Appendix 3A Outputs and Commitments Justification Document

December 2019

WALES&WEST UTILITIES

Contents

Purpose of this document

This appendix supports our business plan Chapter 3: Outputs and incentives and the additional business plan snapshot table[1]. It also supports the commitments in the plan that are in addition to our regulatory outputs.

The Customer Engagement Group (CEG) and the RIIO-2 Challenge Group challenged us that our outputs were not fully justified. Significant further work has been undertaken to deal with this and we have created Appendix 3a which also includes our responses to the set of 12 standard questions that the CEG raised for each area of our plan. In addition to Ofgem's business plan guidance, the CEG wanted to see:

- More detail on our approach to stakeholder engagement and the views and feedback we received from stakeholders.
- More detail on our current performance.
- More detail on how our performance compares with performance across the sector.
- The range of options considered and why the Output proposed was selected.
- Any regional differences.
- Any distributional impacts i.e. winners or losers, on/off gas, England/Wales, rural/urban, domestic/small business, industrial and commercial customers, current/future customers.

This appendix is therefore structured to deal with each Output or Commitment where either:

- the Output is Common across the gas distribution networks (GDNs) but has a bespoke target for WWU;
- the Output is a bespoke Output that we are proposing in our Business plan;
- the Commitment is not already covered by one of the Outputs (EAP commitments are included).

This appendix does not detail the Common Outputs with Common targets as these Outputs are fully detailed in the Ofgem business plan Decision Document – Gas Annex (May 2019).

Consumer Value Proposition (CVP)

- Our CVP values have been added to the appropriate Outputs and/or Commitments – for further information please refer to the individual CVP Appendix 2C1 to 2C22.[2]

[1] See file '7 - WWU GD2 Outputs, CVP & Uncertainties Snapshot'.

[2] The CEG has reviewed our CVP evaluation methodology and outcomes. They also challenged us to ensure that we were only valuing service levels or outcomes that go beyond what would be experienced by customers in a business as usual situation. We have developed our CVP further and have been supported by Sia Partners to ensure independent substantiation. This is now included in our business plan.

Common measures with a bespoke output

Summary	☑ Output	☑ Commitment
Output/Commitment Title		
1.1 Consumer Vulnerability and CO safety 'Use it or Lose it' allowance		
Wording of commitment	- Further support vulnerable and fuel poor customers by investing £750,000 a year in wide-ranging initiatives with partners and increasing CO support measures – almost doubling our GD1 investment.	
Description	A use it or lose it allowance to focus on initiatives to support vulnerable customers and raise carbon monoxide (CO) risk awareness	
Type of output	PCD	

Cost & Bill Impact	
Cost of delivery	Ofgem have defined a £30m pot over GD2 across the GDNs. 25% to be spent on collaborative GDN projects – mechanism to be defined. Equivalent to £750k per year/£3.75m for GD2 – this assumes we are allocated a 1/8th share of the £30m pot defined by Ofgem in their May Gas Sector Decision document.
Proposed Funding	To be funded from base allowances.
Customer bill impact	£750k/2.5million MPRNs = 30p per annum during GD2.

Customer benefits & value	
CVP Reference	Appendix 2A - Delivering for Customers and Network Users 4, 5, 6 and 7: Use-it-or-lose-it allowance Please see the following appendices for further information on the following: - Fuel poverty: Appendix 2C7 & 2C8 - Carbon monoxide: Appendix 2C9 & 2C10 - Community project fund: Appendix 2C11 & 2C12 - Priority services register (PSR): Appendix 2C13 & 2C14 -
Summary of customer benefits	**Direct financial benefits**: Income maximisation through unclaimed benefits Energy efficiency leading to reduced bills Reduced energy and water tariffs **Societal benefits**: Reduced risk of fatal and non-fatal injuries Reduced impact on NHS caused by cold damp homes, slips, trips and falls, and carbon monoxide exposure Reduced impact on carers and social housing providers Carbon dioxide emission reductions CVP shows a net benefit to customers and society of £10m in GD2 and £12m in GD3.

Distributional impacts	• This funding will be primarily focused on vulnerable customers. However, part of the CO funding will be aimed at raising awareness with all domestic customers as well as small businesses. • We will also work to raise awareness outside of gas users as most CO incidents occur due to other fossil fuel burning appliances, on house boats, or due to barbeques being taken inside a tent or property. • We will work with partners across our network to ensure that services are delivered fairly across England and Wales. This may vary from year to year depending on partnership projects and opportunities to link up funding streams. • Primary focus will be on customers with a gas supply or close to the network (both urban and rural). However, some off-gas customers will be helped. Work with Rural England and Welsh Government to identify where we can support rural customers more in future years. • The funding will target not just current customers but also educate future customers through school events.

Stakeholder voice	
Engagement method (what and who)	We engaged with over 21,900 customers and other stakeholders at 21 discrete engagement activities during our consumer vulnerability engagement campaign. We engaged multiple customer and stakeholder groups through different, appropriate engagement channels; 1,162 self-identified as vulnerable through our research surveys. We also spoke face to face to 100 vulnerable customers in interviews that importantly contained elements of ethnographic engagement, identifying emotional vulnerability manifested as a result of the multiple vulnerabilities encountered through this engagement, as well as a stand-alone condition. We benchmarked customer and stakeholder opinion on our CO and vulnerability services through our Let's Connect Customer Consultation research and focused consumer vulnerability research carried out by Mindset. The Let's Connect Customer Consultation also provided insights on customer opinion across identified customer personas across our operational area. A range of research and engagement channels, including engagement with customers in vulnerable situations in their homes, helped us understand our stakeholders' and customers' priorities for our investment focus in vulnerability and CO services. These included focus groups and community workshops – further details are provided in the supporting synthesis report for this commitment. Our vulnerability and CO commitment was shaped through further one-to-one engagement with customers in vulnerable situations in their homes, and through engagement with our expert Critical Friends Panel and national consumer vulnerability experts.

	Acceptability of our commitment was tested in two phases of engagement, where our commitment was honed following phase 1 engagement and with phase two acceptability engagement including customer willingness to pay.
Stakeholder views (what they said and how we responded)	We recognise that households across the diverse communities we serve each year have varied needs. These encompass a range of vulnerabilities including physical, mental, emotional, geographical or financial. Since our work places us well to directly assist those most in need, it is our responsibility to identify and safeguard vulnerable customers. The CEG challenged us on: the fact that we did not have a vulnerability strategy; that we were insufficiently demonstrating the outcomes we wanted to achieve for those living in vulnerable situations; and that our partnership approach was insufficiently strategic. We have provided our vulnerability strategy within the business plan and have demonstrated the way in which this aligns with Ofgem's vulnerability strategy. In response to this challenge we have also developed a new partnership evaluation tool which was created by experts to assess new and existing partnerships included in Appendices 7B and 7C. Our regional community workshops have consistently indicated that stakeholders want us to continue our support for vulnerable customers and those in fuel poverty, and to continue raising awareness of carbon monoxide (CO) dangers. Our engagement throughout 2018 and 2019 on topics of vulnerability and fuel poverty assistance has provided positive feedback and reaffirmed our stakeholders' support to continue delivering on our promise in GD2. Our consumer vulnerability research indicated that stakeholders were not adequately informed on 'what' we offer, 'to whom' and 'where' they can ask for support. They voiced the need to better promote vulnerability support either by ourselves or with the help of third parties. Across all our stakeholder groups there was support for our vulnerability and CO activities, although these are not solely seen as Wales & West Utilities' responsibilities, but for other organisations too. A topic that did come across from stakeholders was the lack of awareness of the Priority Services Register and a clear message to do more to get people onto the register and to share that data with other utilities. In respect of CO awareness raising and alarm provision, stakeholder and customer opinions varied – with support for CO alarm provision for all from some, while others said this was not the responsibility of a gas network. Faced with conflicting stakeholder opinions, we looked at the fuel poverty statistics for our region alongside the potential benefits that we could achieve from a commitment to investment in both these areas. Fuel poverty is particularly relevant in the region we cover as some areas of Wales and Cornwall classify around 25% of the population as living in fuel poverty (NEA UK Fuel Poverty Monitor 2018).

	In terms of willingness to pay for vulnerability services, customers in a focus group told us they would be willing to take a premium on their gas bills to ensure we proactively deliver support to those who need it. Our Social Return on Investment tool indicated both direct customer financial and societal return on investment in relation to fuel poverty that was significantly more than the benefits accrued by the provision of CO awareness measures. However, the Social Return on Investment for the provision of CO monitors showed the greatest return. With conflicting views on whether CO alarm provision should be an investment priority for the business and a prohibitively high cost of mass provision of CO monitors, we made the decision to invest proportionately more in alleviating fuel poverty and working with partners to distribute CO alarms to super priority customers in vulnerable situations, while progressing higher return on investment CO awareness messaging activities. Stakeholders at Regional Community Workshops as well as our Critical Friends Panel also indicated that our support for provision of CO monitors should be targeted at those most affected by CO and vulnerable people living in rural areas. Acceptability Testing Part 1 for our commitment level and investment spend indicated a 66% acceptability rate. See our commitment synthesis report for a full summary of our engagement activities. Overall customers are prepared to pay more, however there are variations across segments e.g. domestic customers in Wales are prepared to pay more unlike those in the south west, although business customers in the south west are willing to pay more.
Conclusion of views	Based on extensive engagement across a wide breadth of stakeholders, albeit with some conflicts of opinion in terms of our role in providing free CO alarms, our current commitment to investing £750,000 a year in GD2 in wide-ranging initiatives, supported by partners, is overwhelmingly supported and accepted by customers and stakeholders.

Performance	
Benchmarking data	We can benchmark our performance compared to the other GDNs and DNOs (electricity distribution network operators) via many sources: • Annual Regulatory Reporting • Annual Stakeholder Engagement Incentive Scheme • Three yearly Discretionary Reward Scheme • Company annual reports • GDN collaborative working groups • Stakeholder events and feedback
WWU GD1 performance	During this price control we have developed our services to focus on the most vulnerable homes. A summary of our spend is as follows:

£,000s	13/14	14/15	15/16	16/17	17/18	18/19	Average
Vulnerable customers	17	31	86	231	410	413	198
CO initiatives	273	255	285	197	222	169	234
Total	290	285	371	428	633	583	432

	Through our Social Return on Investment Model, we are also able to demonstrate that all of our activities to support vulnerable customers and on CO have a net benefit to customers and society. Please refer to the Consumer Value Proposition appendix for full details on how we have evaluated the impact of our vulnerable services, the Priority Services Register, and our carbon monoxide awareness, and the community project fund.
Industry comparison	The range of services we are delivering and will continue to deliver is similar to those offered by the other GDNs and proactive DNOs such as Western Power Distribution and UK Power Networks.
Other ambition / requirements	• Ofgem require that 25% of the £30m is spent on joint initiatives with the other GDNs. We have agreed with the other GDNs to form a steering group from January 2020 which will comprise the four GDNs, and four key stakeholders representing suppliers, installers, researchers and customer protection organisations. That group will define a programme of work for GD2 with projects to be delivered UK wide. • Based on an equal split of 1/8th for each GDN, we will get £750,000 of funding per year. Of that, 75% will be for our own use for projects within our network (£560,000 per year). • While we propose an initial split of spend for activities, that is likely to vary due to stakeholder feedback as opportunities to work with partners and the impact of our services is measured during GD2. • We will showcase our work through an Annual Report and regional events with partners and local organisations.

Optioneering	
Options considered (including trade-offs / innovation)	We have included a proposed split of the spend of the funding in year one of GD2 based on our current level of spend, and feedback from the Impact Utilities stakeholder engagement which showed that stakeholders placed a higher value on work with vulnerable customers than for CO. We have trialed doing more around PSR referrals in GD1 and have concluded that a target of 12,000 per annum is ambitious but can be delivered at a reasonable cost by using social media channels alongside our engineers and partners. It is likely that the pool of people willing to sign up will reduce over time and that the approach and spend will need to be reviewed. We have detailed an innovation focus theme to investigate, develop and trial solutions to improve the identification and location of vulnerability. We have evaluated other options including a higher or lower proportion of funding on carbon monoxide. The main cost of this initiative is the provision of advice plus the free issue of CO monitors. The biggest impact on people and society of our initiatives is the range of services we are delivering to tackle fuel poverty. The SROI model shows that £1 invested results in a £13 return over 10 years to

	customers and society. This is based on a two-year trial with Warm Wales. We will evaluate the reach and impact of all of our services during GD2 and will engage with stakeholders to review the portfolio or services annually.
Regional differences	In Wales, the devolved government is developing a new fuel poor strategy. This should be complete by the end of 2019. The Welsh Government currently support two schemes – NEST which is aimed at individual homes, and Arbed which is a community-based energy efficiency and fuel poor scheme. Between 2017 and 2021, we are investing a further £104m across Arbed and Nest to improve up to a further 25,000 homes, which includes 6,000 homes through Arbed. In England there is no government funded fuel poverty scheme. This leaves local authorities and organisations more dependent on accessing the Energy Company Obligation (ECO3) funding or the National Grid Warm Homes fund to top up their own funds. Less ECO money comes to Wales as a proportion of the population compared with England. Levels of vulnerability are similar across Wales and the south west. Ofgem states in their annual vulnerable report 2019 that 28% of gas customers are on the PSR in Wales compared to 24% in England.

Deliverability & Whole Systems Impact	
Deliverability & viability implications	We have a track record of delivering this range of services and already have formal partnerships in place to deliver the proposals. High value work will be tendered to ensure that we get best value for money. Our SROI tool allows us to evaluate the services to ensure they are still delivering value for money, and to evaluate new service options. Where any funding does not get spent in one year it is proposed to roll into the next year with a reconciliation at the end of GD2; here money would be returned to customers if it has not been spent and has had a positive net impact for customers. These services will be delivered by the most appropriate party which may be our staff, engineers, or partner organisations. The strategic partnerships will be formalised to set our stretching SLAs and accurate reporting to ensure that we can demonstrate that the money has been efficiently spent and is reaching the right people and making a real impact.
Resilience to change	We have 2.4 million customers who use gas for heating and/or cooking. With around 25% across our network being formally registered as vulnerable, the need for a range of services and the continued focus on CO will exist through GD2 and beyond. We know we will need to adapt our approaches to finding and communicating with customers during GD2 and are building a range

	of tools to provide a multi-channel option to customers. Our commitment to maintain our BS 18477 standard will ensure that we continue to deliver full Inclusive Service for customers in accordance with best practice.
Whole system impacts & fit with wider vision	The Future Homes Standard means that gas connections to new build properties will stop from 2025 – the final year of GD2. The supply to existing homes and the fuel poor scheme may also be reviewed during GD2.

Proposal

We will spend our Use it or lose it allowance on a range of services to include:

Priority Services Register awareness, sign ups and data sharing

- Targeting 12,000 PSR referrals per annum; an increase of 200% compared to 2018/19

Tackling fuel poverty through:

- Income maximisation (accessing unclaimed benefits)
- Accessing the best tariffs for energy and water
- Helping the customer address existing energy and water debt

Energy efficiency

- Providing energy efficiency advice and linking to schemes to install new measures or to repair broken appliances (Welsh Government NEST, Energy Savings Trust, supplier funded schemes, local authority funding)
- Linking to our Fuel Poor Network Extension Scheme and funded service alterations.

Carbon monoxide and gas safety awareness campaigns

- Raising awareness of the dangers of CO
- Provision of 5,000 CO monitors per annum to the most vulnerable homes
- Programme of school events promoting gas safety and CO.

These services should not be seen in isolation and where possible one engagement with a customer looking at their circumstances and homes may lead to a number of these services being delivered to that home. Our Appendix 7F: Healthy Homes Healthy people showcases our GD1 project with Warm Wales that is already delivering these benefits.

Chapter 7: Social Obligations of our business plan outlines our proposed split of this spend in the first year of GD2. It also shows the expected direct financial benefits and social benefits of the services, which we have derived from our Social Return on Investment Model.

We will refine this model as we collate data on the real impact of services during GD2 from our partners. Any unspent money in a year will be rolled into the next year, with any unspent funding being returned to customers at the end of GD2.

Summary	☑ Output	☐ Commitment
Output / Commitment Title 1.2 Fuel Poor Network Extension Scheme (FPNES)		
Description	Funding for first time gas connections to eligible fuel poor homes	
Type of output	PCD	

Cost & Bill Impact	
Cost of delivery	£8.2m GD2 (average of £1.65m per annum)
Proposed Funding	Price Control Deliverable allowance within our base allowances
Customer bill impact	1p per annum

Customer benefits & value	
CVP Reference	N/A
Summary of customer benefits	Eligible homes (as defined by Ofgem in the scheme rule) will receive funding of up to £2,700 towards a new gas supply to their home – in most cases this will be free. By working with partners, the household will also receive a free or heavily discounted heating system. Partners may also leaver in funding for insulation and other energy efficiency measures. Customers will in turn see lower energy bills to adequately heat their homes (this varies depending on the previous fuel type and property type but is estimated at £680 per annum). Customers experience a warmer home and reduced issues with damp, driving health benefits and overall wellbeing.
Distributional impacts	• The scheme supports domestic homes and primarily families living in fuel poverty. • The scheme supports one-off connections from our existing network and economic mains extensions, typically no more than 1km from the existing network. Work primarily follows population, with more work in urban areas. However, we have laid 25km of mains to off-gas areas in north Wales and the Swansea valleys under the scheme in GD1. • Under the rules of the scheme, we are not able to fund any measures for properties other than a gas connection from our network. • Workload is driven by who has funding for the heating system. In GD1 we have done proportionally more work in Wales than in the south west due to the devolved Welsh Government funding to address fuel poverty and the lack of a government scheme in England.

