to the HSE deadline of 2032.
- No general gas demand growth is projected over the plan period - so our investment plan assumes no overall growth, but more condition spend to address deteriorating asset condition issues.
- Our proposed investment programme of £148m average per annum for 2013-21 is broadly comparably with the projected outturn of around £138m per annum in this regulatory period.
- Our investment plans have been developed through the use of innovative, risk based asset management techniques - with supporting analysis.
- Our business plan reflects continued environmental performance that builds on the excellent progress we have made since start up. We will have reduced our emissions by 12% between 2008-13, and plan a further reduction of 16% between 2013-21.
- Our financing proposals reflect a realistic balance between keeping consumer bills as low as possible and adequate returns to investors - recognising the risks and uncertainties associated with a longer and uncertain plan period.
- Under our financing proposals initial Vanilla WACC[3] would be 4.93% (real), rising to a peak during RIIO GD1 of 5.05%. This is broadly in line with the GDPCR1 rate of return, and means the transfer of risk to equity is acknowledged and dealt with between the two periods, without consumers incurring additional cost.
- Finally, our financing proposals implement transitional arrangements to compensate for the change in funding of replacement expenditure. The impact of any amendment to our adoption of these transitional arrangements would influence our view of required WACC.

[2] Part B5 – Stakeholder Engagement

[3] Weighted Average Cost of Capital

2. The Business Plan structure

Our 2013-2021 business plan has been constructed to reflect the RIIO[4] approach, as illustrated in the following diagram.



In summary, this business plan reflects the following key elements;

Stakeholder focused - we have consulted a wide range of stakeholders whose feedback has helped shape our plan, particularly in areas where we have discretion beyond our strict statutory requirements. This is discussed in **Section 4.**

Outputs led - our plan is based on outputs aimed at meeting our statutory obligations, and also outputs valued by stakeholders. We discuss these outputs and the cost effective delivery options to achieve them in **Section 5.**

[4] Performance based model to set price controls to ensure consumers pay a fair price for this vital investment. For further information please see RIIO a new way to regulate energy networks Factsheet 93 available at; http://www.ofgem.gov.uk/Media/FactSheets/Documents1/re-wiringbritainfs.pdf

Sustainable - the plan reflects our view of the future of gas supply in the UK over the plan period and beyond, coupled with our environmental objectives to contribute to a low carbon economy. We will also encourage sustainability of the network through the facilitation of renewable forms of gas into the mains network, as these technologies develop. Sustainability is detailed in **Section 6.**

Risk Based - throughout our plan we have consistently reflected on risk in our decision making process - that is the trade off between risk and cost in delivering an acceptable level of performance. This is discussed in **Section 7.**

Financeable – our plan considers financeability in the context of overall investment required in the energy sector. As WWU is competing for investment against similar investment opportunities both in the UK and globally it is vital that investors are properly incentivised and rewarded. It is critical therefore that we are adequately funded in the next regulatory period to attract and retain sufficient investment. This is discussed in **Section 8.**

Value for money - throughout our plan we have sought to demonstrate how we will deliver value for money for consumers, particularly when determining the most cost effective solutions to deliver outputs. This is discussed in **Section 9.**

Our business plan is made up of the following parts;

Part A (this part) - provides an executive overview of our plan, and places the other parts of the plan into context.

Part B – these are documents detailing how we will deliver the RIIO principles;

Part B1 – covers the Outputs we will deliver and the expenditure required

Part B2 - our proposals on business Financing[5]

Part B3 - outlines our approach to Innovation

Part B4 – lays out the uncertainties associated with the plan period

Part B5 - outlines the Stakeholder Engagement process, and how stakeholder feedback has influenced this plan

Part B6 - covers our Asset Strategy

Part B7 - covers our Environment Strategy

Part B8 - explains the key assumptions underpinning our plan and the associated environment.

Supporting Evidence for our plan - This includes, where appropriate, independent work commissioned by WWU as well as any relevant external research.

The table on the following page sets out a headline comparison of projected investment and operating costs between 2008-13 and 2013-21.

[5] Redacted document

Table showing headline comparison of projected investment and operating costs between 2008-13 and 2013-21.

2009/10 Prices	**Total GDPCR 1**	**Av GDPCR1 Per annum**	**Total RIIO-GD1**	**Av RIIO-GD1 per annum**
	£m	**£m**	**£m**	**£m**
Repex	392.8	78.6	764.7	95.6
Capex Formula	294.5	58.9	414.0	51.7
Total Formula Investment	**687.3**	**137.5**	**1,178.7**	**147.3**
Controllable Opex	409.7	81.9	734.3	91.8
Non-controllable Opex	207.1	41.4	334.8	41.8
Total Formula Opex	**616.8**	**123.4**	**1,069.1**	**133.6**
Formula Totex	**1,304.1**	**260.9**	**2,247.8**	**280.9**
Non-formula Totex	39.7	7.9	30.2	3.8
WWU Totex	**1,343.8**	**268.8**	**2,278.0**	**284.7**
Above excludes NTS Capacity charges and Smart metering costs				

The above figures include efficiencies of 7.7% by the end of the period, but are before Real Price Effects.

Some supporting comments to the table above:

Repex

- Increase in mains abandonment programme from 420km pa to manage the poor condition of our steel and iron pipes including a number that wouldn't have been included under the HSE's requirements previously.
- Introduction of the selective service relays programme to improve consumer safety and cost effectiveness as the services deteriorate.

Capex

- Spend marginally below GDPCR1 levels, reflecting steady state renewal of assets and maintenance of asset health.

Opex

- Increased maintenance spend reflecting WWU's position of utilising lowest whole life cost solution to asset health maintenance.

3. Headline Strategy 2013-2021

Since our inception in 2005 our primary aim has been;

"To deliver first class services to consumers - keeping public and employee safety at the forefront of all that we do".

This overriding aim continues to be the key theme into the RIIO-GD1 regulatory period - and continuing to do so in the most cost effective manner, whilst keeping consumer prices to a minimum.

3.1. The Future of Gas

Our business strategy for 2013-21 supports the move to a lower carbon environment, reflecting the role that sustainable gas networks can play in such an environment. Current industry scenarios indicate a continuing role for gas in the UK's developing energy strategy as a competitive, low carbon intensity fossil fuel. Gas continues to be a fuel of choice for industrial and domestic consumers alike, and we welcome the developing interest in new sources of gas.

For the foreseeable future, safe and reliable gas networks will continue to be a key provider of energy to society - something concluded by the Redpoint[6] analysis in 2010, and the International Energy Agency World Energy Outlook 2011. Alongside this continued use of gas we will play our part in the drive to reduce carbon emissions across society, including supporting the connection of renewable gas into the network.

3.2. Stakeholder Engagement

As well as meeting our statutory obligations, the business plan also reflects the valuable stakeholder feedback that we received as part of our extensive engagement process. We invited over 13,000 people which included a wide spread of representation from organisations and individuals. Out of these, 117 people attended a number of workshops across the region. We also reached a readership of over 500,000 people through selected publications across our region, inviting people to respond to us by phone or online. We discuss stakeholder engagement further in **section 4**, and more fully in Part B5 -Stakeholder Engagement.

3.3. Headline Objectives 2013-2021

Our key objectives for the next regulatory period are essentially to continue to meet our statutory obligations and stakeholder requirements by;

[6] Available at;
http://www.redpointenergy.co.uk/images/uploads/ENA_gas_future_scenarios_report_v1.1_FINAL.PDF

- Continuing to maintain the safety levels of running our network.
- Reducing our green house gas emissions to support a sustainable energy future.
- Investing to maintain the reliability levels within our network.
- Investing in new technologies that add value. Value may include safety, cost, social and environmental benefits.
- Continuing to provide excellent customer service.
- Helping to reduce fuel poverty by the provision of gas to identified consumers.
- Supporting the connection of renewable gas to our network.
- Continuing to provide value for money services to customers and consumers - using innovative and risk management strategies to provide cost effective solutions.

3.4. Delivering Value for Money

WWU is the second cheapest GDN per supply point amongst the eight gas networks as measured by cost per consumer. The following table shows allowed revenues, consumer numbers and cost per supply point for 2010/11. This highlights the value for money currently being delivered by WWU.

The average consumer price impact of running our network is £126 per supply point in 2010/11 – around 16% of the total consumer bill. At around 35p per household per day this represents excellent value to provide a reliable gas transportation and emergency service - particularly when compared with many other household costs.

Table showing gas distribution price impact per supply point in 2010/11[7]

GDNs	Allowed Revenue (£m)	Supply Point Numbers at Sept 2011	Total Cost Per Supply Point (£)
West Midlands	272.5	1,900,000	143.4
London	326.2	2,300,000	141.8
Southern	552.1	4,053,038	136.2
Northern	330.0	2,508,984	131.5
North West	354.6	2,700,000	131.3
Scotland	231.4	1,769,473	130.7
Wales & West	308.6	2,449,633	126.0
East of England	495.2	4,000,000	123.8

This value for money will be further enhanced in 2013 by the reduction in operating cost that we will have achieved since start up - around 23%. This significant cost reduction

[7] Data sources: Supply point numbers – Xoserve. Allowed Revenue – GDN Websites

means we are the most efficient GDN to have met our standards of performance for 2010-11. It also means significant value being returned to consumers in the next price review period.

Having taken such cost out of the business, WWU also compares well with other networks on a number of the Ofgem efficiency measures. We are now one of the most efficient networks in overall terms – and this despite the fact that we have one of the most difficult operating regions in the UK in terms of geography, lower consumer density, and more assets to manage and maintain.

During 2008-13 we project we will have spent an average of around £138m per annum investing in the network to renew and refurbish our assets, to ensure we continue to provide a safe and reliable gas distribution service. In the period 2013-2021 we project equivalent average annual investment of around £148m.

This proposed investment also reflects the significant work undertaken in 'opex/capex tradeoffs' as part of our whole life cost approach to this plan. We have looked at this from both perspectives - incurring operating expenditure which avoids capital expenditure if it demonstrates best longer term value, and vice versa - with the condition that, whichever option is chosen, targeted outputs are delivered.

3.5. Innovation

A key contributor to our improved cost efficiency and our wider business performance over GDPCR1 has been the level of innovation in our business. This has been a prominent feature of our progress since start up, where we have led the industry on a number of key initiatives;

- First GDN to insource the connections function, with significant cost reduction and service improvements as a result.
- Introduction of new systems and processes, resulting in leading customer satisfaction scores for each of the last three years.
- First to introduce Condition Based Risk Management (CBRM).[8]
- First to introduce a quantified risk based approach in addressing gas escapes.
- The introduction of a productivity model that is the first of its kind in the sector.
- An innovative Alliance partnering approach to our mains replacement programme.

We fully recognise the importance of innovation in improving the business and will continue to drive this into RIIO-GD1 - with a particular focus in the areas of safety, reliability, customer service and sustainability. This is discussed in **Section 5** and in detail in Part B3 Innovation.

[8] A structured process that combines asset information, engineering knowledge and practical experience. The process defines current and forecasts future condition, performance and risk posed by the assets. This identifies and demonstrates the need for and benefit of replacement and/or refurbishment.

3.6. Financing the Business

Parts B1 Outputs, and B6 Asset Strategy, outline the programme of investment activity planned over 2013-2021. Whilst the proposed investment programme is broadly comparable with spend in GDPCR1, the investment mix differs - with less spend on growth due to a reduction in demand and more on maintaining overall asset condition.

Given that WWU is a highly regulated business with allowances set through the regulatory settlement, it is vital that Ofgem recognises the need for adequate financing over a longer regulatory period, with its associated risk and uncertainty.

There will be significant competition for available funds over the coming years in what is a very uncertain economic climate. These factors, combined with the projected level of investment required in the energy sector itself, means increasing competition for such available investment. The competition for funding is certainly global in nature, as our own shareholder and debt investor bases clearly illustrate.

Given WWU's continuing investment requirements through the RIIO-GD1 period from 2013 to 2021, it is crucial that investors are encouraged to continue to invest by being properly incentivised through appropriate returns. With this in mind we propose an initial Vanilla WACC of 4.93% (real), rising to 5.05% during the 2013 - 2021 period. This WACC incorporates a minimum required cost of equity of 7.5%.

Our financing proposals implement transitional arrangements to compensate for the change in funding of replacement expenditure. The impact of any amendment to our adoption of these transitional arrangements would influence our view of required WACC.

Financing is discussed in **section 8**.

3.7. Impact on Consumer Bills

The efficiency and subsequent cost reduction achieved since business start up is already beyond the efficiency benefit assumed by Ofgem from network sale over the two subsequent price reviews.