Stakeholder voice	
Engagement method	As the FPNES is a national programme, it was important that we undertook comprehensive engagement in this area both collaboratively and as an individual network. We engaged multiple customer and stakeholder groups through different, appropriate engagement channels. We also spoke face to face to 100 vulnerable customers in interviews that importantly contained elements of ethnographic engagement. We benchmarked customer and stakeholder opinion on our vulnerability services through our Let's Connect Customer Consultation research and focused consumer vulnerability research carried out by Mindset. The Let's Connect Customer Consultation also provided insight on customer opinion across identified customer personas across our operational area. A range of research and engagement channels, including engagement with customers in vulnerable situations in their homes, helped us understand our stakeholders' and customers' priorities for our investment focus in vulnerability services. These included focus groups and community workshops – more details are provided in the supporting synthesis report for this commitment. We held a number of joint GDN events with BEIS, MPs and third parties as well as holding interviews with expert customer groups including National Energy Action, Citizens Advice and Policy Connect. Our vulnerability and CO commitment was then shaped through further one-to-one engagement with customers in vulnerable situations in their homes, and through engagement with our expert Critical Friends Panel. Bill acceptability of our commitment relating to fuel poor customers was tested with 984 domestic and SME customers.
Stakeholder views	Stakeholders are generally supportive of the FPNES into GD2 as gas in most cases still offers the best cost option to improve energy efficiency and reduce energy bills for customers. Nonetheless, the level of priority that is placed on this in relation to other support measures does differ between stakeholder groups. The CEG and the RIIO-2 Challenge Group both challenged our FPNES ambition in GD2, which is lower than it was in GD1. We took time to explain to the CEG how our engagement with partners and central heating system funding providers has led to this forecast. This will continue to be an area that we review proactively and on a regular basis and we are committed to undertaking additional connections if funding is available for more heating systems. Our quantitative customer research with Impact in March 2019 scored the FPNES scheme at an importance of 3.6 compared to wider support for vulnerable customers at 6.5 and CO awareness at 6.7.

	However, in much of our quantitative engagement, the importance of supporting those in fuel poverty was clear. In our regional workshops with community representatives, this matter was discussed and was ranked 3rd priority in the workshop in 2018 and 5th priority in 2019. Understandably, this is also deemed as important by vulnerable customers themselves. Through our 56 interviews with these stakeholders and their representatives, we identified that they would like us to continue with our current levels of delivery and to be funded to deliver the heating systems. However, we have been unable to plan for this as a delivery option as Ofgem has ruled this out due to funding that should be coming from supplier schemes such as ECO and devolved government schemes, and from local authorities. These stakeholders also asked us to consider how we can make sure that the scheme is focused on the most vulnerable homes, with additional support services offered to those same households. This position was also supported by our expert stakeholder engagement. National Energy Action (NEA), the national fuel poverty charity, responded to Ofgem's RIIO-2 stakeholder consultation welcoming the continuation of the FPNES. They recommended that GDNs could be given some flexibility to deliver alternative actions, in addition to new gas connections which lead to equivalent heat cost savings. They supported improved targeting which they suggested could be achieved by allowing GDNs to access information directly from central government and from our own mapping tools. We consulted with the NEA on our business plan assumptions for the FPNES scheme in GD2. While the NEA want the GDNs to be ambitious, they agreed with our phasing of the volumes of connections, recognising that the Welsh Government schemes and last year of ECO 3 are an opportunity to do more connections. They were not able to provide any more information regarding funding in the UK or Wales beyond 2022. The NEA did suggest, however, that we articulate the numbers of connections that are economical in our network and the number of these that could be deemed to be in fuel poverty. We have added this to our plan following that feedback. Citizens Advice produced a report containing essays from several influential stakeholders[3]. This contained broad support for the FPNES but again said it was important to ensure that the scheme targets the most in need and the benefits can continue to be demonstrated. The report also flagged the potential conflict with decarbonisation of heat. The Welsh Government has given a commitment in the short term to continuing to support gas connections and to economic extension of

[3] https://www.citizensadvice.org.uk/Global/CitizensAdvice/Energy/RIIO-2%20Vulnerability%20Essays_FINAL%20%281%29.pdf

	the gas mains. This offers a short-term best cost option with the promise of decarbonisation of the gas network ensuring this is a long-term solution to heat in Wales[4]. On a related but broader matter, vulnerable customers, their representatives and expert stakeholders have raised concerns about an uncertain energy future and decarbonisation programmes that are often not complementary to fuel poor schemes, which is a concern that we will need to address as a sector as we move into GD2. Our bill acceptability testing relating to the commitment focusing on fuel poor customers showed that while customers are prepared to pay more overall, there are variances across regions and segments e.g. the fuel poor are less likely to be prepared to pay more.
Conclusion of views	Our stakeholders recognise the role of the FPNES in tackling fuel poverty. Overall, they support the continuation of the FPNES as long as gas is the best option for the home considering the short and long-term UK energy markets. While customers would like us to be ambitious, they accept our caution on committing to higher targets given the lack of visibility of UK heat and funding for first time gas central heating systems. However, the uncertain future of energy in the UK and commitments to decarbonise can be at odds. This message, combined with clear feedback about ensuring that funding only goes to homes in true fuel poverty, supports our lower ambition in GD2 compared to GD1, but a will to do more if government policy will support first time gas central heating.

Performance	
Benchmarking data	• GDN Regulatory Reporting • GDN best practice groups via ENA
WWU GD1 performance	We originally forecast 10,800 connections in GD1 and increased this forecast to 12,590 in 2015 based on the scheme's criteria at that time. The table below shows how our workload has fallen in GD1 as Ofgem has made changes to the eligibility of the FPNES. Most notable has been the alignment to ECO which has largely stopped social housing connections and the removal of the area-based Index of Multiple Deprivation eligibility. The forecast higher numbers in the last two years are because of funding from the Welsh Government Arbed scheme and organisations that have National Grid Warm Homes funding.

Reg. year	13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21
Connections	2632	1661	1559	1596	1051	1083	1450	1560

[4] Source: NEA Cymru Conference, February 2019 (Jonathan Oates).

Industry comparison	As of October 2019 • We are on track to hit our GD1 Output target of 12,590 connections. • SGN Scotland have hit their target due to Scottish Government funding. • NGN are on track to exceed their target. • Cadent London are on track to hit their target. • SGN Southern is hopeful of hitting their targets, supported by parent company funding towards the heating systems (outside of regulatory allowances). All GDNs have suggested they will be putting forward workloads for GD2 that are lower than GD1 due to the lack of visibility of funding for the heating systems in GD2.
Other ambition / requirements	• Ofgem has ruled out the GDNs having funding for the heating system or for other energy efficiency measures in GD2. • The rules of the FPNES scheme require us to satisfy ourselves that the household has funding for the first-time heating system. • We are already working with the Welsh Government on its NEST and Arbed schemes, and with nine organisations that have warm homes funding as well as with many fuel poor partners with ECO funding.

Optioneering	
Options considered (including trade-offs innovation)	• Carry on with existing commitment of 1,000 FPNES connections per year. Given the visibility of available funding which we have discussed with Ofgem, BEIS, Welsh Government and National Energy Action we have concluded that funding for first time central heating will reduce as we move through GD2. This would cost £16.5m over the GD2 period. • A Price Control Deliverable for 2,500 connections in GD2 based on the visibility of available funding, with a profile starting at 700 connections and reducing to 300 per year by the end of the period. • We have also asked Ofgem to make any reopener on the scheme symmetrical – i.e. government energy policy may mean the scheme is no longer appropriate and the FPNES comes to an end, or gas is an important part of the solution and we can increase our forecast and be funded to deliver. • A volume driver based on a unit rate per connection. Ofgem ruled this out in its decision document in May 2019, stating that it does not incentivise the GDNs to work towards a stretching target. • We will use innovation funding to build on and further develop projects such as 'the Energy Loop' project, which aims to create an energy options toolkit for communities. We also plan to bring together new and available data to target support to customers on low incomes or in debt.
Regional differences	In Wales, the devolved government is developing a new fuel poor strategy. This should be complete by the end of 2019. The Welsh Government currently supports two schemes – NEST which is aimed at individual homes, and Arbed which is a community-based energy efficiency and fuel poor scheme. Between 2017 and 2021, we are

	investing a further £104m across Arbed and Nest to improve up to a further 25,000 homes, which includes 6,000 homes through Arbed. In England there is no government funded fuel poverty scheme. This leaves local authorities and organisations more dependent on accessing the Energy Company Obligation (ECO3) funding or the National Grid Warm Homes fund to top up their own funds. Less ECO money comes to Wales as a proportion of the population compared to England. Levels of vulnerability are similar across Wales and the south west. Ofgem state in its annual vulnerable report 2019 that 28% of gas customers are on the PSR in Wales compared with 24% in England.

Deliverability & Whole Systems Impact	
Deliverability & viability implications	The forecast workload has been built into our overall workload delivery model for GD2. Workloads are a third of the workload delivered in GD1. Larger mains extensions to off gas communities may need to be competitively tendered.
Resilience to change	The joint GDN Fuel Poverty working group will work closely with BEIS, Ofgem and other stakeholders such as National Energy Action (NEA) to ensure that policy changes are understood and the role of the FPNES continually evaluated. Ofgem has stated that a change in UK policy on heat in homes may see the FPNES stopped. In our business plan we ask for this to be symmetrical with the FPNES being expanded if UK policy supports further gas connections.
Whole system impacts & fit with wider vision	The Future Homes Standard proposed no new gas network connections from 2025. Further consultations will look at existing homes, which will potentially impact the FPNES.

Proposal

- We will put forward a workload of 2,500 connections in GD2 at a cost of £8.2m.
- The work will be profiled with 700 in year one, reducing to 300 in year five.
- We will continue to work with partners to join up the funding of the FPNES with funding for the heating system.
- We will do more if the work is available and will go back to Ofgem with revised workload forecasts and a request for funding if energy policy supports this approach, and conversely should energy policy move away from gas.
- We will link up the FPNES scheme with our Use it or lose it allowance for vulnerable customers and CO awareness to make sure that each home we connect gets further support if required.

For more information see:
Chapter 7: Social obligations
Chapter 17: Connecting homes and businesses

Summary	☑ Output	☑ Commitment
Output / Commitment Title 1.3 Average restoration time for unplanned interruptions		
Wording of commitment	- Increase our commitment to reliability by promising an average time off-gas of less than 10 hours for unplanned interruptions through a new Licence Obligation	
Description	The average time taken to get the gas supply back on after an unplanned interruption. Major incidents over 250 properties will be weighted.	
Type of output	ODI F (penalty only)	

Cost & Bill Impact	
Cost of delivery	Included in our annual GD2 emergency service costs of £12.8m and repair costs of £10.5m
Proposed Funding	Base allowance
Customer bill impact	N/A

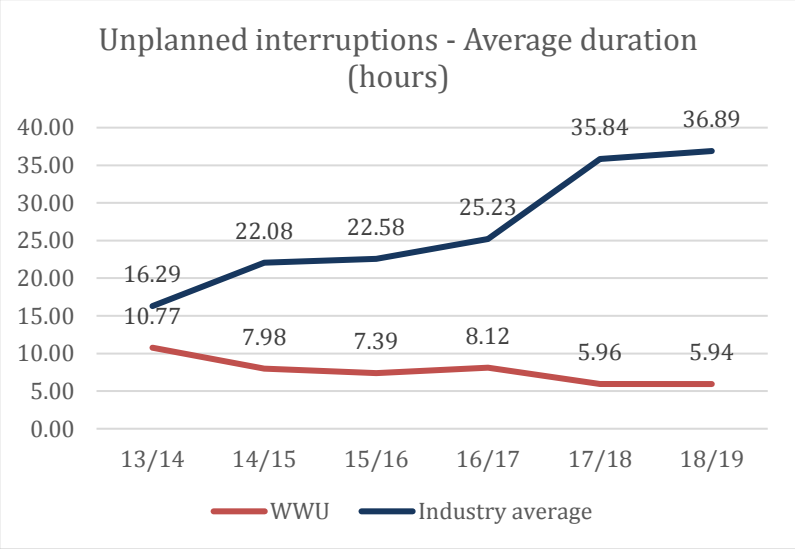
Customer benefits & value	
CVP Reference	Appendix 2A - Delivering for Customers and Network Users 2: Interruptions target For further information please see Appendix 2C3 and 2C4
Summary of customer benefits	Customers will only experience an unplanned interruption to their gas supply once in their lifetime. However, if the supply is interrupted and the event is unplanned, it can have a big impact on people's lives. The lack of heating and hot water will cause most people inconvenience, and for vulnerable customers can result in anxiety and a cold home leading to issues with existing health conditions. While we have obligations to look after customers by prioritising people on the PSR and identifying other vulnerable customers, and providing alternative heating, cooking and other measures, getting the issue resolved as quickly as possible is our aim. Payments will be due under the Guaranteed Standard of Performance if the interruption is longer than 24 hours, and we have pledged to make additional voluntary payments if the interruption is longer than 12 hours. These are covered in our bespoke Outputs.
Distributional impacts	We will apply this standard across our network and foresee no significant differences across our network or for different customer groups.

Stakeholder voice	
Engagement method	We engaged with over 21,000 customers and other stakeholders through 12 discrete engagement activities during our customer and stakeholder engagement campaign. We engaged multiple customer and stakeholder groups through different, appropriate engagement channels, 776 self-identified as vulnerable through our research surveys. We benchmarked our customers' and stakeholders' priorities as well as their investment priorities for us, across our customer personas and general customer demographic segmentations, including vulnerability as a key customer segment particularly affected by interruptions, through our Let's Connect Customer Consultation, further CHAID analysis of Customer Satisfaction Surveys, Consumer Vulnerability research, alongside feedback from our Customer Quantitative Research Phase 2. We honed our commitment to interruption time through engagement with our Critical Friends Panel, and deep dive customer focus groups on innovation and monetised risk, held representatively in Cardiff and Bristol, together with information from our consumer vulnerability deep dive with one-to-ones with vulnerable people in their homes. Our commitment was tested for acceptability through a quantitative customer acceptability research study, and our Critical Friends Panel, with a separate final acceptability and willingness to pay quantitative customer research study, including one-to-one engagement with vulnerable people in their homes and carers. See the synthesis report for more detail on the research and engagement and its triangulation for this commitment.
Stakeholder views	We focus on keeping the number of supply interruptions to a minimum and, in fact, our customers only experience an unplanned interruption once in their lifetime. We understand that being without gas causes an inconvenience to our customers and we have worked hard to improve reliability and to reduce the length of our interruptions in GD1. As a result, our performance is now the best in the industry and we were the only network to maintain our ambitious interruption output targets during GD1. Through our extensive Let's Connect Customer Consultation campaign (circa 20,000 participants), quantitative customer research and regional community engagement, customers and stakeholders have consistently placed the highest importance on reliability, then on innovation, followed by safety and social support. Participants at our regional workshops placed particular emphasis on these aspects. When asked about keeping gas interruptions to a minimum and communicating effectively, 99% said this was 'important/very important' (Base: 81). Our consumer vulnerability engagement during 2018 and 2019 also made it clear that for customers in vulnerable situations long periods without their gas supply brought multiple issues – from issues with

	keeping warm, regulating temperature in terms of too hot as well as too cold, constant requirements for hot water, interruptions to strict timetabled regimes, together with the stress and anxiety that the loss of an essential utility would have a massive negative impact on their lives and well-being. For all these reasons, setting an average interruption to gas supplies during an unplanned interruption that is challenging feels appropriate. Our Critical Friends Panel was of the view that our target to reconnect consumers' gas supplies within 24 hours, 90% of the time, was appropriate for unplanned service interruptions. Respondents in an innovation deep dive focus group said they would prefer reliability of their gas supply over a small financial saving over many years, which they said was 'irrelevant compared with the benefits of reliability'. During our first phase of acceptability testing of our summer business plan commitments in 2019, we tested our average under 10-hour interruption proposal, and learned that 62% of customers said this commitment was acceptable overall, with their importance rating expressed as willingness to pay more on their bill to ensure delivery of this commitment lower at 27%. For this reason, we are not proposing any financial upside. Our phase two quantitative acceptability research which placed greater emphasis on willingness to pay showed that overall customers are willing to pay more. However, there are differences across the population notably among the under 55s, those living in vulnerable situations, urban and rural areas, in the south west and businesses with over 20 employees who are generally prepared to pay more, whereas those not generally wishing to pay more include small businesses, the private sector, people in Wales, in suburban areas and the fuel poor. Please see our bespoke financial ODI for the penalty we are committing to for customers who are off gas for 12 hours; this offers direct customer compensation. It should be noted that this average 10-hour Licence Obligation is measuring gas to the property only whereas our 12-hour bespoke financial ODI measures gas to the appliances.
Conclusion of views	As a result of this feedback and suggestions on improving communications with our customers during interruptions, we are committing to increase our commitment to reliability by promising an average time off gas of less than 10 hours for unplanned interruptions, including major incidents, through a new Licence Obligation and financial ODI.

Performance	
Benchmarking data	Annual GDN Regulatory reporting (currently large incidents are excluded)
WWU GD1 performance	We have improved reliability such that consumers will, on average, only experience an interruption once in their lifetime. We have reduced our average time off gas for customers during GD1. We have also calculated the impact of the large incidents we have had each year to match the proposed GD2 methodology.
Industry comparison	The graph below shows the WWU and GDN performance during GD1. Note that current reporting excludes major incidents.