Consequently, the cost reduction already achieved results in limited opportunity for further cost reduction going forward. Despite this fact however, we have included a reasonable cost challenge in our business plan in a bid to keep consumer bills down to the minimum.

Supply point numbers are forecast to increase by 4% from 2013 to 2021. Allowed Revenue, on a like for like basis (in real terms), is forecast to increase by 7% over the same period. Therefore, the increase per supply point is limited to 3% This equates to a £4 increase in customer bills.

This modest increase is against the background of WWU already being the cheapest network in terms of cost per consumer - consistent with achieving our standards of performance for 2010-11 (see table in Section 3.4).

4. Stakeholder Engagement and Benefit

WWU has regularly engaged with stakeholders since our start up in 2005, which has informed our process of continuous improvement. The specific feedback received as part of the RIIO-GD1 review has been valuable in developing our business plan to ensure it meets stakeholder requirements where possible and practical - whilst at the same time allowing us to meet our statutory obligations.

WWU has regularly engaged with a range of stakeholders since our start up in 2005. The following diagram indicates the wide range of stakeholders involved.

4.1. Stakeholder benefits

We have delivered significant stakeholder benefits since 2005 on a number of fronts, these are summarised below.

Value for money

Our performance over GDPCR1 will deliver real consumer benefit from 2013;

- Operating costs are projected to outturn around 2% lower than the regulatory allowance, with £29m subsequently returned to consumers from 2013.
- Investment out-performance of around £50m.
- Incentive sharing mechanisms saving around £10m.

Managed safety risk

- Consistently achieved the 97% emergency standard, despite the impact of severe winter weather in recent years.
- Introduced an innovative risk prioritisation process for gas escapes.
- Removed over 2100 kilometres of deteriorating metallic pipes.
- Maintained an industry leading occupational safety record.

Maintained reliable gas supplies

- Kept planned interruptions down to an average per customer of 1 in 40 years, and 1 in 200 years for unplanned interruptions.
- Maintained our compliance to plan for a 1 in 20 winter, with no significant loss of supply.
- Improved the "mean time between failure" of assets through the introduction of Reliability Centred Maintenance.

Delivered significant environmental improvements

- Carbon footprint from gas leakage reduced from 579,000 tonnes in 2008 to 507,000 tonnes in 2013 (12% reduction).
- Spoil sent to landfill reduced to less than 20% of that produced.
- Hazardous waste reduced by around 73% (11,000 litres to 3,000 litres per annum).
- Further reduction in the proportion of virgin aggregate used.

Delivered sector leading customer satisfaction

- First in combined customer satisfaction scores for each of the last 3 years.
- Complaints reduced by 13% and Ombudsman referrals reduced by 97%.
- Compensation payments reduced by 50%.

Delivered societal benefits

- Worked with 3 partner organisations to provide over 3,000 new gas connections as part of the fuel poverty initiative.
- Worked with partner organisations to raise public awareness of the risks of carbon monoxide poisoning.
- Donated surplus equipment to local community groups, and supported staff to engage in community volunteering initiatives.

4.2. Stakeholder feedback used to shape our Business Plan

In developing our business plan we have continued our extensive engagement with a cross section of stakeholders to ensure we understand their requirements. We engaged an independent communications company to help us reach as many stakeholders as possible. Stakeholder feedback is found throughout the documents, demonstrating how our business plan responds to this feedback.

We have also sought to engage the widest possible cross section of people by taking out advertorials in a number of key publications across Wales and the South West of England, with a combined reader circulation of over 500,000 people. In these advertorials we encouraged people to make contact with us to provide comment.

The headlines from our stakeholder feedback is summarised as follows;

Safety

- Emergency response performance is good - with current targets appropriate.
- The iron mains replacement programme was considered a high priority - with many respondents suggesting the programme should be accelerated.
- HSE feedback is positive on our overall safety strategy – with general support for the removal of risk in accordance with our obligations.
- Whilst stakeholders did not believe that the removal of gas holders was a priority, the HSE believed that, in some cases, they posed an unacceptable safety risk.

Reliability

- The current low level of consumer interruptions was considered an excellent performance - improving this was not considered a priority.
- HSE feedback is positive on WWU's reliability strategy - particularly supportive of the innovative asset management tools being used to help to target investment.
- There were numerous comments from consumers and Highway Authorities about us frequently digging up roads to effect repairs - some commented that we should replace once and for all and not have to come back.

Environment

- Gas leakage reduction considered a top priority, with a consensus that this should be our main environmental focus - given it accounts for 96% of our green house gas emissions.
- Support for the connection of renewable gas into the network - whist recognising this is not the direct responsibility of Gas Distribution Networks.

Customer Satisfaction

- Positive recognition for WWU's leading position in customer satisfaction.
- New connections service standards were considered good, with further improvement not considered appropriate.

Social Obligations

- The initiative to connect Fuel Poor households to mains gas was widely praised.
- Carbon monoxide awareness was considered a valuable social service - whilst recognising that this was a wider industry obligation and not specific to GDNs.
- Positive feedback for WWU's work in liaising with local authorities – but also comments that more can still be done to improve coordination with Highway Authorities and other Utilities.

The results of our detailed stakeholder engagement and our strategy for ongoing engagement in RIIO-GD1, is discussed in detail in Part B5 - Stakeholder Engagement.

Appendix 1 of Part B5 gives a more detailed summary of the stakeholder feedback received, the options considered as a result, and what we finally decided to include in our plan – including where we have not included specific stakeholder preferences and why. A specific example of this would be low pressure gas holder removal on which we consulted stakeholders in our engagement process. Although the removal of gas holders was not seen as a priority by the majority of stakeholders consulted, the HSE specifically did believe this was a safety priority for those people living in the vicinity of gas holders. As such our business plan reflects the continued removal of high risk gas holders.

5. Our Outputs led approach

This section summarises the key outputs of our business plan - recognising our statutory obligations and valuable feedback from stakeholders.

The options chosen are based on an appropriate balance of risk and satisfying stakeholder requirements in the most cost effective way whilst looking for innovative ways to achieve our outputs.

WWU has been fully engaged in the joint industry dialogue on Ofgem's output categories as part of the RIIO process. Below is a summary of the WWU plans in relation to each of these key output categories.

The chosen outputs represent a significant proportion of our expenditure and investment, and in determining them we have sought to provide an optimum balance between satisfying our statutory requirements and addressing stakeholder requirements, whilst keeping bills to a minimum.