ANNUAL	Unplanned interruptions - average duration (hours)					
Reg. year	13/14	14/15	15/16	16/17	17/18	18/19
WWU	10.77	7.98	7.39	8.12	5.96	5.94
Industry average	16.29	22.08	22.58	25.23	35.84	36.89



In the table below, we have shown the impact of including large incidents using the weighting methodology proposed by Ofgem in its May Gas Sector decision document.

Reg. year	13/14	14/15	15/16	16/17	17/18	18/19
Including major incidents (capped)	10.77	11.15	7.43	8.17	5.93	5.94
Excluding major incidents	10.77	7.98	7.39	8.12	5.96	5.94

Other ambition / requirements	The average time we commit to in this Output will be treated as a Licence Obligation, which means that we will be at risk of reputational damage and a fine if we fail that timescale in a reporting year.

	We will set internal SLAs to maintain our performance for unplanned interruptions (excluding large incidents at below 6 hours as per our performance in 2017/18 and 2018/19). At the same time, our ambition is to continue to reduce the number of planned interruptions. This will be driven by our replacement of 34,000 services per annum, and increased focus on reducing the damage caused by third parties working near our network. The use of innovative techniques developed in GD1 such as the Duraseal interim repair kit will allow us to safely keep more customers on gas and to plan the renewal works to minimise disruption.

Optioneering	
Options considered (including trade-offs innovation)	Our average over the past three years has been below 8 hours including large incidents. However, to commit to this is too high a risk given that this is a Licence Obligation and failure has serious reputational and financial consequences. • The data from 2014/15 shows the impact of a large incident (in that case 700 homes were off gas for an average of 5 days due to third party damage and water filling up a 5km network which then had to be pumped out and dried before gas could be re-established). That one incident pushed our average up by three hours in that year. • 10 hours is therefore still a risk for us. We have modelled the impact of many smaller incidents and believe that with the learning we have from previous incidents and a structured response to incidents we can keep within this commitment. • 12 hours would reduce our risk of breaching our Licence but does not show any ambition or commitment to stakeholders. • A commitment to match the industry average of 36 hours would result in a poor service to our customers, increased costs of managing those customers during the extended interruption, increased calls and complaints and compensation payments. • Ofgem are still working on the Regulatory Reporting Guidelines for this measure. Our proposal is based on continuing the existing rules for stopping the clock (i.e. if the property is empty, there is a request for the work to be deferred, there is a physical issue in accessing the property or there is another issue beyond our control such as consents or planning permission). Should the rules change we will need to reconsider our commitment. We propose to use innovation to develop new solutions to improve our services and provide greater peace of mind for any customers who are affected by a loss of supply, for example providing alternative hot water and heating facilities that go beyond what is currently available today.

Regional differences	We resource our emergency service to be able to respond to meet our Licence Obligation of attending 97% gas escapes within the 1 or 2-hour standards. Rural areas of our network in Wales and the south west can be more challenging to respond to quickly for the initial escape, and then to resource follow up work to repair or replace a service pipe once the initial engineer has made the situation safe. Large incidents will be responded to in a controlled manner, wherever the incident occurs on our network. The extremities of our network (such as Cornwall or Anglesey) may take longer to get engineers to compared with central locations (such as Bristol, Cardiff or Exeter).

Deliverability & Whole Systems Impact	
Deliverability & viability implications	Our commitment for GD2 is based on our experience of delivering and reporting on this target during GD1. The emergency service is a core function of our activity and our Licence, and this work will therefore be resourced subject to adequate allowances in GD2. The main risk to the achievement of the target is one or more major incidents within a reporting year that take extended periods to resolve in a controlled and safe manner. (Note: Gas interruptions are different from electricity interruptions in which a remote switch can switch the supply back on to homes and businesses. Homes need to be physically isolated if the gas is lost from the network, and then the air safely purged from the network and from customers' pipework before the appliances can be reconnected.)
Resilience to change	A national gas supply emergency would be the biggest impact. This could occur due to political risk, an asset failure due to damage or terrorism. The gas industry works with the HSE to undertake national exercises which simulate the shedding of large gas users from the network to maintain supplies of households along with public messages to reduce consumption. Increased volumes of green gas produced locally reduce the dependence on the National Transmission network and supplies from the continent. Future proposals to introduce hydrogen further reduce this risk. Chapter 19: Workforce resilience details how we maintain a skilled workforce to deliver this service.
Whole system impacts & fit with wider vision	This output will apply to all gas networks and gas customers. The requirements for interruptions will be the same irrespective of whether the network is transporting green gas, gas/hydrogen mixes or full hydrogen.

Proposal
We will commit to a new Licence Obligation of keeping our annual average interruption time for customers below 10 hours, including a weighted measure of large incidents. In accordance with the Ofgem Gas Sector decision document (May 2019) we will take the average interruption time for any incident impacting more than 250 properties, but only apply that to 250 properties. The 10 hours will be measured from gas off to gas at the ECV (not the appliances in the home). In addition, in our bespoke Outputs we commit to paying customers for any interruption that lasts longer than 12 hours (measured from gas off to gas at the appliances).

For more information see: Chapter 6: Customer service, Chapter 16: The distribution network, Chapter 19: Workforce resilience.

Summary	☑ Output	☑ Commitment
Output / Commitment Title 1.4 Shrinkage		
Wording of commitment	Further reduce gas escapes by 10% against the 2021 target value of 454,000 tCO2 through the continued replacement of over 400km of old metal pipe and 20,000 services each year – the equivalent of permanently taking 46,000 cars off the road.	
Description	A measure of the volume of gas lost (GWh) through leakage, theft of gas and our own use gas.	
Type of output	ODI F/ R	

Cost & Bill Impact	
Cost of delivery	This is a function of our investment in mains and service replaced, pressure system management, theft of gas and reductions in our own use gas through innovation.
Proposed Funding	Mains replacement and upkeep of pressure management hardware and software will be funded through base totex allowances. The reduction in own use gas and losses from pressure reduction installations will be supported by innovation funding to identify the optimum ways to reduce their impacts on the environment. The day to day operation and balancing of the network to minimise pressure and therefore leakage will be done through internal initiatives.
Customer bill impact	There is no direct impact on customer bills for shrinkage.

Customer benefits & value	
CVP Reference	N/A
Summary of customer benefits	Delivering our shrinkage targets will give a significant reduction in our carbon footprint and is key to the UK's net zero ambition. Gas lost through transportation is circa 1% of the UK carbon footprint so any reductions are significant to the UK achieving the 2050 net zero position.
Distributional impacts	This will benefit the public generally across our region as it reduces the UK carbon footprint. In GD2 our mains replacement workload is moving from the bigger cities to the network extremities such as Cornwall and we will replace the relatively lower risk iron mains as we move towards programme completion in 2032.

Stakeholder voice	
Engagement method	We engaged with over 3,200 stakeholders over 10 engagement events to hone our mains replacement programme investment. Ongoing and regular engagement with safety experts HSE, tests our development of business plans for future investment, based on expert safety advise and scrutiny, and we additionally engage regularly with highways authorities in this forum. We have also held meetings with BEIS on environmental and net zero related topics. Engagement at regional community workshops with 81 community representatives and qualitative customer focus groups, including a deep dive workshop on innovation, helped us to understand customers' and stakeholders' priorities and their investment priorities for our future business planning. Customers at our qualitative focus groups were recruited from areas highlighted as future hydrogen fueled cities. Here, investment to reduce leakage is important not only from the point of view of reducing emissions, but also from a safety perspective if we are looking to replace methane with zero carbon hydrogen. In addition, we made sure that we included people who lived in and near high rise MOBs to include views from this perspective too. This was tested quantitatively through engagement with 1,000 customers and stakeholders through a wider customer research survey exercise. Using feedback from our survey, workshops and focus groups, we tested our commitment in two rounds of acceptability testing, with a 971 customer research survey and one-to-ones with 40 vulnerable customers in their homes and 16 carers. A further research study with 984 customers has tested willingness to pay across a representative customer demographic segmentation.
Stakeholder views	We know our works impact on a wide range of stakeholders, as well as on the environment, and have always taken steps and put goals in place to minimise the impact of our actions on the environment and to make sure that our network is sustainable in the long run. In GD1 we have made significant progress towards reducing our environmental impact, including addressing the issues of fugitive emissions from our pipe leakage; this has accounted for 96% of our carbon emissions. The engagements we undertook with a range of stakeholders demonstrated widespread support for this commitment; leakage was ranked as an increasingly important topic among diverse stakeholders, as it impacts both the environment and the safety of the network in the long run. In terms of our customer quantitative engagement (1,000 universe), out of our four identified customer personas, two – environmentally considerate and environmentally engaged, accounting for an overall 54% of overall participants – are concerned about or are taking positive steps to reduce energy use and their carbon footprint. Overall there is support for this commitment to replace pipes to reduce emissions – with an increase in the perceived value of the commitment when replacement work is related to a reduction in carbon emissions. These customers indicated that they would not be

	willing to increase their bills for any commitment if the existing resource can already facilitate it, such as innovation, education and awareness. They believe that increasing bills should be the last resort. Nevertheless, they would be willing to pay for this commitment, if necessary, before any other, which reaffirms the high perceived stakeholder value for commitments involving environmental replacement schemes. Stakeholders at regional community workshops were also supportive of the commitment, with participants of the workshop in the south west in 2019 voting decarbonisation as their highest ranking, just above supporting customers in vulnerable situations. In terms of acceptability of this commitment, this was of less importance to customers in vulnerable situations, although acknowledgement that their perception was that this was important to younger people. Our Critical Friends Panel highlighted that 96% of gas operators' carbon footprint stems from leakage, therefore focusing our efforts to reduce gas loss was praised and there was unanimous support for the additional 10% challenge we have set ourselves in GD2. Customer acceptability testing with almost 1,000 people for this output conducted in June 2019 yielded an acceptance rate of 62%, which was among the highest accepted commitments across our business plan. Overall, domestic and SME customers are generally willing to pay more for this commitment, but there are notable variances across the population e.g. younger and older people, people living in urban and suburban areas and the south west along with medium to large businesses are more likely to be prepared to pay more, whereas people living in fuel poverty, people living in rural areas, Wales, between the ages of 25 to 55 and smaller businesses (up to 20 employees) are less likely to be prepared to pay more. Local authorities were not supportive of a faster paced replacement programme due to the disruption it causes communities. It was also felt that it may not be deliverable based on current forecasts of the labour market. We made sure to engage with customers who were also commuters, both qualitatively and quantitatively, discussing roadworks disruption. Comments from this cohort demonstrated their understanding of the need for the work and that a short-term disruption would give a much longer term benefit. In addition, in the Ofgem-led repex stakeholder group, Ofgem suggested that a very high bar would have to be passed to make the case for accelerating the replacement programme.
Conclusion of views	Based on our engagement to date, there is strong support for our commitment to further reduce shrinkage by 10% against the 2021 target value. Feedback is supportive both in terms of the overall promise, as well as in the measurable targets we set ourselves. It is a commitment ranked as a high priority overall and we should strive to

	ambitiously deliver it for network safety and the environmental benefits it provides.

Performance	
Benchmarking data	GDN Annual Regulatory Reporting to Ofgem allows a comparison. This must be normalised to account for the size of the gas network within each GDN and the mix of pipes (plastic vs metallic).
WWU GD1 performance	

	ACTUALS						FORECAST	
	2014	2015	2016	2017	2018	2019	2020	2021
Shrinkage volumes at start of RIIO-GD1	417							
Shrinkage volume	417	395	381	378	372	351	347	341
Shrinkage baselines	440	429	421	413	405	397	389	381
Shrinkage volume reduction	-	23	36	39	46	66	70	76
% shrinkage volume reduction	0%	5%	9%	9%	11%	16%	17%	18%

Industry comparison	Comparisons in total shrinkage are difficult to make due to the large differences in both the asset base between GDNs and in the way that the asset base was designed to operate.
Other ambition / requirements	We have published an ambitious vision to deliver a net zero ready network by 2035. If this is supported our carbon emissions through shrinkage will reduce at a greater rate from 2026.

Optioneering	
Options considered (including trade-offs innovation)	Please refer to the repex-tier 1 mains replacement output below which drives the reduction in shrinkage in GD2.
Regional differences	This will benefit the public generally across our region.

Deliverability & Whole Systems Impact	
Deliverability & viability implications	We have an excellent track record of year on year reduction in emissions. There is accountability across our organisation for delivering mains replacement and managing network pressures. Leading management information (MI) and reports give early awareness of any issues in delivering this target and commitment from the top of our organisation ensures quick responses to dealing with any issues.
Resilience to change	We are constantly looking to improve the assessment of shrinkage and looking for innovative ways to reduce it further. We hold a

	regular Shrinkage Forum with the GDNs, Shippers and other interested parties to collaborate and encourage such improvements. If key factors in shrinkage change, we have a process in place to liaise with Ofgem, consult more widely and update the Ofgem approved Shrinkage Model. This has been implemented successfully in GD1 and we most recently updated the model and reset baseline targets to reflect improvements in the modelling of metallic services.
Whole system impacts & fit with wider vision	This output delivery is key to our vision of a net zero ready network by 2035.

Proposal

In GD2 we are committing to reducing shrinkage by 10%

RIIO-GD2					
Reg. year	21/22	22/23	23/24	24/25	25/26
Total shrinkage (GWh)	334.950	329.065	322.711	316.154	310.139

This reduction is primarily made up of two elements – mains replacement and network pressure management.

The reduction in annual shrinkage will be over 31GWH per annum by 2026. This is made up of a reduction of 51GWH from mains and service replacement (reputational ODI).

This is offset by an increase of 20GWH as a result of having to raise pressure to ensure security of supply to our existing and growing customer base and to maximise mains insertion, keeping the cost to consumers of mains replacement as low as possible (financial ODI).

For more information see Chapter 14: Environmental Action Plan.

Summary	☑ Output	☑ Commitment
Output / Commitment Title 1.5 Environmental Action Plan initiatives		
Wording of commitment	Commitments within this output are wide ranging. There are two high level commitments which we are identifying separately and which we have consulted specifically on: - Reuse and recycle at least 80% of our waste by 2026 and send zero waste to landfill by 2035, to achieve our ambition to be a zero waste company by 2050 - Move 75% of company cars to hybrid or ultra-low emission vehicles by 2026, and we will explore green alternatives for our commercial fleet by 2035 – supporting biodiversity and improving air quality	
Description	To ensure that GDNs minimise the environmental impact as a result of delivering the gas network. Mandated focus areas include carbon emissions, resources and supply chain management, biodiversity and natural capital and the decarbonisation of heat.	
Type of output	PCD	

Cost & Bill Impact

Cost of delivery

Costs associated with delivering Ofgem's minimum requirements are as follows:

Deliverables	Total Cost in GD2 (£M)	Estimated spend per year (2018/19 prices) (£M)				
		21/22	22/23	23/24	24/25	25/26
EAP	£2.65	0.57	0.52	0.52	0.52	0.52
Minimum Requirements	*£2.29*	*0.49*	*0.45*	*0.45*	*0.45*	*0.45*
Special Initiatives	*£0.35*	*0.08*	*0.07*	*0.07*	*0.07*	*0.07*
Land Management	£6.86	1.03	2.18	2.60	0.84	0.21

Proposed Funding

Funding will be through base totex. Under the rules around PCDs, money will be returned to customers if the PCD work is not undertaken or the outcomes not achieved.

Customer bill impact

Deliverables	Average Cost to Consumers per year of GD2
EAP	21p
Minimum Requirements	*18p*
Special Initiatives	*3p*
Land Management	54p

<table>
<tr><th colspan="2">Customer benefits & value</th></tr>
<tr><td>CVP Reference</td><td>Appendix 2A Delivering an Environmentally Sustainable Network
1: Environmental Action Plan

For further information please see Appendix 2C17 & 2C18</td></tr>
<tr><td>Summary of customer benefits</td><td>CVP has been applied to special initiatives within the EAP; specifically for the plating of trees and associated community engagement activities. These initiatives represent activities considered to be over and above the Ofgem minimum requirements for the EAP. This will allow us to protect and preserve natural capital as a direct response to our activities.