Safety

- Continuation of asset replacement to reduce the risk from gas mains
- Continuation of a risk based approach to undertaking repairs
- Continuation of 97% performance against emergency standards
- Major Accident Hazard Prevention

Reliability

- Maintain the health of our pressure reduction equipment
- Enhance our 24/7 monitoring and control of the network
- Further use of risk based maintenance methodologies

Environment

- Further reducing Carbon Emissions
- Continue statutory land remediation
- Continue to minimise our waste to landfill
- Facilitate connection of distributed gas

Customer Satisfaction

- Maintain upper quartile position for customer satisfaction
- Further reduce complaints through route cause analysis
- Continue active stakeholder engagement and implement feedback into business improvements

Connections

- Facilitate the connection of renewable gas into our network
- Develop repeatable processes for the connection of distributed gas
- Continue to achieve connections performance standards

Social Obligations

- Further increase gas connections in support of fuel poverty
- Continue to provide proactive advice on carbon monoxide risks
- Improve our processes to identify carbon monoxide and it's route causes

The detail behind the planned outputs and how we deliver them is contained in Part B1 (Outputs). Below is a summary of the outputs we plan to deliver in 2013-21.

5.1. Safety

- Minimising the risk of explosion by removing a further 460km of metallic pipes and associated services per annum spending £680m over the 8 years.
- Addressing condition and safety risk of our high pressure steel pipelines and associated components including replacing and reconditioning 234km - £103m.
- Improving storage by replacing low pressure gas holders at three existing high risk COMAH[9] sites with storage pipelines - £22m.
- Addressing safety risk by decommissioning and demolishing 15 redundant gas holders - £6m.
- Ensuring the optimum balance between risk and costs by prioritising public reported escapes where the risk of explosion and impact is greatest - £100m.
- Ensuring public safety by maintaining the emergency standard of 97% - £94m.

5.2. Reliability

- Maintaining the performance of pressure reduction equipment by investing £66m to replace 580, and refurbish a further 1,873, district governors due to risk and condition – and investing £41m in Pressure Regulating Installations - including the development of innovative condition based risk tools.
- Maintaining a reliable gas supply whilst managing peak gas demand and responding to local increases in peak demand - by upgrading 200km of distribution mains (around 0.5% of the network) and 128 Governors - £72m.
- Improving network monitoring and control by investing in improved Telemetry and associated IT systems - £15m.
- Reducing non-routine faults with targeted maintenance, using improved Reliability Centred Maintenance and root cause analysis - £70m.

5.3. Environment

- Reducing WWU's carbon footprint by another 16% by further reducing gas leakage and from lower carbon output activities like fuel and energy.
- Continuing the remediation of WWU owned land - using innovative techniques to remediate a further 22 sites - £13.3m.
- Further reducing waste to landfill by continued use of recycled aggregate.

[9] Control of Major Accident Hazard Regulations 1999

5.4. Customer Satisfaction

- Maintaining upper quartile customer performance in our sector - using root cause analysis of customer feedback towards further improvement.
- Further reducing customer complaints, and satisfactorily addressing complaints which are received.
- Maintaining stakeholder engagement throughout the plan period.

5.5. Connections

- Maintaining upper quartile service standards performance.
- Proactively supporting the connection of renewable gas to our network.

5.6. Social Obligations

- Continuing to work with partners in addressing fuel poverty through access to a gas supply.
- Increasing public awareness of the risks of Carbon Monoxide poisoning.
- Further reducing the impact of our street works on the public.

Our track record of Innovation

WWU has a track record of innovation since our start up, and we will strive to continue this into the next regulatory period. Our innovations to date have delivered real stakeholder benefit across a number of business areas - and we are planning future initiatives;

- **Safety** – our use of risk based approaches to mains replacement and leakage repairs have brought benefit to the prioritisation and subsequent cost of these activities. Going forward, we will train more staff (reservists) who can be deployed during peak emergency periods, without adding cost to the everyday business.
- **Reliability** – we were the first company in our sector to implement risk based maintenance and analysis of asset condition. Going forward, we will increase the use of these techniques to further improve analysis of asset health and performance - which in turn will further improve investment decision making.
- **Environment** – we have made significant progress in waste minimisation and recycling, the treatment of contaminated land, and adaptation to climate change. Going forward, we will make further progress in these key areas - whilst supporting the connection of renewable gas into the network.
- **Customer satisfaction** – the innovative use of customer communication and feedback along with root cause analysis of complaints has helped us focus our customer improvement plans. As a result we have achieved top position in customer satisfaction in our sector 3 years running - and will continue to seek innovative ways to maintain a leading position in RIIO-GD1.

- **New connections** – WWU was the first network to insource connections in 2005, resulting in cost and customer performance improvements. We have since introduced new systems to facilitate detailed cost analysis and reduce the cycle time of quotations and the connections process.
- **Social obligation** – we have been proactive in addressing fuel poverty and raising awareness of carbon monoxide with the public during this period. We will continue to be proactive in these societal initiatives, and work closely with Highways Authorities in looking at innovative ways of minimising the impact of our street works activities on communities.
- **Value for money** – we have introduced a number of innovations which have resulted in significant cost savings, ultimately delivering better value to the consumer. A prime example is our 'Alliance' approach[10] to mains replacement, which has achieved cost savings and service improvements as a result of a 'single delivery' approach. This Alliance is heavily incentivised to reduce the cost of this work. Going forward, we will continue to explore alternative methods of pipe replacement to minimise the cost of this significant activity on consumers – whilst recognising no such alternatives are currently available.

Innovation is covered in detail in Part B3 – Innovation Strategy.

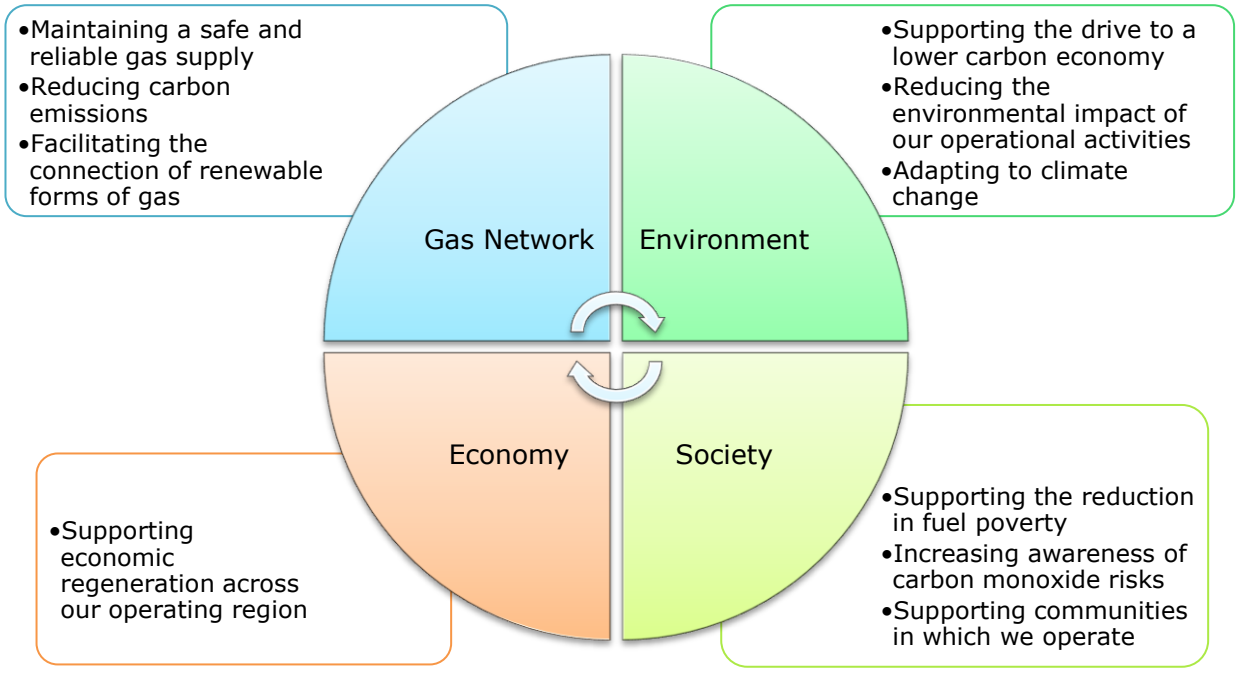
[10] The collaborative arrangement put in place between WWU and its service delivery contractors

6. Playing our part in a sustainable future

WWU recognise the need for a sustainable energy strategy going forward - it was a key driver of the Redpoint work commissioned by the sector to explore the future of gas. WWU fully embraces sustainability in its overall business strategy;

- **Environmental sustainability - reducing the impact of our business activities on society and the wider environment.**
- **Network sustainability - ensuring consumers have reliable and ongoing access to gas, as a lower cost fuel of choice.**

A key societal requirement is that gas distribution networks are sustainable and play their part in a low carbon future. The following diagram illustrates those key elements of sustainability reflected in our business plan, with a brief description of each below.



6.1. Environmental sustainability

WWU is a high producer of carbon emissions due to gas leakage from our network. Around 96% of our carbon emissions are due to leakage from the network, and having already made significant reductions since business start up, we aim to further reduce our carbon footprint through RIIO-GD1. This will be achieved by the decommissioning of circa 3700km of metallic gas mains with polyethylene pipe, as well as continued investment in pressure management on the network to further reduce leakage.

Whilst small by comparison with leakage, we do also recognise the importance of the rest of our carbon footprint. Actions in areas such as transport and energy/ materials usage are covered in our Environment Strategy document (Part B7).

Other actions involve reducing existing contamination across WWU's property portfolio. We have also examined the impact of climate change upon us through our preliminary risk evaluation.

6.2. Sustainability of gas

Current industry scenarios indicate a future for gas, both in its own right as a low cost fuel and as a transition fuel. This is supported by independent studies from Redpoint and the 2011 World Gas Outlook by the International Energy Agency.

Whilst the longer term energy mix is still unclear, WWU believes there is a strategic future for gas and that the energy cost to 'UK Plc' will be significantly minimised by the continued use of gas in the energy mix. The Redpoint Gas Futures report concluded;

"There are credible and robust scenarios in which gas could play a major ongoing role in the GB energy mix while meeting both the 2050 carbon targets and the 2020 renewable energy targets."

"Pathways with ongoing gas use could offer a cost-effective solution for a low carbon transition relative to scenarios with higher levels of electrification."

"All potential pathways to a low-carbon future will involve significant investment in new technology, with its associated risks. Given the level of uncertainty regarding these issues, there appears to be significant value in retaining the option for a 'high gas' future."

"The costs of maintaining the existing gas transmission and distribution networks are relatively small in comparison to the other system costs associated with a low-carbon transition. Together these findings suggest a compelling economic rationale for maintaining the operation of the GB gas transmission and distribution networks for the foreseeable future."

This view is also supported by the 2011 Energy Outlook Report by the International Energy Agency[11] which states;

"The factors that drive natural gas demand and supply increasingly point to a future in which natural gas plays a greater role in the global energy mix. Global uncertainties afflicting the energy sector can be seen as opportunities for natural gas."[12]

"Natural Gas offers clear environmental benefits when compared to other fossil fuels".[13]

6.3. Future gas demand

Given the uncertainties around longer term gas usage, our capacity planning has considered all the influencing factors that impact gas requirements into the foreseeable future. We concur with the Redpoint conclusion that overall peak demand will fall marginally over the period of this plan, however our investment strategy to manage

[11] Available at; http://www.iea.org/weo/docs/weo2011/WEO2011_GoldenAgeofGasReport.pdf

[12] 2011 Energy Outlook Report by the International Energy Agency p.7

[13] 2011 Energy Outlook Report by the International Energy Agency p.9

peak demand will not result in any stranding of assets under any recognised future scenario.

We summarise our view of future demand as follows;

- We project a reduction in peak demand by the end of the period of 2%, influenced by higher prices and incentives to switch to renewable energy.
- Whilst overall demand for gas is expected to decline, we predict some localised increase in peak demand that will require investment.
- Connecting large loads - whilst we have no substantive enquiries at this stage, we would expect these to be funded as part of an uncertainty mechanism.
- Smart metering – there is uncertainty around the influence on consumer behaviour that SMART metering will have.
- Economic conditions - whilst the current projection is for a marginal growth in GDP, disposable income is likely to fall as a result of taxation and spending cuts.
- Energy efficiency – we assume an increase in the uptake of energy efficiency measures, prompted by increasing energy prices and the drive to reduce carbon.
- Renewable Heat Incentive - the impact of this is as yet uncertain. However the level of enquiries regarding renewable gas entry is already increasing.