The costed social benefits associated with our special initiative include:
• Capture and storage of carbon dioxide by new trees; mitigating climate change.
• Improved physical and mental health benefits associated with access to green spaces.
The cost and benefits are represented in the table below:

<table>
<tr><th>Commitment</th><th>Cost</th><th>Financial Benefit</th><th>Social Benefit</th><th>Net Present Value</th><th>Net Benefit per £ spent</th></tr>
<tr><td>Environmental Action Plan - Preserving the Natural Capital</td><td>£325,000</td><td>£0</td><td>£4,384,622</td><td>£3,234,049</td><td>£11.22</td></tr>
</table>

Additional, non-costed benefits include increased biodiversity and habitat creation, provision of shaded places within cities, improvement to air quality and increased knowledge and understanding of the importance of natural capital in the communities we serve.</td></tr>
<tr><td>Distributional impacts</td><td>We will apply this standard across our network and foresee no significant differences across our network or for different customer groups.</td></tr>
</table>

<table>
<tr><th colspan="2">Stakeholder voice</th></tr>
<tr><td>Engagement method</td><td>The EAP is broad in its nature and cross-cutting and for this reason engagement across the business is referenced. The engagement methods can be viewed by topic and the associated output/commitment in the following sections:
1.4 - Shrinkage
1.19 – Land remediation
1.22 – Align our priorities to the relevant UN SDG Goals
1.24 – Reusing and recycling at least 80% of waste…
1.25 – Move 75% of company cars to hybrid and ULEV…
1.26 – Delivering a net zero ready network by 2035
1.27 – Invest in innovation …
1.33 – Ensure that the investments we make today will support FES…</td></tr>
</table>

	A few examples are highlighted below: Independent research brought together existing studies, qualitative insight gathered from focus groups, and quantitative data from 1,000 customers (802 domestic and 200 SMEs) (telephone interviews were used for hard-to reach groups who may not have on-line access). The research sought to identify different types of customers and whether there were differences in their priorities – this was established through responses to 27 attitudinal statements and demographic questions. There was also specific engagement on the environment e.g. meetings with local authority stakeholders, active engagement with other GDNs formally within the ENA Environment Group and an on-line colleague survey which looked at the perceived importance of environmental initiatives (116 responses). Additional engagement examples that fed into the development of associated commitments included meetings and forums around decarbonisation with Government and academia, deep dive focus groups on sustainability with educated consumer panels and our critical friends group workshops, along with regional workshops. The commitments were also tested with customers in two quantitative phases, the first of which tested acceptability with a sample of 971. Phase 2 explored bill acceptability/willingness to pay and relative importance of commitments with a sample of 984 (772 domestic and 212 SMEs).
Stakeholder views	The cross-cutting nature of the EAP means that we have been able to draw on engagement across the business e.g. much of our engagement that informed our net zero ready by 2035 commitment is relevant to the EAP topic of reducing our carbon footprint. From our early quantitative research, it was possible to derive broad domestic customer segments and attach personas. Two of the groups – the 'environmentally engaged' and 'environmentally considerate' – make up 54% of the sample population. The environmentally engaged (female dominant, higher proportion of under 35s, more likely to rent and be from the south west and higher proportion of C1C2) are generally extremely concerned about the environment and take positive steps to reduce the energy they use (and their carbon footprint). They actively recycle and are prepared to make lifestyle compromises to benefit the environment. They believe a difference can be made if everyone does their bit. The 'environmentally considerate' (45:55 male:female, generally older, own property rather than rent, lower socio-economic group (SEG) tend to have more time on their hands and are less likely to be under pressure to do as many things as possible. They have concerns about the environment and make small changes to their lifestyles and in their homes to focus on what is important to them; reducing their carbon footprint.

	Our customer profiles will be important as we go forward into GD2, enabling us to more effectively tailor services and communications. Additionally, our engagement with local authority (LA) stakeholders provided us with further insights into how we can deliver positive environmental actions in a practical way e.g. some of the areas highlighted include: - Looking at local waste management opportunities to reduce logistical effects. - While it is accepted that we may need to remove trees where they represent a significant risk to the integrity of our pipe-work, it is felt that this is an opportunity to replace trees within urban areas as part of a community engagement programme. - Greater engagement with local authorities around air quality, specifically air quality management areas (AQMAs) to avoid exacerbating areas already impacted through avoidance where possible. Additionally, tackling idling is seen as important to protecting air quality and the councils are pleased to see that we are committed to operating a modern vehicle fleet. - Engaging with district/parish councils (this would be town and community councils in Wales) to ensure that our plans to limit impacts on biodiversity meet local needs in line with biodiversity net gain good practice principles. - It was felt that we could do more to make sure that our remediated former gasworks sites are brought back into beneficial use e.g. proactively ensuring that they are presented in local planning department redevelopment plans. Our internal survey shows that diverting waste from landfill by increasing recycling and reuse is important to over 97% of colleagues. Indeed, 87% of these consider it to be very important (highest rated environmental initiative in this survey). Reducing noise pollution is the least important for this group (although over 70% do consider it important). Furthermore, our recent (Nov 2019) quantitative research with customers shows that domestic customers (base:772) consider our commitment to reuse and recycle at least 80% of our waste by 2026, to achieve our long-term ambition to be a zero waste company by 2050 is the third most important commitment (safety being number one). This commitment was introduced at a later stage and links to the stakeholder feedback that supports its introduction. Additional engagement and feedback are referenced in the synthesis report ‘External stakeholder feedback on EAP topics’ contained in Appendix 5F. Our specific draft commitments formulated based on meeting identified stakeholder and business needs were tested for acceptability (sample 971) with overall acceptability for those linked to the environment as follows: - ‘Align our priorities to the UN SDGs’ – 55% - ‘Monitor and clean up previous gas work sites’ 65% - ‘Further reduce shrinkage…’ 62%

	- 'Move 75% of company cars to hybrid and ULEV…' 65% - Continue to facilitate green gas, including hydrogen and support a whole systems approach… 64%. (Please note that this commitment evolved to 'Delivering a net zero ready network by 2035'.) - 'Invest in innovation' …57% - 'Ensure that the investments we make today will support FES…'62%. Subsequently, these commitments where appropriate (including evolved versions and the new commitment around recycling and reuse) were tested for bill acceptability. Overall customers are willing to pay a little more to support the delivery of these commitments, but there are variances by segment e.g. in general people in the south west, younger people – 18 to 24 (with the exception of land remediation) and larger businesses (over 20 employees) are prepared to pay more whereas people living in fuel poverty and in Wales (except SDGs) along with smaller businesses (under 20 employees) are less likely to be willing to pay more.
Conclusion of views	There is general support across stakeholder groups to support an Environmental Action Plan and this complements other commitments.

Performance	
Benchmarking data	Some elements of the EAP are reported within tables 3.10 (land management), 7.6 (business carbon footprint) and 7.7 (environment - other) of the RRP.
WWU GD1 performance	In GD1, we have made significant strides to reduce our environmental impact by: • Reducing our annual BCF by 18% since 2013. • Implementing a comprehensive recycling scheme across our operational and office-based functions. • Delivering 85 land management outputs, significantly reducing the contaminated land risk to consumers and vulnerable water bodies. • Connecting an impressive 19 biomethane producers to the network. • Enabling flexible generation to provide backup for renewable generation. • Maintaining our ISO14001 environmental management system accreditation without a single major non-conformity.
Industry comparison	The EAP is a new requirement and industry comparisons are currently unavailable. However, we want to be an environmentally ambitious company, delivering best practice, leading environmental innovation and demonstrating the benefit to companies and society of protecting and enhancing the environment.
Other ambition / requirements	N/A

Optioneering	
Options considered (including trade-offs innovation)	A wide range of environmental proposals were considered, on merit, for inclusion within our environmental strategy. The following aspirations guided the final decisions: • Focus should be given to areas where we can make the greatest reduction of our impact and/or the greatest improvement to the environment. • Where possible, strategies should optimise wider environmental benefits for a sustainable society and economy. • We should strive to make policy and long-term behavioural changes within the workplace that will positively impact on behaviour outside of work. • Financial investment should be smart, proportionate and produce a quantifiable long-term environmental benefit. • Short- and long-term targets should align with government policy, be inclusive and equitable. Detailed examples are presented and linked in Chapter 14 of the business plan and associated appendices.
Regional differences	Environmental impact is a rapidly evolving theme within the UK and globally. Regional opportunities and challenges are present across our network with local and national focus on developing themes occurring at different rates.

Deliverability & Whole Systems Impact	
Deliverability & viability implications	Our delivery plan maximises the impact areas we have direct control over without incurring significant cost to consumers. However, government policy, available technology and continued stakeholder support will be essential to successfully deliver our EAP.
Resilience to change	We have built flexibility through continued improved environmental performance and stakeholder engagement. Uncertainty is inherent in environmental improvement but our plans will be carefully crafted and managed to ensure significant environmental improvement is achieved.
Whole system impacts & fit with wider vision	We will continue to collaborate with utilities, local authorities, non-government organisations and our stakeholders to deliver our ambitious EAP, utilising experiences from others and sharing our successes and learning opportunities.

Proposal
We will limit our environmental impacts to ensure the protection of the environment to ensure the future delivery of an environmentally sustainable network.

Summary	☑ Output	☑ Commitment
Output / Commitment Title 1.6 Network Asset Risk Metric (NARM)		
Wording of commitment	- Continue our risk-based approach to asset intervention on our network – with an effective monitoring regime endorsed by the HSE.	
Description	A common model for calculating the monetary value of the risk of our assets.	
Type of output	PCD / ODI	

Cost & Bill Impact	
Cost of delivery	NARMs output achievement will require delivery of our asset intervention plan for all asset groups measured under NARM. The plan will cost £97.4m per annum. It should be noted that £80.2m of this relates to mains replacement which is measured under other outputs.
Proposed Funding	Funded through base totex allowances
Customer bill impact	Included in other outputs

Customer benefits & value	
CVP Reference	N/A
Summary of customer benefits	Delivery of this output will keep network risk at the current level accepted by our stakeholders. The result is no increase in safety, reliability or environmental risk. This will ensure that incidents such as loss of supply remain at the very low levels currently experienced by our customers.
Distributional impacts	The NARMs methodology considers risks on an asset by asset basis so all consumers are treated consistently under this measure. Following feedback from the CEG, we have introduced a process to identify vulnerable customers and the assets that supply them. This has enhanced the assessment of risk to the vulnerable of asset failures and will be considered in investment decisions in GD2.

Stakeholder voice	
Engagement method	We have engaged customers and stakeholders on this commitment through a series of 11 engagement activities with 3,500 stakeholders. We identified customer and stakeholder segmentations through our 1,000 customer quantitative engagement focus groups and research survey, alongside a survey of 78 industry, government and other national stakeholders. This also identified their priorities, alongside regional community workshops, which lent a regional perspective to priority identification, including exploration of future energy scenarios at further specialist regional events. We further engaged 37 key national expert stakeholders through a workshop, held in collaboration with the other gas networks to further explore their priorities for our GD2 investment priorities. We tested

	priorities further with a series of engagement meetings with MPs representing constituencies across our network area. In addition, we hold six-monthly engagement sessions with the HSE policy team to discuss our strategy and management plans. To help us understand customers' perspectives in more detail, we commissioned a deep dive customer focus group with 18 customers on the monetised risk within our proposed plan. Acceptability of our commitment has been tested through qualitative focus groups and a quantitative customer research survey (phase 1). This was followed by a quantitative willingness to pay survey (phase 2) with 772 domestic and 212 SMEs.
Stakeholder views	During GD1, safety has consistently been reported as a priority for our stakeholders. Our most recent research found that maintaining a safe and reliable gas supply was still the number one priority, with a clear expectation that we will keep our excellent performance in responding to emergencies and continue to replace old and leaking pipes throughout the GD2 period. We have met all safety standards set by Ofgem and HSE in GD1 and have also been classed as an exemplary performer in our safety leadership by HSE. We are proud to be fully delivering our mains replacement programme in GD1, and in the process, making our network safer for our customers, and resilient for future energy scenarios. Our quantitative 1,000 stakeholder research study highlighted broad support for our risk-based approach to asset intervention. Stakeholders regularly prioritise the importance of safe and reliable gas supplies. The national collaborative gas networks joint expert stakeholder engagement highlighted that investing in infrastructure to ensure asset integrity and safety is of great importance. Attendees at our regional community workshops across our network area in 2018 stated that they wanted us to ensure that gas pipe replacement material is future-proofed for the use of new technologies. Specifically, concerns were raised during discussions at the Swansea and Llandudno events, around the pipe replacement programme and whether the pipes would be fit for purpose for emerging technologies of the future. These concerns included questions on the use of different low carbon gases being put into the system – which we are able to allay. National expert stakeholders (37) attending a collaborative gas network – including transmission, workshop and discussion sessions in 2019, said they want us to ensure that we have a robust approach to asset intervention throughout GD2. They want us to ensure that gas pipe material is future-proofed. More generally, stakeholders made it clear that they do not want gas networks to close off opportunities for the future by underinvesting. At the same time, they do not want us to overinvest and be left with stranded assets based

	on flawed technology. Stakeholders particularly valued our use of experts. Stakeholders are supportive of our approach to balancing earlier and longer-term asset interventions. We held a customer deep dive on monetised risk, where we engaged on our capital expenditure, which is known as 'slow money' and is paid for by customers over 45 years. Participants included a mix of customer demographics across age groups that reflected energy customers of many years and new customers who would be the energy bill payers well into the future. Stakeholders held a range of stances, from concern to pragmatism. They asserted that for a business that relates to the public's safety they understood why we took this approach for a large proportion of our assets. However, in taking the approach of waiting until some assets are at the end of their lives, it is important for those assets to be monitored and tested using sophisticated technology – so that safety is maintained. Stakeholders are less concerned when we engaged on earlier asset interventions. They highlighted that they favour a much more interventionist approach for assets that are vital to supply. They also highlighted that they are not opposed to a more interventionist asset replacement/repair strategy increasing customer bills as long as vulnerable customers' bills are protected. HSE is a key stakeholder and has expressed concerns about any increase in risk on our network. The CEG challenged us to demonstrate how the different workload drivers impacted on investment and how this linked to monetised risk and ultimately to benefits for consumers. We recognise that this is a complex area and one that we have spent time discussing with the CEG. We have articulated this more clearly in our business plan. The group also challenged us on how we bring the needs of vulnerable customers into our asset investment decision making. In response, we have now mapped our PSR to meter points and meter points to assets. This means we can assess the risk of asset failure on the vulnerable in our network and manage this risk appropriately. In testing the customer acceptability of this commitment, and maintaining the level of ambition in our commitment, 57% of stakeholders highlighted that they believed the commitment is overall acceptable. In the first round of acceptability testing, only 24% of domestic customers (base 220) expressed their importance rating of this commitment in terms of willing to pay more on their bill to ensure delivery of this commitment. During phase 2, we commissioned a robust willingness to pay study and found that overall people are willing to pay more for the delivery of this approach, but there are differences across segments with people in the south west, rural and urban areas, the younger and older populations and businesses with over 20 employees generally being prepared to pay more. This is not the case for smaller

	businesses (under 20 employees), people in Wales, in suburban areas and those aged between 25 and 55. One finding which is of interest and potentially further analysis is that people living in fuel poverty are more likely to pay a small amount more while the non-fuel poor are less likely to be prepared to any more.
Conclusion of views	Customers and stakeholders said they would like us to ensure that we maintain our risk-based approach to asset intervention and the outcomes it delivers. They also highlighted that this risk-based approach is not solely about replacing assets to ensure safe gas supplies, but also about proactively ensuring that the decisions that we are making are in the interest of the longer-term. Based on this feedback we are committing to continue our risk-based approach to asset intervention on our network – with an effective monitoring regime endorsed by the HSE.

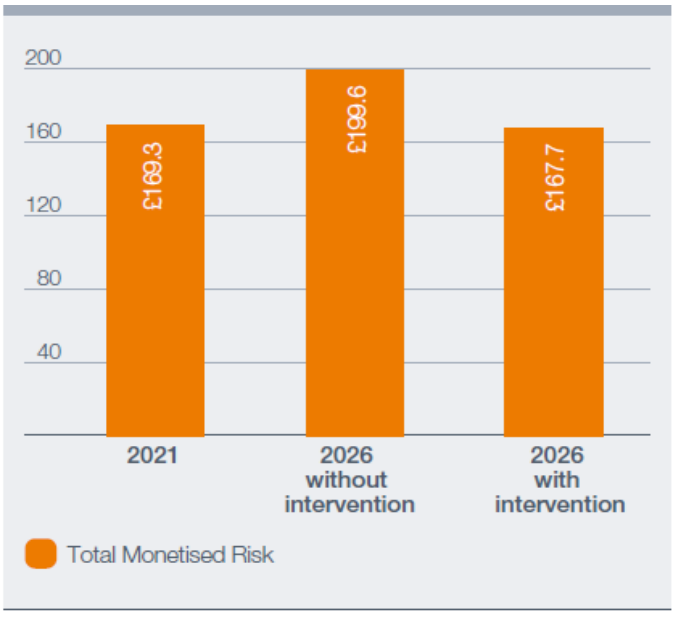
Performance	
Benchmarking data	GDN comparison through data sharing and reported annually in RRP.
WWU GD1 performance	Using the current model, the monetised risk of our assets is £163m in 2018/19. Our investment in the final two years of GD1 will ensure delivery of the Ofgem target for 2021.
Industry comparison	The NARMs measure is in its infancy and we commit to working with Ofgem and the other GDNs to develop meaningful comparisons.
Other ambition / requirements	Our ambition is to keep risk at current levels, reflecting the mains and service replacement programmed but also the ageing of the remaining asset population. There are other requirements that impact NARMs, most notably the HSE mandated iron mains replacement programme. Our ambitious plan to achieve a net zero ready network by 2035 will also have a significant impact on the level of monetised risk on our network in GD3 onwards.

Optioneering	
Options considered (including trade-offs innovation)	• An acceleration of the mains replacement programme has been considered but ruled out due to labour market forecasts and concerns from local authorities over levels of disruption. • We have reviewed investment scenarios that both increase and decrease risk. Increasing risk has not been supported by our stakeholders. The HSE would also have considerable concerns if asset risk were increasing. • The cost of reducing risk is considerable and stakeholders have told us they are happy with the current safety and reliability performance from our network. Refer to Appendix 15A – Cost Benefit Analysis and Appendix 15B – Engineering justification documents.
Regional differences	The NARMs methodology considers risks on an asset by asset basis so all assets are treated consistently under this measure.

Deliverability & Whole Systems Impact	
Deliverability & viability implications	We have an excellent track record of delivering asset investment programmes. Delivery risks and mitigations are laid out in the CBAs for each asset groups.
Resilience to change	Our asset investment plan can be impacted by external influences such as local authority plans, work of other utilities and stakeholder objections. To manage this, we ensure that we have schemes that can be planned and delivered at short notice to replace other schemes, making us very resilient to change. The Safety & Reliability Working Group (SRWG) is a group consisting of representatives from all GDNs. The role of this group is to ensure that the NARMs models stay relevant and valid. If for example the price of carbon changes, we have a process and mechanism to update the models accordingly and reset baseline targets.
Whole system impacts & fit with wider vision	Investment to deliver the NARMs output will result in a low cost, low emissions buried pipe network and a set of well-maintained and reliable above ground assets. This is essential for our net zero ready by 2035 vision.

Proposal

We will maintain our monetised risk in GD2 at similar levels to now, with a monetised risk of £168m by 2026.



For more information see Chapter 15: Asset resilience and Appendix 15A – Cost Benefit Analysis and Appendix 15B – Engineering justification documents.

Summary	☑ Output	☑ Commitment
Output / Commitment Title 1.7 Repex – tier 1 mains replacement		
Wording of commitment	- Significantly reduce the safety risk for over half-a-million people living in the vicinity of an ageing metallic gas main, by investing a further circa £400m in our mains replacement programme.	
Description	A programme of work mandated by the HSE to replace iron metallic mains within 30m of an occupied building by 2032. Tier 1 mains are categorised as iron pipes with a diameter of less than 9".	
Type of output	PCD	

Cost & Bill Impact	
Cost of delivery	The mains replacement programme will cost circa £400m in GD2 (all tiers and associated steel pipes).
Proposed Funding	Funded through base totex allowances
Customer bill impact	56p per annum

Customer benefits & value	
CVP Reference	N/A
Summary of customer benefits	Iron mains pose a safety risk through leaks leading to gas escapes, with the potential for gas to enter and collect in a building. Investment in the mains replacement programme reduces the risk of an explosion. There are also significant environmental benefits of replacing old mains that leak methane into the atmosphere.
Distributional impacts	The programme is driven by individual pipe risk scores and will be primarily delivered in the south west during GD2 with large volumes of work in Cornwall, Devon and Somerset. Following feedback from the CEG we will be taking account of customers who are on the PSR when planning our mains replacement work to assess the risk of asset failure on the vulnerable in our network and manage this risk appropriately.

Stakeholder voice	
Engagement method	We engaged through at least 14 events with more than 23,000 stakeholders, to understand the different segmentations of customers and stakeholders who it would be important to engage with on this topic and also to understand the importance they place on safety and reliability of service. Our Let's Connect Customer Consultation evidenced that customers placed paramount importance on safety and reliability of service. This was further evidenced through our consumer vulnerability engagement across four strands including 100 telephone interviews, 31 on-line interviews with case workers (for whom any variance from strict regimes would cause challenges) 20 in depth one to one interviews, and 3 focus groups (total sample: 24).

	Also, as part of our business as usual engagement, we ran a customer focus group in 2017 on gas pipe replacement to gain a better understanding of how we could improve this experience for customers. Engagement at regional community workshops with 81 community representatives and qualitative customer focus groups, including a deep dive workshop on innovation, helped us to understand customers' and stakeholders' investment priorities for our future business planning. Customers at our qualitative focus groups were recruited from areas highlighted as future hydrogen fuelled cities, where investment to reduce leakage is important not only from a reduction of emissions point of view, but also from a safety perspective if we are looking to replace methane with zero carbon hydrogen. In addition, we made sure that we included people who lived in and near high rise MOBs to include views from this perspective too. This was tested quantitatively through engagement with 1,000 customers and stakeholders through a wider customer research survey exercise. Through ongoing and regular engagement with the HSE we test our development of business plans for future investment, based on expert safety advise and scrutiny, and we additionally engage regularly with highways authorities in this forum. We held meetings with BEIS on environmental and net zero related topics. We have also taken part in an Ofgem led repex stakeholder group involving all GDNs, HSE and shippers. Using feedback from our survey, workshops and focus groups, we tested our commitment in two rounds of acceptability testing, with a 971 customer research survey and one-to-ones with 40 vulnerable customers in their homes and 16 carers. Acceptability was also tested with our Critical Friends Panel. A further research study with 984 customers has tested willingness to pay across a representative customer demographic segmentation.
Stakeholder views	Customers' number one priority is to continue knowing that their gas network is safe and reliable. Throughout the GD1 period, safety has consistently been ranked to be of primary importance for our stakeholders. Our most recent research reaffirmed the importance of a safe and reliable gas supply, with a clear expectation that we will continue to deliver excellent performance in emergency responses and replace old leaking pipes. In terms of driving improvements, stakeholders made it clear during our deep dive sessions centred on innovation which took place in March 2019, that a strong focus of ours should be around improving safety. Our general engagement has evidenced that proposed GD2 projects linked to making safety improvements are generally prioritised over other themes. CHAID in-depth analysis of our Let's Connect Customer Consultation (circa 20,000 responses) has demonstrated that the customer gas

	pipe replacement experience can be enhanced by doing work to a high standard, together with adequate communications during work programmes (praise was extended to our on the ground customer support officers) and working quickly to restore the community to normal. A customer focus group looking at customer concerns around replacement works highlighted support for live mains insertion and one period off-gas only. The priority to minimise time off gas specifically for rural communities was highlighted through our first quantitative customer research study (1,000 universe) where support services can be more difficult to access. This is particularly relevant to us as large areas of our network are rural or semi-rural. Local authorities were not supportive of a faster paced replacement programme due to the disruption it causes communities; they felt that it may not be deliverable based on current forecasts of the labour market. Other feedback from local authorities included support for our strategy to clear out areas of metallic main in one visit in preference to piecemeal replacement. We made sure to engage with customers who were also commuters, both qualitatively and quantitatively, discussing roadworks disruption. Comments from this cohort demonstrated their understanding of the need for the work and that a short-term disruption would give a much longer term benefit. Our expert engagement with BEIS and HSE and local authorities has supported our commitment, while in the Ofgem-led repex stakeholder group, Ofgem suggested a very high bar would have to be passed to make the case for accelerating the replacement programme. We engaged with stakeholders regarding repex as part of our deep-dive sessions on monetised risk. Stakeholders highlighted that if customer bills were to increase to help enhance the delivery of the repex scheme then it was important that the extra money be ring fenced. All stakeholders were happy to pay 90p a year for repex expenditure. There was broad consensus that the concept of early replacement to avoid more expensive replacement later is wise. However, many had questions about the disruption this would cause and subsequent hierarchy of regions who are yet to have their pipes replaced. The CEG challenged the increases in repex costs, first to clarify their understanding and secondly around the robustness of the evidence we were providing about these cost increases. A similar challenge was raised by the RIIO-2 Challenge Group at the deep dive sessions in October 2019. We have spent time explaining this, walking through unit costs and demonstrating what is changing and the drivers behind this. The narrative has also been strengthened and additional appendices have been included in our business plan. This CEG challenge is now resolved. Additional feedback on the proposed level of ambition for this commitment, including from our business plan acceptability testing phase 1 engagement evidenced that 62% of those surveyed (991 universe) felt that the commitment was acceptable. This commitment

	was one of the highest ranked in acceptability testing, with a broad consensus across geographies (64% in Wales, 61% in south west England) and age brackets (between 60% and 80% for 25-34 and up to 75 and above, with one outlier of 44% for age 18-24 year olds).
Conclusion of views	So far, we have met all safety standards set by Ofgem and the HSE in GD1 and have been classed as an exemplary performer in safety leadership by HSE. To help ensure that we are putting customers' number one priority as ours, we are proposing to reduce the safety risk for over half-a-million people living in the vicinity of an ageing gas metallic gas main. We will do this by investing a further £400m in our mains replacement programme.

Performance

Benchmarking data	GDN comparison through annual Regulatory Reporting
WWU GD1 performance	

Year	2014	2015	2016	2017	
T1 length decommissioned (km)	332.5	365.6	345.1	336.2	
Year	**2018**	**2019**	**2020**	**2021**	**GD1 Total**
T1 length decommissioned (km)	302.5	338.0	323.0	323.0	2,666.0

Industry comparison	• We are on target to deliver the mains replacement programme. • Other networks are facing challenges in delivering their repex programmes • This is impacting our ability to secure labour resources to deliver a flat programme and is preventing the acceleration of the programme.
Other ambition / requirements	Our ambition is to keep risk levels as they are now and to deliver the mains replacement programme in a safe and efficient way while minimising the impact on communities and households. We also have an ambition to deliver a net zero ready network by 2035. The programme is mandated by the HSE under regulation 13a of the Pipeline Safety Regulations. We have discussed with Ofgem the possibility of accelerating this programme in their open stakeholder repex forum. They have stated that a very high bar would need to be passed to justify this. We have engaged with our stakeholders and following feedback have decided not to accelerate the programme.

Optioneering

Options considered (including trade-offs innovation)	An acceleration of the mains replacement programme has been considered but ruled out due to labour market forecasts, concerns from local authorities over levels of disruption and concerns from Ofgem raised in their repex stakeholder groups. The iron mains programme is very beneficial in term of reducing safety risk and carbon emissions. It is also financially positive with the benefits outweighing the cost by the early 2030s. The HSE would not accept

	a reduced programme so we have discounted that option for these reasons. We propose an innovation focus theme to develop new solutions for mains replacement that will seek solutions to avoid any unnecessary investment, maximise asset life extension and minimise disruption to the public.
Regional differences	The programme is driven by individual pipe risk assessments which results in replacement across our geography. We will see a shift of work in GD2 to network extremities such as Devon and Cornwall. This is a result of replacing the higher risk pipes in major cities in GD1 and the risk profile now taking us to these areas in GD2.

Deliverability & Whole Systems Impact	
Deliverability & viability implications	We have an excellent track record of delivering mains replacement. Risk of non-delivery is low, although there are significant challenges with labour shortages and price increases as a result. Chapter 19: Workforce resilience sets out our plans to mitigate this.
Resilience to change	Our mains and service replacement plan can be impacted by external influences such as local authority plans, work of other utilities and stakeholder objections. To manage this, we ensure we have schemes that can be planned and delivered at short notice to replace other schemes, making us very resilient to change.
Whole system impacts & fit with wider vision	Replacement of iron mains is a key component of our plan to deliver a net zero ready network by 2035.

Proposal

We will replace a total of 1,625km of Tier 1 distribution mains in GD2 at an average of 324km per year.
In addition, we will:

- replace 154km of Tier 2 mains
- replace 9.7km of Tier 3 mains
- replace 50km of mains more than 30m from properties
- replace 346km of steel mains

For more information see Chapter 16: The distribution network.

Summary	☑ Output	☐ Commitment
Output / Commitment Title 1.8 Repex – replacement of services		
Description	The replacement of metallic services to comply with HSE guidance which does not allow a steel service to be reconnected following a mains replacement or to just repair a service following a leak.	
Type of output	This has not been concluded and is TBC by Ofgem.	

Cost & Bill Impact	
Cost of delivery	The services associated with the mains replacement programme are included in the mains replacement programme costs. An additional £8.6m per year has been allocated for other service replacement work which included relaying services after a gas escape and replacement of service due to poor condition.
Proposed Funding	Funded through base totex allowances
Customer bill impact	8p per annum

Customer benefits & value	
CVP Reference	N/A
Summary of customer benefits	Metallic services pose a safety risk through corrosion leading to gas escapes, with the potential for gas to enter and collect in a building. Replacing these services reduces the risk of explosion. There are also significant environmental benefits of replacing old mains that leak methane into the atmosphere.
Distributional impacts	The workload will primarily follow the programme of mains replacement and move from Wales and the north of our network into the south west during GD2.

Stakeholder voice	
Engagement method	Our engagement on this subject has been included as part of our overall engagement on gas pipe replacement, and engagement methods, stakeholder views and conclusion of views are shown in output 1.6 Repex – tier 1 mains replacement.
Stakeholder views	As above.
Conclusion of views	As above.

Performance	
Benchmarking data	Annual RRP reporting
WWU GD1 performance	

	ACTUALS						FORECAST	
	2014	2015	2016	2017	2018	2019	2020	2021
No. of services relaid	22,851	23,770	21,642	23,268	18,083	17,146	21,610	21,610

Industry comparison	Replacement volumes are driven by service numbers connected to mains in the replacement programme and comparisons between networks are not useful.
Other ambition / requirements	• Compliance with HSE guidance on replacement of steel services (this does not allow a steel service to be reconnected following a mains replacement or to just repair a service following a leak). • To have a zero carbon ready network by 2035.

Optioneering	
Options considered (including trade-offs innovation)	Replace services associated with mains replacement and leakage work only. This has been discounted as HSE has an expectation that we will target 'hotspots' of service failures. In addition to the above, undertake targeted service replacement projects in areas known to suffer from high levels of corrosion. This is our preferred option. It ensures compliance with Pipeline Safety Regulations and will meet the expectations of the HSE and their inspectors. The option to not replace metallic services but to transfer them to the new PE mains has been considered but will not meet the requirement of the HSE.
Regional differences	The programme is driven by individual pipe risk assessments which results in replacement across our geography. We will see a shift of work in GD2 to network extremities such as Devon and Cornwall. This is a result of replacing the higher risk pipes in major cities in GD1 and the risk profile now taking us to these areas in GD2.

Deliverability & Whole Systems Impact	
Deliverability & viability implications	We have an excellent track record of delivering mains replacement. Risk of non-delivery is low, although there are significant challenges with labour shortages and price increases as a result. Chapter 19: Workforce resilience sets out our plans to mitigate this.
Resilience to change	Our mains and service replacement plan can be impacted by external influences such as local authority plans, work of other utilities and stakeholder objections. To manage this, we ensure that we have schemes that can be planned and delivered at short notice to replace other schemes, making us very resilient to change
Whole system impacts & fit with wider vision	Replacement of metallic services is a key component of our plan to deliver a net zero ready network by 2035.

Proposal
To relay an average of 17,348 services per year and a total of 86,739 during GD2.

For more information see Chapter 16: The distribution network and the supporting Engineering Justification Documents and CBAs appended to our business plan.

Summary	☑ Output	☐ Commitment
Output / Commitment Title 1.9 Gas holder demolitions		
Description	A programme of works to demolish redundant gas storage assets.	
Type of output	PCD	

Cost & Bill Impact	
Cost of delivery	£2.7m over GD2
Proposed Funding	Funded through base totex allowances
Customer bill impact	21p per annum

Customer benefits & value	
CVP Reference	N/A
Summary of customer benefits	There are five decommissioned and redundant gas holders on our network. They pose a safety risk from trespass and an environmental risk through loss of containment of contaminated water and oils. There is also an ongoing cost to maintain them. This investment will remove all environmental and safety risks and reduce future operating costs to zero.
Distributional impacts	3 holders at Coxside, Plymouth 2 holders at Avon Street, Bristol No-one in our region will be exposed to any risk associated with a redundant gas holder site as a result of the planned investment in GD2.

Stakeholder voice	
Engagement method	We discuss land remediation with the HSE at bi-annual meetings, to ensure that our programmes are meeting their safety requirements – this is the key driver for the programme. We engaged with customers through our Let's Connect Customer Consultation and quantitative research study to understand their priorities as well as characteristics demonstrated through revealed customer personas through questioning on attitudinal statements that included customers' consideration of environmental matters and level of environmental activities. We tested our draft commitment to address historic gas works sites – which include old gas holders, with representative stakeholders responsible for communities that would be impacted by our remediation works (Bristol City Council and Swindon Borough Council) as well as with educated customers through qualitative focus groups and then customers representing our broad customer demographic across our region, through a quantitative research study (971 universe). This was supplemented with a quantitative willingness to pay study with 984 domestic and business stakeholders.

Stakeholder views	The HSE supports the demolition of these redundant assets. We have a very small number of redundant gas storage holders remaining and engagement on their demolition, alongside other land remediation works, is carried out with local communities as appropriate, as part of the programme engagement plans. Our customers care about the environment and want us to act to make sure they have a clean, reliable and affordable energy future. Two of our revealed customer personas, 'environmentally considerate' and 'environmentally engaged', make up 54% of our customer demographics. These customers are concerned or deeply concerned about the environment, with environmentally engaged taking positive steps to tackle environmental issues. These customer preferences assisted us in developing our land remediation programme and draft commitment. The CEG challenged the level of environmental ambition, noting that the focus was on compliance rather than proactive leadership. The CEG also commented that we had undertaken limited engagement on this topic. The feedback on the level of environmental ambition was echoed by the RIIO-2 Challenge Group. Given that this is an area of growing importance for our customers and colleagues we undertook further engagement and as a result have increased the level of ambition significantly. We held face to face meetings with two local authorities to discuss our proposed programme and commitment; both revealed a preference for us to be proactive in terms of land remediation. Swindon Borough Council favoured us having a more proactive approach to converting unused landholdings into sites for beneficial use. Taking a reactive approach would be considerably more expensive for us. Bristol City Council were also in favour of our proactive land management programme, as outlined to them. We discussed our draft commitment with nearly 1,000 customers through both educated customer focus groups as well as a quantitative research study. 65% of customers confirmed that they thought our commitment to assess, manage or reduce the negative impacts of historical gas works at around 70 sites in our communities was acceptable. Similarly, 72% of our colleagues (from 116 respondents) felt that reducing the risk from old contaminated gas work sites to our communities and the environment is very important to WWU. Both domestic and SME customers are generally willing to pay a little more for us to deliver this commitment although there are variances across stakeholder segments, with older people (over 55), people living in vulnerable situations, larger businesses (over 20 employees) along with business customers living in Wales likely to be willing to pay more. In contrast, smaller businesses, domestic customers aged under 55, those living in rural areas, fuel poverty situations and domestic customers in Wales are less likely to be prepared to pay more.

Conclusion of views	Customers support our commitment to tackle land remediation, and gas holder removal is an element of this work. As there is no support to leave as-is, but there is a clear steer, particularly from HSE, to remove all risk associated with holders, we will continue with the programme, ensuring onsite local engagement prior to the demolition process.