6.4. Facilitating the connection of distributed gas

Driven by UK greenhouse gas targets, and energy security concerns, there is increasing interest in introducing gas from non-conventional sources into mains networks, for example shale or coal bed gas. This features in a number of the scenarios outlined in the Redpoint Gas Future Scenarios Report. The connection of distributed gas could also be a means of providing greater long term certainty to gas distribution networks. Distributed gas could be generated from a number of potential sources, including;

- Bio-methane from anaerobic digesters, typically from sewage treatment, co-digestion, or waste processing plants.
- Landfill gas, from landfill waste sites.
- Shale gas (non-renewable).
- Coal bed methane (non-renewable).

WWU has received a number of enquiries relating to distributed gas and is currently engaged with potential producers. We are also working with the Energy Networks Association[14] and the other GDNs to develop a common approach to the complex aspects

[14] The Energy Networks Association (ENA) provides the link between gas and electricity producers and consumers. ENA represents gas distribution and electricity network businesses on economic, technical and safety regulation and national energy policy issues.

of connecting to the network. WWU is seeking to develop cost effective, repeatable processes to deal with distributed gas connections.

6.5. Supporting societal sustainability

As one of the largest employers across Wales and the South West of England, we also recognise our wider societal obligation to the communities we serve, as well as society at large. There are a number of areas we will continue to focus on through 2013-2021;

- The Fuel Poor initiative - lower cost gas is a key enabler in reducing fuel poverty, and with our partners we are actively supporting the provision of mains gas into areas where fuel poverty is prevalent.
- Protecting vulnerable customers - we will continue to actively raise awareness of carbon monoxide poisoning across our operating region.
- Supporting the communities in which we operate - by providing employment as one of the region's largest employers, and providing support to local community initiatives across our operating region. By way of example, we have recruited almost 100 apprentices since our start up – reflecting the commitment to our long term nature and sustainability.

7. A plan based on proportionate assessment of risk

Our plan reflects our statutory obligations as a starting position, and then overlays stakeholder requirements wherever possible. We then adopt a risk based approach to selecting the optimum solutions in delivering outputs. In reviewing this risk based approach, WWU has utilised industry-leading methodologies for analysis and selection of chosen solutions.

In RIIO-GD1 we will continue to take a risk based approach to ensure delivery of the most cost effective solutions. From responding to a gas escape, prioritising repairs, asset maintenance and investment requirements - our plan is built upon managing risk proportionately and exploring all options to ensure the most cost effective solution. Our risk based approach is detailed in B6 Asset Strategy, and summarised below.

7.1. Risk Based Investment

During the current regulatory period we have been striving to further improve the ways in which we analyse and manage the performance of our infrastructure assets - a risk based methodology now underpins our approach. Wherever practical we are using risk based Decision Support Tools to determine the optimum level and timing of interventions. We are currently using innovative methodologies which focus on the following;

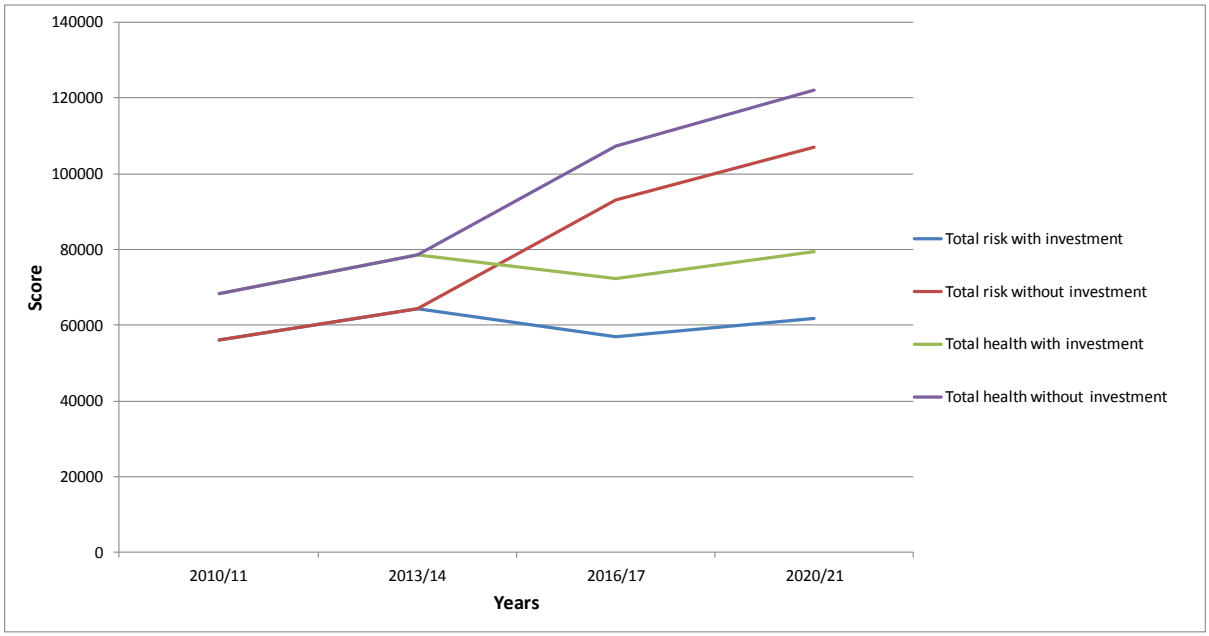
- Health index - showing the condition and performance of assets.
- The probability of failure - influenced by the health index and its criticality.
- How the assets age, and how this affects their reliability.
- The consequences of failure - in terms of cost, safety, environment and security of supply.
- The type and timing of interventions - balancing cost and risk to deliver the most appropriate form of intervention.

In addition to the use of risk based models we have also improved our analysis of underlying risk by utilising;

- An upgraded mains replacement prioritisation tool, incorporating condition assessment to supplement the risk of fracture.
- Modelling to understand the impact of demand changes, and any subsequent investment required.
- A Decision Support Tool to determine the best option for ongoing storage requirements - maintaining gas holder use, building pipelines or purchasing flexible capacity from National Grid Transmission.
- Modelling the benefits of investment between different asset groups, opex versus capex spend.

The overall aim of our plan is to ensure we deliver the safe and reliable outputs stakeholders want - but at the same time keeping consumer bills to the lowest practical level. Our plan therefore focuses on maintaining overall asset risk at broadly equivalent levels to those currently achieved, whilst also managing deterioration by maintaining asset health. The following graph shows the effect of the interventions proposed in our plan, and the impact on asset health without those interventions.