Performance	
Benchmarking data	Data published annually in Regulatory Reporting.
WWU GD1 performance	We have five gas holders remaining on the network following a programme of work in GD1 that removed 10 sites. Some sites have subsequently been sold to developers (Exeter, Bath).
Industry comparison	We have fewer gas holders than any other GDN through investment in GD1 and prior price controls.
Other ambition / requirements	We will offset the costs of the demolition with land sales where possible. This will leave us with no legacy assets other than a protected gas holder in Grangetown, Cardiff.

Optioneering	
Options considered (including trade-offs innovation)	• Leave the gas holders in situ and just incur opex costs for inspection and management of site security and environment. This would not meet stakeholder needs and our ambition to remove the risk associated with these sites. • Demolish some of the sites (costs between £0.5m and £2.0m). This would not meet stakeholder needs and our ambition to remove the risk associated with these sites. • Engage with potential purchasers of the land and seek funding through land purchase – this has been discounted as the land on which the remaining holders reside has a market value below the cost of holder removal and land remediation. • Demolish all sites at a cost of £2.5m. This is preferred as it is lowest whole life costs and will deliver the expectations of the HSE for managing these redundant assets. • We plan to fully utilise the learning from our previously successful gas holder sludge innovation project that developed a method of upcycling hazardous waste into a reusable resource in the demolition of our five remaining gas holders.
Regional differences	N/A

Deliverability & Whole Systems Impact	
Deliverability & viability implications	We have an excellent track record of delivering redundant holder removal and site remediation projects.
Resilience to change	We have a project team to manage the demolitions. They liaise closely with the community and any potential land purchasers and have shown that they can react to changing circumstances such as the volatility of the house building market in GD1.
Whole system impacts & fit with wider vision	These holders are non-operational with cost and safety implications that mean they cannot be made operational again. There is no impact on whole system solutions.

Proposal
We plan to demolish all five of our remaining gas holders during GD2. In doing so we will remove all risk and minimise opex costs, and we will be able to explore options of selling the land to offset the costs.

For more information see Chapter 18: Transmission and pressure management and the supporting Engineering Justification Documents and CBAs appended to our business plan.

Summary	☑ Output	☐ Commitment
Output / Commitment Title 1.10 NTS Exit Capacity Incentive		
Description	There is currently a GD1 incentive for GDNs to minimise flows on the National Transmission System (NTS) to reduce consumer costs. This encourages networks to make efficient capacity bookings, thereby releasing available NTS Capacity to other users. We propose a continuation of this incentive. There is Flex Capacity, Flat Capacity and system pressures available from the NTS. When we book capacity from the NTS we also agree system pressures with them. Currently there is no financial incentive on Flex Capacity bookings or system pressure guarantees. Flex bookings and system pressure guarantees have zero cost and incentive at present. Therefore, the current financial incentive is linked to Flat Capacity bookings only. In terms of context and materiality to end users the following bullet points may assist understanding of the NTS Revenue Incentive: • Over the eight-year RIIO GD1 period and compared to the initial allowances we were given, we forecast that the NTS charges to WWU and hence end users will have reduced by £44.4m. This forecast is based on six years' actual costs to date and a forecast for the remaining two years. This is a result of lower flat capacity bookings we have agreed with the NTS and reflect the NTS charges to us. The NTS charges to WWU and hence end users are based on the bookings we agree, multiplied by the charge rates from the NTS. • The NTS charges we pay are funded as pass through costs. • The average domestic customer has benefited by the lower NTS charges to WWU compared to baseline allowances by circa £2.30 per annum (£44.4m / 8 years / 2.4m domestic customers). • The additional revenue we have earned through the RIIO GD1 NTS revenue incentive over the RIIO GD1 period is £3.6m over the six years to date, or £0.6m per annum. Please note that the forecast for the last two years is £0m.	

	• The average domestic customer bill impact of the revenue incentive to date is an additional £0.25p per annum (£0.6m / 2.4m). In simple terms, we only receive an additional revenue incentive benefit if customers benefit through lower NTS bookings.
Type of output	This has not been concluded as is TBC by Ofgem.

Cost & Bill Impact	
Cost of delivery	There is no cost of delivery as this is a revenue incentive linked to our flat capacity bookings as described above.
Proposed Funding	There is no upfront funding proposed as the incentive will be an outcome of the NTS incentive regime.
Customer bill impact	If we can outperform the baseline incentive in line with RIIO GD1, then there could be an addition of £0.25p to the average annual customer bill. However, you will note from the above description of the incentive that the additional revenue is only rewarded if we book less NTS capacity than a baseline allowance. In RIIO GD1 bills have gone down by £2.30 compared to up front allowances. In summary, the addition to the bill as a result of the incentive payment will be an offset to the reduction in the bill as a result of lower NTS charges.

Customer benefits & value	
CVP Reference	N/A
Summary of customer benefits	This incentive will encourage continuation of existing measures to book NTS capacity efficiently and hence lower bills. The RIIO GD1 benefit is a net £2.05 per annum (£2.30 - £0.25p). The incentive should drive lower NTS costs as a result of lower demands from gas distribution networks.
Distributional impacts	The NTS charges are based on ‘zones’. There are five NTS zones within the WWU network. The five zones are: 1. North Wales 2. South Wales 3. South West (north) 4. South West Mid) 5. South West (South) The NTS charges from WWU to end users reflect the zones. Therefore, any benefits as a result of reduced NTS bookings and charges for any zone are reflected in the charges for all end users within that zone.

Stakeholder voice	
Engagement method	Engagement with NTS and all industry participants over the last three years at NTS charging forum meetings. These are important stakeholder meetings where all NTS charging matters are discussed.
Stakeholder views	Within the Ofgem sector specific methodology document for RIIO GD2 (published May 2019), the headline stakeholder views were documented as follows: "4.59 Most respondents were supportive of retaining an incentive to encourage efficient booking of NTS exit capacity thereby driving consumer benefits. However, one energy supplier challenged the perceived benefit to consumers from this incentive, noting that any cost savings achieved by GDNs booking less exit capacity is ultimately recovered through an increase in exit commodity charges." "4.62 There was limited support for expanding the incentive to include flexible capacity. One GDN acknowledged the potential whole-system benefit that this could drive, whilst highlighting a couple of factors that could undermine its effectiveness such as future changes to the NTS charging regime and the influence of non-GDN users of the NTS." Ofgem plans to consult on the incentive at draft determinations during 2020.
Conclusion of views	We believe this incentive should continue and that other ongoing work will be complementary in providing improved price signals and processes for NTS capacity going forward.

Performance	
Benchmarking data	Benchmarking data is available from network publications on the Joint Office Website (WWW.gasgovernance.co.uk) – see below.
WWU GD1 performance	We earned an incentive of £0.46m in 2018/19 based on the RIIO GD1 methodology in use in GD1. We earned (and are forecast to earn) the following amounts in GD1: (NB first year of payment is 2015/16 due to the two-year lag mechanism) 15/16: £0.50m; 16/17: £0.49m; 17/18: £0.74m; 18/19: £0.47m; 19/20: £0.93m; 20/21: £0.46m; 21/22: £0.08m; 22/23: £0.10m Amounts that we will recover in 2021/22 and 2022/23 relate to performance in 2019/20 and 2020/21.
Industry comparison	The following revenue incentive income numbers are taken from network publications on the Joint Office Website: Total value of revenue incentive income from NTS Exit Capacity incentive: Cadent 8-year total = £147m (4 networks) SGN 8-year total = £42m (2 networks) NGN 6-year total = £10m (1 network) WWU 8-year total = £3.6m (1 network)

Other ambition / requirements	Our ambition is to ensure that our customers pay a fair and efficient level of charges from the National Transmission System operator.

Optioneering	
Options considered (including trade-offs innovation)	• We continue to undertake analysis and research on whole systems planning and operation as detailed in Chapter 13: Our net zero ready vision for 2035. We will also continue to use this to inform our thinking on changes required to commercial arrangements and incentives, including the use of NTS Exit Capacity. • We have also considered the use of interruption as a means of reducing our NTS capacity requirements but have not been successful in getting any interest from our customers who favour a firm supply of gas. • We currently book NTS capacity to meet our peak demand load, assuming no injection from biomethane sites. We will continue to review whether this is appropriate as our biomethane sites become more established and we have more experience on what level of injection we can assume at peak times.
Regional differences	N/A

Deliverability & Whole Systems Impact	
Deliverability & viability implications	As mentioned above some aspects of our booking requirements are outside our control given our licence condition to meet 1:20 demand. However, we will continue to work with industry to develop efficient booking arrangements for NTS Capacity and with customers to seek interruption agreements.
Resilience to change	We have been forecasting increased peak demand load for the last couple of years and have increased our offtake capacity bookings as a result, which will have had a negative impact on our performance against this incentive. We will continue to carry some risk around changing user requirements.
Whole system impacts & fit with wider vision	Our proposals for this incentive, also with forecasts and bookings of NTS capacity requirements, are driven by increases in the requirement for flexible generation to support renewables and electric vehicle charging arrangements. As such this incentive is significantly impacted by whole system dependencies.

Proposal
Continuation of the existing NTS Capacity Incentive for flat capacity bookings.

For more information see Chapter 18: Transmission and pressure management.

Summary	☑ Output	☐ Commitment
Output / Commitment Title 1.11 Physical Security		
Description	Ensuring we meet the Physical Security Upgrade Programme as directed by the Department for Business, Energy & Industrial Strategy (BEIS). This requires security fencing, gates, cameras and access systems linked to our System Control room at several key sites where we take gas from the National Transmission System.	
Type of output	PCD	

Cost & Bill Impact	
Cost of delivery	£0
Proposed Funding	N/A
Customer bill impact	N/A

Customer benefits & value	
CVP Reference	N/A
Summary of customer benefits	Investment in security protects critical sites from malicious attack. This significantly protects our consumers from large-scale gas interruptions.
Distributional impacts	None

Stakeholder voice	
Engagement method	• We work with BEIS to agree and implement the Physical Security Upgrade Programme (PSUP). We undertook the full range of work to protect our assets that was required during GD1. • We have consulted with BEIS and with the government Counter Terrorism Security Advisors (CTSA) on our GD2 plans in this area. We commit to continuing to engage with the CTSA to ensure that our plans remain relevant and appropriate to the perceived risk.
Stakeholder views	The key stakeholder in this has been the CTSA. We shared our plans for security investment. Their feedback was that the level of investment planned on some sites was not necessary; we significantly reduced our investment plan in this area as a result.
Conclusion of views	No further work is required at this stage. We have complied with requirements in GD1 and support the reopener if legislation changes in GD2. There is no PCD planned in GD2 for WWU.

Performance	
Benchmarking data	Annual Regulatory Reporting and via GDN working groups.
WWU GD1 performance	We have completed the work required under the PSUP during GD1 at a cost of £18.6m.
Industry comparison	
Other ambition / requirements	We are not required to undertake further work to comply with the PSUP programme at this stage but will continue to work with CTSA. We will continue to maintain and monitor all critical sites through our 24/7 control room.

Optioneering	
Options considered (including trade-offs innovation)	We have risk assessed our other key assets and have concluded that current security arrangements and maintenance plans are sufficient to manage the risk.
Regional differences	N/A

Deliverability & Whole Systems Impact	
Deliverability & viability implications	N/A
Resilience to change	We support the reopener if legislation changes in GD2.
Whole system impacts & fit with wider vision	N/A

Proposal
We have not forecast any investment in our business plan. The risk of a new programme of work is outlined in Chapter 12: Dealing with uncertainty, with a proposal to obtain funding through a re-opener with Ofgem.

For more information see Chapter 18: Transmission and pressure management and Chapter 12: Dealing with uncertainty.

Summary	☑ Output	☑ Commitment
Output / Commitment Title 1.12 Cyber resilience		
Wording of commitment	- Increase our focus on preventing and detecting cyber-attacks – investing a further £7m in our technology platforms in GD2 to reduce the increasing risk.	
Description	As a key utility infrastructure provider, we are at risk from a cyber-attack that could impact on supplies to homes and businesses. We therefore need to ensure appropriate levels of cyber resilience. We must also comply with the NIS regulations to manage risks of cyber-attacks on the operation of our assets in order to maintain a safe and reliable supply for stakeholders.	
Type of output	PCD	

Cost & Bill Impact	
Cost of delivery	£6.93m
Proposed Funding	Included in base totex
Customer bill impact	36p per annum

Customer benefits & value	
CVP Reference	N/A
Summary of customer benefits	Secure and reliable gas supply reducing any impact of outages.
Distributional impacts	The risk of a cyber security threat could impact all customers across all parts of our network.

Stakeholder voice	
Engagement method	Through five engagement activities, alongside business as usual engagement through national forums, including the National Cyber Security Centre (NCSC), we evidenced support for our commitment from expert stakeholders and customers. We engaged with representative customers across all demographics qualitatively through focus groups and quantitatively through a customer research study to evidence acceptability of our commitment in this area (971 universe). This was followed up with a quantitative willingness to pay study engaging 772 domestic and 212 SME customers. We also engaged with cyber security experts, specifically on our proposed commitment.
Stakeholder views	As a business that forms part of critical national infrastructure, and an operator of essential services to our 2.5 million customers, it is vital that we can maintain the confidentiality, integrity, and availability of data and business operations in the event of a cyber-attack.

	Because of the nature of the commitment, expert stakeholder feedback was important to shape our commitment, its measurement and other considerations for delivery. For customers, their acceptability of our requirement to invest in this area was important to evidence. Based on engagement with almost 1,000 stakeholders, our proposals were well received and we were seen to be well set to deliver more mature cybersecurity across the business. Our expert stakeholders were broadly supportive of us strengthening our cyber resilience and of our ambitions in this area and thought the plan reflects the NIST Cyber Security Framework. They also stated that by aligning our outcomes to its various functions, this should see a comprehensive plan delivered and an increasing maturity across the business. There was agreement from expert stakeholders on the need to provide awareness and training across the company on cyber-security, with recommendations provided on how to measure progress in this field, including on the nature of the targets that we should use. The suggestion was also made that we could consider using the Cybersecurity Capability Maturity Model (C2M2) as a way to measure progress. Experts also suggested we align with an industry framework and collaborate with other GDNs and utilities. When asked whether £6.8m is an appropriate amount to spend on managing risks of cyber-attacks, one expert told us they expected it to be lower compared to other members in the industry and based on conversations they have had. The CEG challenged our plan, commenting that it failed to fully identify risks and solutions. We have discussed our cyber resilience plans, noting the sensitivity of publishing too much detail. We have also assessed our levels of risks and potential mitigating investment against Ofgem's guidance (as it is the Competent Authority) and are proposing an uncertainty mechanism to deal with this during GD2. Our customer acceptability testing revealed less than half (49%) believed we would deliver this commitment, and 57% found it acceptable overall. Our most recent research shows that overall customers are likely to be willing to pay more to meet this commitment, notably people who are under 55, living in the south west, urban areas, vulnerable situations and larger businesses whereas older people, people living in Wales, suburban areas, in fuel poverty and the private sector are less likely to be prepared to pay more.
Conclusion of views	Our sophisticated network of physical and virtual technology has many points of potential attack. Protection from cyber-attacks and accidental failures of our technical infrastructure, which could otherwise impact the physical integrity of our assets and lead to data breaches, is an integral part of delivering a safe and resilient network.

	We are also very mindful of our obligations to protect the public and our assets and we know that our customers place high importance on safety and reliability – which our cyber investment supports.

Performance	
Benchmarking data	None
WWU GD1 performance	None
Industry comparison	None
Other ambition / requirements	Our plan will achieve an enhanced level of protection against cyber security threats.

Optioneering	
Options considered (including trade-offs innovation)	• Do nothing more than in GD1: breach of Ofgem requirements and licence. • Enhanced level of cyber security as defined by the Ofgem NIS guidelines. • Abolish all risk: not possible.
Regional differences	Cyber skills can be difficult to recruit in our region but we are working with universities and the UK Government to develop the market.

Deliverability & Whole Systems Impact	
Deliverability & viability implications	It is entirely credible to manage the identified cyber risks from the current threat landscape and within the regulatory framework as it stands today. The risk management and treatment plan is well known and understood. With the organisational change and funding set out in the plan it is achievable.
Resilience to change	It is almost certain that new cyber risks will emerge and existing threats evolve within the GD2 period. Our risk management approach will prioritise the cost-effective treatment of critical risks that could impact supply. Changes to political, social and regulatory frameworks could all impact this area. An element of uncertainty remains above and beyond our known risks. Should significant change occur, further investment may be required.
Whole system impacts & fit with wider vision	Cyber resilience is an integral part of the organisation's culture and design of operational systems. It has a relationship with physical security and workforce resilience.

Proposal
• We will bring Operational Technology and Information Technology cyber risk management under a single organisational framework. • We will manage cyber risks arising from genuine threats in our industry and location. • We will deploy techniques to gain visibility of OT assets and detect interference. • We will work with the supply chain to establish provenance of cyber assets and to develop cyber security standards to which they will be held accountable. • We will combine our OT and IT analytics to drive efficiency.

For more information see Chapter 21: Business IT Security Plan.

Bespoke output measures

Summary	☑ Output	☑ Commitment
Output / Commitment Title 1.13 ICS Accreditation		
Wording of commitment	- Maintain our ICS accreditation and the British Standard for Inclusive Service provision	
Description	Reputational commitment to benchmark our customer service beyond the gas networks and against leading companies in the UK by maintaining our Institute of Customer Service (ICS) SeviceMark accreditation. The ICS ServiceMark accreditation is a low-cost commitment that creates trust with customers where we are generally unknown as a brand.	
Type of output	ODI R	

Cost & Bill Impact	
Cost of delivery	£0.075m in GD2
Proposed Funding	Through base allowances
Customer bill impact	1p per annum

Customer benefits & value	
CVP Reference	N/A
Summary of customer benefits	Customers have assurance of our commitment to customer service through use of the ICS logo on our communications, even if they are not familiar with WWU as a brand, engendering trust. The ICS accreditation and membership allows us to benchmark our services across the utility sector and beyond in the UK and to access literatures about trends in customer behaviour. This in turn allows us to challenge our services and processes and to continually improve our services.
Distributional impacts	This output is paid for by all customers via their gas bills. All customers benefit from increased levels of customer service.

Stakeholder voice	
Engagement method	We engaged with over 22,000 customers and other stakeholders at 18 discrete engagement activities during our customer and stakeholder engagement campaign. We engaged multiple customer and stakeholder groups through different, appropriate engagement channels, 356 self-identified as vulnerable through our research surveys. We also spoke to 80 vulnerable customers in face to face interviews along with 32 carers.

	We examined customer and stakeholder attitudes and priorities to customer service through our Let's Connect Customer Consultation research, including in-depth CHAID analysis to look at the drivers of customer service and focused consumer vulnerability research carried out by Mindset. The Let's Connect Customer Consultation also provided insights on customer opinion across identified customer personas across our operational area. We included engagement with national expert stakeholders, educated customer panels and community focus groups to make sure we understood customer service priorities now and for the future. More details are in the supporting synthesis report for this commitment. We listened to customer and stakeholder views on our proposed commitment for both the ICS and BSI accreditations (we engaged on the two accreditations at the same time) and took their views on board in making our decision to continue with maintaining them. Acceptability (sample 971) and willingness to pay (sample 984) for the commitment was tested in two phases of customer engagement.
Stakeholder views	We take pride in being one of the top performers for customer service in the UK, with an Institute of Customer Service (ICS) benchmarking score of 93.6 and by holding their Service Mark accreditation. Based on 18 engagement activities including the views of over 22,000 stakeholders it is clear that they want us to ensure that reliability and satisfaction levels are maintained throughout the GD2 period. Customers at educated customer focus groups repeatedly demonstrate that understanding of who we are, and the role of a gas network, is initially low. Customers stated that trusting us to provide them with excellent levels of customer service, to keep them safe and provide them with a reliable gas supply, is very important to them and external accreditation that ranks us with known household brands can help engender that level of trust. Through our business plan acceptability testing (971 customers surveyed) during summer 2019, 52% said that our ICS accreditation commitment was acceptable to them. However, this was one of the lowest acceptability scores when compared with other commitments. Customers also highlighted that they would not be willing to pay more for us to deliver the commitment, with 50% saying they would not want to pay more (against only 26% who would). However, this has evolved and a robust willingness to pay study reporting in November 2019 found that overall domestic and SME customers are generally prepared to pay a small amount, more notably people in urban and rural areas, between the ages of 25 to 55, people in the south west, vulnerable and fuel poor customers, and larger businesses with over 20 employees. In contrast, smaller businesses, suburban dwellers, older people and people in Wales are generally not willing to pay more. When tested with our Critical Friends Panel, stakeholders looked on it positively, stating that it fosters trust among customers – seen as

	particularly important for a monopoly like us – which resonated with comments from customers. The CEG was concerned that our ICS commitment was based on a small-scale prompted survey, and was not part of the standard ICS ServiceMark survey. However, once we had explained and evidenced that the assessment criteria are based on a statistically robust external benchmarking survey the CEG understood the value of this new reputational ODI. Feedback from acceptability testing with customers in vulnerable situations (40) and carers (16) demonstrated low acceptability for the commitment at 9% and 13% respectively. However, when the same stakeholders looked at rating their support for promoting Priority Service Register sign-ups and increasing support for customers in vulnerable situations, acceptability was 55% and 47% and 82% and 53% respectively – activities that demonstrate commitment to excellent levels of customer service. Additionally, some customers in vulnerable situations mentioned that the badge of accreditation provided them with 'peace of mind' – although others thought it unimportant to them. The RIIO-2 Challenge Group asked us to look at how customers would be compensated if we failed to deliver this bespoke output.
Conclusion of views	Noting conflicting feedback and the different levels of acceptability expressed for this commitment, we are still proposing to continue with our commitment to maintaining the ICS accreditation. The output will be reputational but to show our commitment we will also propose to give the cost of the membership and accreditation back to customers if we lose the accreditation for any period in GD2.

Performance	
Benchmarking data	Our ICS score of 93.6/100 demonstrates that we perform well when compared to other utilities and the energy suppliers, who score on average 74.7/100.
WWU GD1 performance	We scored 93.6/100 in the ICS external benchmarking survey. This, combined with a WWU staff ServiceCheck score of 84/100, meant we obtained distinction status from the ICS in 2017, one of only a few companies in the UK to achieve this. In 2019 we undertook the bi-annual SeviceCheck survey and again scored 84/100. However, ICS have increased their requirement to 85/100 so we were just under the score for achieving distinction status from 2020.

Industry comparison	We are always in the top three gas networks as measured under the Ofgem Customer Satisfaction Scores methodology. We also score higher than the average electricity distribution companies as shown below: **13/14 / 14/15 / 15/16 / 16/17 / 17/18** **Electricity Distribution**: 8.34 / 8.46 / 8.68 / 8.7 / 8.74 **Gas Distribution**: 8.41 / 8.55 / 8.7 / 8.76 / 8.82 **WWU**: 8.69 / 9.04 / 9.05 / 9.11 / 9.15 The other GDNs do not use the ICS benchmarking currently.
Other ambition / requirements	We are committed to using the ICS membership not only to maintain our ICS ServiceMark but also to allow us access to the latest research on trends in customer service and the needs of future customers. It also provides us with a network of other companies to discuss best practice with and undertake further benchmarking visits.

Optioneering	
Options considered (including trade-offs innovation)	• Stop ICS accreditation: we would lose the service mark on our literature but save £15k per annum. • Use another accreditation such as the Call Centre Association: we see this as too narrow and would not reflect service levels and commitments across our business. Costs are similar to the ICS. • ICS membership: the survey looks across our business in the external and internal benchmarking. The ICS is used by most of the gas suppliers, and increasing numbers of utilities and the largest UK companies such as John Lewis. Costs at £15k per annum have minimal impact on customer bills but drive customer satisfaction levels.
Regional differences	The survey is representative of customers and staff across our whole network. The reports do not allow us to differentiate our services in different parts of our network. We use our Customer Satisfaction Scores for this purpose where we can drill down to understand regional differences in service levels that need to be addressed.

Deliverability & Whole Systems Impact	
Deliverability & viability implications	Customer service has been the key focus of our business in GD1 and that will remain into GD2. We have an excellent track record in customer satisfaction and Ofgem will measure us through regulatory reporting of customer satisfaction survey scores (national trials underway for the GD2 surveys) – the ICS membership and accreditation help us to deliver a high level of service against the customer satisfaction survey output.
Resilience to change	While the use of gas in homes and businesses may start to change in GD2, the majority of the 2.5m customers will still require a service from us.

	We will continue to include customer service and priority customer training for existing and new staff. We will monitor the options for memberships and accreditations during GD2 to ensure that the ICS continues to offer the leading benchmarking measure and most recognisable accreditation.
Whole system impacts & fit with wider vision	We will need to continue to deliver high levels of customer service to all gas users throughout GD2 and beyond.

Proposal
To maintain our ICS ServiceMark accreditation during GD2. Our ambition is to strive for distinction status. Should we lose the ICS ServiceMark accreditation during GD2 then we will return the annual £15k costs to customers on a pro-rata basis until we become reaccredited. We will use our membership and the networking opportunities that brings, to benchmark our services beyond the GDNs, identify best practice and understand the needs of existing and future customers.

For more information see Chapter 6: Customer service.

Summary	☑ Output	☑ Commitment
Output / Commitment Title 1.14 BS 18477 Inclusive Service Provision		
Wording of commitment	- Maintain our ICS accreditation and the British Standard for Inclusive Service provision.	
Description	An accreditation operated by British Standards Institute which allows us to demonstrate that we provide services that are fully inclusive across our office and operational functions.	
Type of output	ODI R	

Cost & Bill Impact	
Cost of delivery	£0.075m in GD2
Proposed Funding	In base allowances
Customer bill impact	1p per annum

Customer benefits & value	
CVP Reference	N/A
Summary of customer benefits	This standard allows us to use the BSI logo on our correspondence and gives customers trust in WWU, even if they do not know who WWU are. The accreditation and the week-long annual audit tests our range of services and the consistency of delivery across our business, challenging us to keep reviewing and improving, and adapting to our customers' needs in order to meet best practice.
Distributional impacts	This standard targets services primarily for vulnerable customers but all domestic and business customers will benefit.

Stakeholder voice	
Engagement method	We engaged with over 22,000 customers and other stakeholders at 18 discrete engagement activities during our customer and stakeholder engagement campaign. We engaged multiple customer and stakeholder groups through different, appropriate engagement channels, 356 self-identified as vulnerable through our research surveys. We also spoke to 80 vulnerable customers in face to face interviews, along with 32 carers. We examined customer and stakeholder attitudes and priorities to customer service through our Let's Connect Customer Consultation research, including in-depth CHAID analysis to look at the drivers of customer service and focused consumer vulnerability research carried out by Mindset. The Let's Connect Customer Consultation also provided insights on customer opinion across identified customer personas across our operational area, together with a finer segmentation of vulnerable customers through our consumer vulnerability three-phase engagement.

	We included engagement with national expert stakeholders, educated customer panels and community focus groups to make sure we understood customer service priorities now and for the future. More details are in the supporting synthesis report for this commitment. We listened to customer and stakeholder views on our proposed commitment for both the ICS and BSI accreditations (we engaged on the two accreditations at the same time) and took their views on board in making our decision to continue with maintaining them. Acceptability and willingness to pay for the commitment was tested in two phases of customer engagement.
Stakeholder views	We are the first gas distribution network (GDN) to be accredited against the British Standard for Inclusive Service provision (BS18477). We intend to maintain our high performance in this area during RIIO-GD2. Engagement with over 1,000 stakeholders through a series of panels, workshops, surveys and interviews, highlighted that different customer segments have varying views of what is important, but that they largely agree on safety and reliability as the highest priority. The stakeholders we engaged with encompassed vulnerable customers, stakeholders representing vulnerable customers, regional businesses, SMEs and government stakeholders. In addition to broader customer service and given the importance of our services to vulnerable customers, we undertook a deep dive engagement programme in three phases, during which we spoke to customers with a range of vulnerabilities and their carers. This research highlighted that stakeholders would like us to work harder to promote the Priority Services Register (PSR) within our network, ensuring that vulnerable customers receive the tailored support they require. In our efforts to ensure this is met, we have established a separate commitment for GD2 to increase the number of PSR sign ups by 200%. Our support for those living in vulnerable situations was evidently a priority. When testing the commitment to BS 18477 with our Critical Friends Panel, stakeholders looked on it positively, stating that it fosters trust among customers – seen as particularly important for a monopoly like us – which resonated with comments from customers. Feedback from acceptability testing with customers in vulnerable situations (40) and carers (16) demonstrated low acceptability for the commitment at 9% and 13% respectively. However when the same stakeholders looked at rating their support for promoting priority service register sign-ups and increasing support for customers in vulnerable situations, acceptability was 55% and 47% and 82% and 53% respectively – activities that demonstrate commitment to excellent levels of bespoke customer service. Additionally, some customers in vulnerable situations mentioned that the badge of accreditation provided them with ‘peace of mind’ – although others thought it unimportant to them.

	Section 1.42 of Ofgem's Vulnerable Consumers in the energy market report 2019 flags BS 18477 as best practice for organisations to benchmark and develop fair and flexible access to services. Stakeholders had mixed awareness of this inclusive service provision standard. However, once it was explained to them, stakeholders supported the commitment to maintain this accreditation and to use the learning of the annual audit to inform our annual Vulnerable Customer Incentive and annual reporting. The RIIO-2 Challenge Group asked us to look at how customers would be compensated if we failed to deliver this bespoke output.
Conclusion of views	The BS 18477 standard is seen as best practice, is recommended by Ofgem and endorsed by our customers and stakeholders, so we will continue to verify our services against this standard in GD2. The output will be reputational but to show our commitment we will also propose to give the cost of the membership and accreditation back to customers if we lose the accreditation for any period in GD2.

Performance	
Benchmarking data	• No Ofgem reporting but annual Stakeholder Engagement incentive and three yearly DRS give insight into the services of the other GDNs and DNOs. • This accreditation allows us to benchmark ourselves against best practice in the UK, thereby enabling us to look beyond the Ofgem minimum requirements.
WWU GD1 performance	We obtained this accreditation in 2016 and have received positive annual audits, demonstrating our continual focus on innovation and new initiatives to continue to drive service levels for all customers.
Industry comparison	• We were the first network following Western Power Distribution acting as a DNO. • SGN and NGN obtained accreditation in 2019.
Other ambition / requirements	• Ofgem proposed this was an excellent measure of GDN and DNO service levels in 2014. • Next formal reaccreditation in 2019.

Optioneering	
Options considered (including trade-offs innovation)	• Stop accreditation – cost saving of £15k per annum. • Alternative standard: nothing else available now but we will continue to monitor for alternatives. • Use a third party to undertake an independent audit: the costs of this would be similar to our accreditation. The concern would be what defines the scope of the audit and the measurement of services to ensure that best practice is being delivered. • Continue accreditation at a cost of £15k per annum.
Regional differences	The BSI verification visits go to operational depots across our network as well as to our head office. The audit looks for any regional variation in service provision.

	Our main differentiator is the Welsh language. We therefore need to be able to offer Welsh language communications, Welsh speakers at events etc. We also need to ensure that we keep abreast of legislation differences in England and Wales, which we do via our Corporate Teams and by working closely with steering groups and partners.

Deliverability & Whole Systems Impact	
Deliverability & viability implications	We have a proven track record of delivering this in GD1. We will continue to provide vulnerable customer training to our staff and engineers, and contractors. We are building identification of vulnerable customers into our new systems ready for GD2 and will provide a suite of tools for our engineers to support customers during our works, and to refer for additional services.
Resilience to change	The main challenge is to keep new staff aware of the services. Customer and social obligations training is built into company inductions and the annual training programme. If the focus of the Ofgem vulnerability strategy changes we will review the impact on our service and evaluate the appropriateness of the accreditation throughout GD2.
Whole system impacts & fit with wider vision	Our staff need to be kept informed of changes in the energy market so that they can provide simple and unbiased information to customers and signpost to third parties for further support. We will also use innovation to ensure that vulnerability is supported in the future whole systems landscape.

Proposal
To continue to maintain our BS 18477 accreditation during GD2 using the annual audit to inform the next year's programme of work and innovation projects and to form part of our annual reporting under the Vulnerable Customer Incentive. Should we lose the ICS ServiceMark accreditation during GD2 then we will return the annual £15k costs to customers on a pro-rata basis until we become reaccredited.

For more information see Chapter 7: Social obligations.

Summary	☑ Output	☑ Commitment
Output / Commitment Title 1.15 Theft of Gas		
Wording of commitment	- Do more to proactively identify theft of gas to protect the safety of our customers and to support fair charging	
Description	An important area of focus for WWU in GD1 has been to proactively manage the issue of theft of gas. The driver for this is safety, as well as fairness; ensuring that the cost of the gas is paid for by the user, not charged as part of everyone else's bills. We are proposing a bespoke financial incentive where customers will get the first £250k of any income recovered. The £50k of annual costs will be put at risk between £250k and £300k, with us only covering the additional costs. Above £300k per year recovered is where we share 50% of the amount recovered.	
Type of output	ODI F	

Cost & Bill Impact	
Cost of delivery	£50,000 additional cost per year for proactive work plus for core team that manage the Xoserve relationship and the Meter Point Reference Numbers for our network including GSMR disconnections, new MPRN registrations and illegal connections.
Proposed Funding	In base totex
Customer bill impact	£50,000 / 2.5m MPRNs = 2p per year

Customer benefits & value	
CVP Appendix 2A Reference	Appendix 2A - Delivering for Customers and Network Users 8: Theft of gas CVP For further information please see Appendix 2C15 & 2C16
Summary of customer benefits	Customers will get the first £250k of any money we recover from theft of gas cases in the following year through reduced transportation charges. Customers will also get 50% of any money we recover through back billing above £250k in a regulatory year, with WWU keeping the other 50% as our incentive for being proactive. Based on our target of £500k per annum, customers will receive £375k. Each of these back billed cases will also either be registered with a gas supplier or disconnected, so saving general consumers an average of £4,300 per site in future years.

	We will also register an estimated 165 other sites per annum which will not be back billed as it would be uneconomic to do so. Based on a typical gas bill, each site will save general customers £565 per annum in future years – we are not proposing any sharing of this value, with all benefits flowing back to customers. In summary this is an asymmetric incentive in the customer's favour.
Distributional impacts	The reduced transportation charges will apply to all customers across our network.