WWU's Total Asset Health & Total Asset Risk (with & without investment)[15]



7.2. Risk Based Maintenance

In RIIO-GD1 we will extend the utilisation of risk based maintenance methodologies, such as Reliability Centred Maintenance, to determine the nature and timing of maintenance interventions, compared with the risks presented by assets.

7.3. Risk Based Repairs

During peak periods of gas escapes the level of repairs required can exceed the resources available to address them. Analysis has shown that if we resourced to fully meet these peaks a higher cost would fall on consumers - estimated at around £20m per annum. To mitigate this potential cost and to address repairs in a safe and cost effective way, WWU has developed a prioritisation tool based on the risk of explosion. This innovation, approved by Health & Safety Executive, ensures that escapes are addressed on a prioritised basis.

[15] In accordance with Ofgem's guidance, we have assigned each asset a health score between 1 (new) and 5 (end of life) and a risk score of between 1 (very high risk) and 5 (very low risk). This is further explained in Part B6 - Asset Strategy. The numbers represented here are a summation of every one of these scores, to give a total health score and a separate total risk score. The graph excludes Mains & Services which are a separate Ofgem output.

7.4. Environmental risk

WWU will continue to focus on the environmental risks presented by operating our network, including;

- Reducing gas leakage from deteriorating metallic mains and services.
- Further reducing waste materials associated with our activities.
- Reducing fuel and energy usage, where the cost of carbon saved exceeds investment required.
- Continuing to assess risk, and subsequently prioritise remediation on sites contaminated from previous gas production.

8. Financing the Business

The financing of WWU through RIIO-GD1 needs to be considered in the context of overall investment required in the energy sector. It is estimated that £200 billion of investment is required in the UK energy market by the end of this decade alone. WWU are competing for limited investment against similar investment opportunities both in the UK and globally – so it is vital that investors are properly incentivised and rewarded if we are to be adequately funded in RIIO-GD1.

Organisations investing in gas distribution do so in the expectation of a steady state business producing consistent returns. Such investment is not guaranteed in the longer term, and is dependent upon regulatory certainty and sufficiently attractive returns. In the RIIO-GD1 regulatory period therefore it is essential that the financing package allowed is appropriate.

Our investment plans produce RAV[16] growth of £1billion (21% in real terms) over RIIO-GD1 which will require sufficient funding, essentially through the debt markets. The detailed application of RIIO-GD1 requires the financeability package to be sufficient to fund networks and attract new investment. This will allow RIIO to succeed and the key UK energy sector deliverables to be achieved. The key financing assumptions in our business plan are outlined below.

8.1. Weighted Average Cost of Capital (WAAC)

Under our proposals and assuming that our notional gearing remains at 62.5%, the initial Vanilla WACC would be 4.93% (real), rising to a peak of 5.05% during the RIIO-GD1 period. This is broadly in line with the GDPCR1 rate of return and means the transfer of risk to equity is acknowledged and dealt with between the two price controls without consumers incurring unnecessary additional cost.

There are a number of key reasons why it is appropriate that the initial WACC under RIIO-GD1 is at least consistent with that under GDPCR1;

- The relative risk of the two regulatory regimes, given the uncertainty of the new regulatory framework.
- The requirement for continued investment in gas distribution, and the competition for limited available funding in the global marketplace.
- The overall uncertain economic and financial climate.

[16] Regulatory Asset Value - The value ascribed by Ofgem to the capital employed in the relevant licensed business. It is an estimate of the initial market value of the regulated asset base at privatisation, plus subsequent allowed additions at historical cost, less the deduction of annual regulatory depreciation. Deductions are also made to reflect the value realised from the disposal of certain assets that formed part of the regulatory asset base. It is also indexed to the retail price index to allow for the effects of inflation.

8.2. Cost of Debt

We have assumed the cost of debt allowance will be set in line with the indexation mechanism outlined by Ofgem, having appropriately modified the formula so as to give explicit recognition to the inflation-risk premium and other debt costs (including fees).

8.3. Cost of Equity

Our business plan assumes a real post–tax cost of equity of 7.5%, which we consider appropriate when reflecting on how the RIIO framework changes the shareholders exposure to risk, and also the evidence from the traditional CAPM[17] approach to assessing cost of equity.

There are two key areas in which risk to equity has clearly increased, which cannot be mitigated with an uncertainty mechanism;

- First, the shift from five years to eight years under RIIO extends materially the period over which shareholders bear the consequences of cost and revenue shocks. This naturally widens the distribution of possible shareholder returns in all price regulated energy networks.
- Second, the impact of the cost of debt indexation mechanism on WWU which makes equity returns more volatile, and creates a clear risk that our efficient debt costs will not be appropriately funded by the indexation mechanism. This increases the compensation that shareholders require in exchange for their investment in WWU.

In addition to these tangible risks, the more general context for RIIO-GD1 is one of greater overall uncertainty for investors through the introduction of a new untested regulatory framework. RIIO-GD1 introduces changes to the overall regulatory contract through;

- Revised mechanisms for the timing and quantum of incentives.
- The review of, and link between, costs and outputs.
- The switch from a full pass-through arrangement for pensions to the ring-fencing of the deficit at the end of GDPCR1.

The proper recognition of the above risk factors requires that Ofgem provide a higher cost of equity under RIIO-GD1 than under GDPCR1.

8.4. Notional Gearing

We have retained the notional gearing assumed by Ofgem in GDPCR1 of 62.5% of RAV.

[17] Capital Asset Pricing Model - The CAPM says that the expected return of a security or a portfolio equals the rate on a risk-free security plus a risk premium. If this expected return does not meet or beat the required return, then the investment should not be undertaken

8.5. Transitional Arrangements

Our business plan assumes the implementation of the transitional arrangements in respect of capitalised replacement expenditure and accelerated depreciation, which are essential for WWU to remain appropriately financeable during the RIIO-GD1 period.

8.6. Impact on Consumer Bills

We are keen that our business plan proposals have the minimum impact on consumer bills. With this in mind, and after setting ourselves a further efficiency challenge for the 2013-21 period, the distribution element of consumer bills will be around 3% higher, on a like for like basis, by 2021 than at the end of the current period in 2013. This excludes adjustment for the incremental cost of factors beyond our control, namely;

- Changes to NTS billing arrangements (which do not actually represent an additional cost to consumers).
- Costs associated with the industry implementation of smart metering.
- Changes to the tax treatment of replacement expenditure arising from the implementation of International Financial Reporting Standards in 2014-15.

9. Value for Money

Given the monopoly nature of our business we fully recognise the importance of demonstrating value for money to customers and consumers. We will continue to deliver this value in two key ways;

- **"Effectiveness" Doing the right things – continuing to provide excellent service to both customers and consumers, and ensuring that our strategies for investment, maintenance, emergency and repair are proportionate and cost effective.**
- **"Efficiency" Doing things right – ensuring that our services and activities are delivered in the most cost efficient way.**

9.1. "Effectiveness" - Doing the right things

WWU is essentially an asset management business - and in managing the assets under our control we seek to make optimum decisions in balancing cost and risk of delivery. During GDPCR1 we have introduced Condition Based Risk Management (CBRM) tools to assist the decisions we make. This risk based approach is designed to ensure we choose the best value option for the benefit of consumers - whilst complying with all of our legislative and licence obligations.

Our Asset Strategy is explained in detail in Part B6. The document outlines how we measure the condition and performance of our network and its key assets, and how we subsequently determine risk and intervention in delivering outputs. This process has involved;

- Determining what is required to meet our statutory obligations.
- Engaging with stakeholders to determine outputs valued by them.
- Deciding on the options and risks involved in meeting the above.

An example of how our risk based approach delivers value for money is demonstrated by our proposals for Local Transmission System Pipelines, outlined below.

We have an absolute duty to maintain pipelines, and in accordance with this duty we could take a precautionary approach and invest £2billion to replace all pre-1972 pipelines, i.e. those not built to current design standards. We have however used Condition Based Risk Management modelling to reduce this potential figure to around £230m, by only replacing the poorest condition pipelines representing the highest risk.

We then subjected these pipelines to physical integrity studies to determine other potential interventions as an alternative to complete replacement. This has further reduced the expenditure requirement to around £70m over the 8 year period - the figure we have included in our plan. This 'risk based' approach is applied throughout our investment plans to ensure we are managing risk effectively, and at the lowest realistic cost solution for consumers.

9.2. "Efficiency" – Doing things right

Having identified what we need to do (effectiveness), we then determine the best way of delivering those outputs. Key factors which influence efficient delivery are;

1. Our chosen strategy and business operating model; and,
2. Market testing and benchmarking to ensure value for money.

Our plan for 2013-2021 builds upon our performance to date since formation, where we project a 23% reduction in operating cost by 2013. This cost reduction has been achieved whilst meeting all our standards of performance since 2005 - something not achieved by all Gas Distribution Networks (GDN). We have achieved this cost reduction with a focused strategy which has included some major initiatives;

- Reducing the resource deployed since 2005 by almost 20% (400 people).
- Implementing employee terms and conditions which reduce employment costs per person by 25%. These terms now apply to over 50% of our staff.
- Improving the productivity of operational staff by around 15%.
- Reducing operational depots from 23 to 7 and offices from 4 to 1.
- Reducing facilities costs by 40%, and IT operating costs by 35%.
- Reducing Alliance back office costs by 20%, through a single delivery model.

Such initiatives have helped to significantly reduce cost and improve our relative efficiency position amongst the GDNs - despite operating in one of the most challenging regions in the UK. This cost reduction will deliver real consumer benefit from 2013.

This cost reduction has been achieved through a wide range of strategies and initiatives - there has been no 'silver bullet'. The level of cost reduction also means the opportunity for further cost saving in the next review is minimal. Notwithstanding this fact however, we have set ourselves the challenge of offsetting the projected impact of above inflation cost pressures.

9.3. Market Testing

Our total cash expenditure (Totex) is around £270m per annum, with around £70m spent through direct labour employed. The residual £200m is supply chain costs, with around 80% of this directly market tested, the majority through a tender process notified through the Official Journal of the European Union (OJEU). For example;

- The circa £70m per annum mains replacement programme was fully market tested in 2007.
- Around 60 procurement events are carried out each year, representing approximately £60m of spend. These events are prioritised either on a risk /value basis or by contract dates.
- Our investment programme will again be market tested for RIIO-GD1 from 2013 to 2021, with a view to innovatively packaging work to increase leverage in the marketplace.

- A significant proportion of our controllable operating costs will again be market tested - with the rest subject to relevant benchmarking as appropriate.

Market testing has proved particularly successful in this regulatory period;

- The repex Alliance was the result of extensive analysis of best practice in the market place.
- The in-house connections activity was demonstrated as cost efficient compared with the external market place.
- A 22% saving on IT application support following recent external tender.

Our activities in 2013 to 2021 will again be delivered through a combination of direct labour, contracted service providers, and the supply chain - and market testing or benchmarking will continue to underpin our sourcing decisions.

9.4. Benchmarking

Where market testing is neither practical nor appropriate, we will benchmark activities to ensure efficient delivery. We are pleased that the current Ofgem benchmarking shows WWU in a positive light compared to other GDNs on a number of activities – and this despite the challenges of our operating region. On the small number of activities which show WWU to be higher cost, we believe this is because;

- The cost drivers used in the regressions significantly disadvantage WWU, given the difficult operating characteristics of our network.
- The economy of scale effect associated with multi-network ownership. It is a well accepted fact that economies of scale exist in industry generally, and gas networks are no exception.

9.5. Value for Money for Consumers

As a result of our performance during the current regulatory period, consumers will benefit significantly from 2013 onwards;

- Operating costs by 2013 are projected to be around 2% lower than the allowance, benefiting consumers by £29m.
- Our capital investment performance will deliver savings of around £50m.
- The incentive sharing mechanisms are likely to deliver around £10m.

Consumers will also benefit further from the additional efficiency challenge which we have set ourselves for 2013-21, whereby costs will be almost 8% lower in 2021 than at the end of the current regulatory period in 2013. This additional challenge is on top of the significant cost already taken out since business start up in 2005 of around 23%.

These cost savings and the benefits outlined above, coupled with a balanced WWU business plan for 2013-21, will mean that the distribution element of consumer bills will only be around 3% higher in real terms on a like for like basis by 2021 than at the end of GDPCR1.

We believe this represents excellent value from WWU in continuing to deliver a high quality and safe gas transportation service to customers and consumers, particularly given the continuing price pressures on consumers arising from other elements of the energy supply chain.