Stakeholder voice	
Engagement method	We evidenced support for this commitment through a series of 9 engagement events with more than 2,200 participants, including a demographically sound range of customers including 420 self-identified as vulnerable from a universe of 770. This included qualitative discussions as well as a quantitative research survey. We additionally engaged on the soundness of our commitment proposal with our Critical Friends Panel and community representatives at our regional community workshops in 2018 and 2019 (141 participants). Finally, we commissioned a quantitative willingness to pay study with 984 customers.
Stakeholder views	Stakeholders at regional workshops in 2018 prioritised theft of gas in the top 12 priorities for WWU where it ranked 11th. Equally it remained in the top-ten list of priorities in the 2019 regional community workshops, ranked 10th. However, their ranking was in the context of activities that were all identified as important areas for investment and focus. Stakeholders at the 2019 workshop stated that they would have ranked the priority for theft of gas higher, once they understood that a proportion of the money recouped would be returned to customers. Although ranked 10th it scored 6.08 out of 10, still designating it as important. Engagement with our Critical Friends Panel and expert stakeholders highlighted the issue as being mainly a safety concern. It is therefore the right thing for us to focus on. The effect on customers' bills is secondary. While our expert consultation indicated that the commitment is justified if this reflects our internal costs. The total future costs avoided to consumers should be a factor in the benefit of the work we do, but not a reward, as it is our licence obligation to carry out this work. There was strong support for us working closely with suppliers, as stated by the expert stakeholders, to identify, investigate and resolve energy theft, as being an efficient process to keep costs down. There was stakeholder support for using targeted data, and there was also support for more internal resources to tackle this issue, in particular with regards to using data and conducting desktop exercises. Best practice should also be shared across the industry, although it remains unclear 'what good looks like' or how best to

	share this information. Most stakeholders supported us doing more in this area on the grounds of fair charging and safety. A smaller majority supported our proposal to be incentivised to do more. Acceptability testing of our business plan revealed a 57% acceptance rate among customers for the commitment (a mid-rank). The CEG challenged our new theft of gas bespoke financial ODI, challenging in particular why we should receive a share of the benefit from this initiative above £250k recovered. The CEG understood this proposal once we had explained that 90% of the revenue is generated by our proactive approach, how this benefits our customers and that the sharing is asymmetric in customers' favour. However, to avoid a situation where the customer gets all of the first £250k recovered, and if we recovered £251k we would then be able to bank our £50k investment in people, they requested a sliding scale. We agreed to this challenge and modified the output. Our willingness to pay study showed that overall customers are prepared to pay a small amount more for delivery of this commitment, and this particularly applies to older people (over 55s), those in vulnerable situations, people living in the south west, rural and urban areas. However, those dwelling in suburban areas, Wales, in fuel poverty, aged between 25 and 55 and small business customers are less likely to be prepared to pay more.
Conclusion of views	Although there is some conflicting feedback we are committing to do more to proactively identify theft of gas to protect the safety of our customers and to support fair charging; and we propose a bespoke financial incentive to support this.

Performance	
Benchmarking data	Annual report to Ofgem under Regulatory Reporting and Supply Point Administration Agreement (SPAA).
WWU GD1 performance	Over the past five years, we have recovered £2.2m, making us the leading gas network along with Cadent London. A breakdown of cases and costs recovered by WWU over GD1 is shown in the table below:

	2014/15	2015/16	2016/17	2017/18	2018/19	Total
Cases investigated	121	156	247	297	290	1,111
Customers registered only					165	165
Cases billed	0	12	44	44	23	123
Income recovered	£0	£0.496m	£0.857m	£0.540m	£0.326m	£2.2m

Further analysis of the data allows us to split the number of resolved cases and the costs recovered between reactive (tip offs from suppliers, third parties and found during our own work) and proactive identification (using industry data to identify potential cases and investigate).

	Reactive	Proactive
Cases billed	19 (16%)	104 (84%)
Income recovered GD1	£0.2m (9%)	£2.0m (91%)
Income recovered p.a. (last 4 yrs)	£50k	£500k

The costs recovered are returned to customers in the next financial year through Xoserve, with all customers getting a reduction on their gas bill.

In addition, the theft of gas is stopped. In the cases back billed, the average annual gas bill being funded by all other customers was £4,318.

In addition, another 165 cases were identified and customers helped to correctly register with suppliers in 2018/19. These were typically domestic users and small businesses with an annual gas bill of £575. (The numbers will be similar for previous years.)

Industry comparison

We were the 2nd best performing network on theft of gas in 2018/19 in terms of the income recovered and when normalized per 100,000 customers.

Network	Income recovered	Normalised income recovered (per 100,000 customers)
WWU	£326,820	£12,880.62
NGN	£166	£6.54
SGN Southern	£192,209	£4,670.72
SGN Scotland	£73,398	£4,005.89
Cadent WM	£115,461	£5,879.60
Cadent EoE	£279,917	£6,964.16
Cadent NW	£139,826	£5,196.19
Cadent London	£486,383	£21,383.87
GDN average	**£201,773**	**£7,346.23**

Other ambition / requirements

- Under the SPAA, we are responsible for any theft where a service has been illegally connected to our network, or gas is being taken through a metering installation but there is no registered gas supplier for the site.
- Theft is identified through attendance of gas escapes, referrals from gas suppliers, and tip offs from third parties including via Crimestoppers.

	• Where a theft of gas situation is identified our priority is to make the situation safe, and then work with the consumer to get them registered with a gas supplier of their choice. • Where there is sufficient evidence and it is economical to do so, we will act to back bill the customer for gas taken illegally. We have not recovered more than £250,000 in a year taking this approach. • We will use industry data combined with publicly available datasets to identify sites that may be taking gas illegally and follow up these leads with letters, and visits by engineers. • We will cleanse and update industry records alongside this work. • We will formally document safeguards for vulnerable customers aligning to the supplier's disconnection procedures. We already provide support when a shipperless site is identified by not cutting the customer off and helping them through the process to become registered with their chosen supplier. We will also not back bill for gas. The exception to this is where the customer has deliberately tampered with the gas network. In this case we would be obligated to make safe but would offer alternative heating and cooking facilities.

Optioneering	
Options considered (including trade-offs innovation)	• Comply with minimum requirements and recover all costs incurred; minimising the safety and financial benefits for customers. • Take a proactive approach investing a further £50,000 per year, resulting in more resolved cases and sharing all of the benefit 50/50 between WWU and consumers – this provides an incentive to WWU and the risk/reward balance is shared equally. • Take a proactive approach, investing a further £50,000 per year resulting in more resolved cases and an asymmetric benefit where customers receive all of the first £250k and WWU share 50% of the benefits above £300k – we therefore recover our £50k investment in the deadband between £250k and £300k.
Regional differences	We have recovered money from theft of gas cases across our network. Most of the back billed cases are businesses including factories, supermarkets and schools. A small number of high value domestic customers have been identified and money recovered. Other GDNs have reported major issues in their larger cities with organised gangs tampering with meters or making illegal connections to our network. We have not yet seen evidence of this but will be looking out for patterns through our proactive work and data modelling in GD2. We will also be looking at opportunities to work more closely with the gas suppliers. These have a UK wide footprint and consistent processes across our network.

Deliverability & Whole Systems Impact	
Deliverability & viability implications	Industry data provided via Xoserve shows 5,000 shipper-less sites, many without a meter. In addition, we have other key contact points in our process that allow us to cross check and identify potential theft of gas cases. The risk is that we have already found and tackled the most significant cases of theft of gas in our network (British Gas also ran a 2-year project from 2015 to cleanse records and tackle theft of gas). The customer is protected by our mechanism in that they will receive all money recovered up to £250k. The additional resources funded by the £50k per annum will be dedicated to theft of gas or cleansing and updating industry MPRN records during GD2. If the role is no longer required then resource savings would be made, with the cost efficiency sharing mechanism returning part of the cost to customers.
Resilience to change	This process and requirement is unlikely to change during the GD2 period other than if we get to a situation where the amount of cases decreases over time because we are successfully stopping the theft of gas due to our proactive approach.
Whole system impacts & fit with wider vision	Not applicable.

Proposal

We propose a bespoke financial incentive to tackle the theft of gas by funding dedicated resources and using industry and publicly available data to address the problem more proactively. We are committed to recovering £2.5m in GD2 (£500,000 per annum).

- The first £250,000 per annum of back billed income recovered will all be returned to customers.
- We will hand back to customers the £50k costs of the additional resources on a linear scale between £250k and £300k.
- Any income recovered above £300,000 per annum recovered will be shared 50% with WWU and 50% with customers.

We will use our GIS system to help process the industry data and overlay with other datasets to prioritise our investigations. There are circa 5,000 properties on the Xoserve data to be investigated, meaning we need to find ways of resolving unknown issues. We will also invest an additional £50,000 per annum into dedicated resources within the back office to continue our proactive theft of gas work. This cost has been included in our base totex for GD2.

We are ambitious in aiming to recover at least £2.5m over the GD1 period, hence the proposal for financial incentivisation.

Customers will also benefit in future years due to no longer funding the gas being used at that property whereas we will not benefit from this. We propose the use of the Social Return on Investment tool to value the financial impact for customers and the social costs of this output throughout GD2. While we believe we have tackled some of the more significant industrial users already, the additional resources will allow us to focus more on the medium-sized businesses and domestic users.

We further pledge to protect vulnerable and low-income homes in our processes by helping those customers in need to register with a gas supplier, but not seeking to recover lost income.

For more information see Chapter 17: Connecting homes and businesses.

Summary	☑ Output	☑ Commitment
Output / Commitment Title 1.16 Enhanced GSoP payments		
Wording of commitment	- Providing above minimum recommended Guaranteed Standards of Performance (GSoP) payments	
Description	A commitment from us to continue to pay levels of compensation to customers as in GD1 where we have doubled the statutory payments. These values will be higher than those proposed by Ofgem in the Gas Sector Decision document of May 2019.	
Type of output	ODI F (penalty only)	

Cost & Bill Impact	
Cost of delivery	£0
Proposed Funding	Compensation payments are excluded from totex.
Customer bill impact	None

Customer benefits & value	
CVP Reference	Appendix 2A - Delivering for Customers and Network Users 1: Enhanced GSoP and Voluntary Payments For further information please see Appendix 2C1 & 2C2
Summary of customer benefits	Customers will be compensated where we fail to deliver the minimum level of service as described by the GSOP statutory instrument. Customers in our area will receive payments that are higher than the revised statutory payments proposed. Based on our performance against the existing GSOPs, we will pay an additional £69k per annum to customers, compared with applying the Ofgem revised statutory payments.
Distributional impacts	These payments will compensate all customers for poor service across our network, whether they are domestic or business customers.

Stakeholder voice	
Engagement method	We engaged with customers and stakeholders over 9 events, with over 19,000 people to gain insight into this area. We used information from the analysis of data from our Let's Connect Customer Consultation of over 18,000 people to understand general customer priorities of our service delivery areas and to understand more about how this varied over different customer demographics and customer personas. We also sought to understand the priorities of stakeholders through our regional community workshops to understand the regional perspective and any differences in focus on this area, from local community representatives.

	Research with customers who had experienced supply interruptions of varying periods gave insight into how they had fared during the interruption and what support and compensation they thought would be appropriate – and how they felt they would like to see this balanced between the two, and preference for one or the other. To help hone our commitment proposal we referenced Citizens Advice's annual report on standards of service in the gas and electricity industry. We tested attitudes towards compensation and other consumer vulnerability GSoPs, engaging on enhanced GSoPs, Voluntary Connections payments, and Voluntary Interruptions Payments together, with 16 national consumer and consumer vulnerability experts via a telephone research survey, which we carried out collaboratively with the other gas distribution networks. We discussed our specific proposals with members of our business expert panel – our Critical Friends Panel (CFP), at two events with 15 and 16 members in attendance at each event, respectively. At the first event we sought our CFP members' views on our assumptions and at the second we tested out acceptability of our commitment. We subsequently commissioned a willingness to pay survey engaging 984 domestic and SME customers.
Stakeholder views	Throughout GD1, safety has consistently been a high priority for our customers and stakeholders – our Let's Connect Customer Consultation found that maintaining a safe and reliable gas supply was the number one priority. We understand that being without gas causes an inconvenience to our customers and we have worked hard to reduce the length of our interruptions during GD1. As a result, our performance is now the best in the industry. To understand how we could provide an even better support service during GD2, we set out to understand how we can best offer enhanced compensation for GSoP failures if gas supplies are interrupted for longer than 12 hours. Qualitative and quantitative customer engagement studies revealed that 62% of respondents scored resolving complaints quickly and compensating customers if things go wrong as 'very important'. Our engagement with stakeholders also revealed that the majority agreed that our proposal for an effective resolution of complaints with an automatic compensation system in place is crucial. This was supported at our regional community workshops, while consumer vulnerability experts expressed the opinion that compensation payments with a requirement to make a claim presented an unnecessary barrier. Some customers and stakeholders felt that during outages, communication is key and that being informed of what is going on is

more valuable than financial compensation. This featured in responses from customers who had previously experienced a supply interruption and was also reported in engagement with our Critical Friends Panel, on acceptability of our commitment proposal.

The amount that should be paid as compensation and the duration of time after which a payment should be made have also proven to be areas where there are varying views from our stakeholders.

Citizens Advice favourably reported on our voluntary doubling of GSOP payments since 2017. In our engagement on GSoPs with vulnerability experts, a scaled compensation level starting at £50 for the first day of a gas interruption was suggested. On the other hand, our Critical Friends Panel in 2018 did not reach a consensus on the amount of compensation but felt that consideration should be given for making higher payments for those on the Priority Service Register and awarding more during the winter months. At each of our regional workshops, there were lengthy discussions surrounding compensation, but again no consensus was reached.

In the light of conflicting views on the level of compensation payments and whether financial compensation is more important than communications around interruptions, we have balanced our approach in developing our commitment. Key considerations in our commitment development were:

- Bringing in a requirement for GSoP payments to be automatic is core to our proposals, as this is supported by a majority of our stakeholders.
- We propose setting the level of compensation above the minimum required by Ofgem and in line with our GD1 payments, and will track feedback, while staying open to making changes to future levels if necessary.

In addition, customer feedback on the importance of communication during interruptions and the requirement for different levels of and methods of engagement during that time, will focus in our ongoing customer communication improvement drive, in our aim to provide bespoke customer communications and service delivery.

Our quantitative willingness to pay research showed that overall customers are prepared to pay slightly more for us to deliver this commitment although there are variances with domestic customers aged under 55, those living in urban and rural areas, the south west and people living in vulnerable situations being generally willing to pay more, while older people, those living in fuel poverty, suburban areas and Wales are less likely to be inclined to pay more. Larger businesses (more than 20 employees) and businesses across our region are likely to be willing to pay more, with smaller businesses less prepared to pay more.

Conclusion of views	Stakeholders support the awarding of higher payments to customers for GSoP failures compared to the proposed Ofgem payments and making those payments automatically. There was no consensus on the level of compensation.

Performance	
Benchmarking data	Statutory and additional voluntary payments made under GSoP are detailed in annual Regulatory Reporting to Ofgem.
WWU GD1 performance	We paid a total of £80,000 of statutory payments plus £85,000 of voluntary payments (to those not eligible under the statutory instrument) in 2018/19 under the GSoP scheme.
Industry comparison	Only WWU and NGN have taken the decision to double the statutory GSoP payments and make them automatic.
Other ambition / requirements	Ofgem consulted on GSoP timescales and payments in December. A summary of their decision document against our more ambitious proposal is shown below.

Optioneering	
Options considered (including trade-offs innovation)	• Adopt Ofgem schedule of payments: Customers would be compensated less than they are in GD1 by us for poor service, leaving them £69k worse off based on our 2018/19 GSoP performance. • Continue to double payments: Welcomed by customer groups and the CEG. • Additional payments: See schedule of voluntary payments under 1.17 and 1.18.
Regional differences	Customers will be treated consistently across our network through this standard. Where customers do receive a lower level of service in some geographies compared to others, the GSoP compensation scheme ensures they will be compensated automatically. We will also use our leading business intelligence solution to understand where there are regions that typically receive a worse service to enable a remediation plan to be put in place to monitor and improve service levels in that geography or with a particular group of customers.

Deliverability & Whole Systems Impact	
Deliverability & viability implications	We are building the ability to measure, report and pay failures into our IT systems ready for GD2. New arrangements to access customer details via Xoserve (SPAA 443) will allow us to contact customers via text, phone or email to advise we need to pay them GSoP compensation and speeding up the timescales to capture payment details and make payments to customers.
Resilience to change	If the statutory instrument changes during GD2 we will review and update our GSoP service levels and compensation payments accordingly.
Whole system impacts & fit with wider vision	N/A

		RIIO GD2 Ofgem			WWU RIIO GD2 proposal	
Standard	**Description**	**Timescale**	**Payment**		**Timescale**	**Payment**
GS1	Supply restoration to ECV following unplanned interruption	>24 hours	£41 domestic £69 non domestic Payable for each 24 hour period No cap		>24 hours	£60 domestic £100 non domestic Payable for each 24 hour period No Cap
GS2	Reinstatement of customers premises	5 working days	£69 Domestic £138 Non Domestic Payable per working day No cap		5 working days	£100 Domestic £200 Non Domestic Payable per working day No cap
GS3	Heating and cooking facilities for priority domestic customers	Offer / provide 4 hours 8 hours incident >250 properties	£33 Automatic offer of payment		Offer / provide 4 hours 8 hours incident >250 properties	£48 Automatic offer of payment
GS4	Standard quotation	4 working days	£12 per day Cap at £297 or quotation value whichever is lowest		4 working days	£20 per day Cap at £300 or quotation value whichever is lowest
GS5	Non Standard Quote (<275kwh)	11 working days	£12 per day Cap at £297 or quotation value whichever is lowest		11 working days	£20 per day Cap at £300 or quotation value whichever is lowest
GS6	Non Standard Quote (>275kwh)	21 working days	£24 per day Cap at £595 or quotation value whichever is lowest		21 working days	£20 per day Cap at £600 or quotation value whichever is lowest
GS7	Accuracy of quotations	Upon valid claim	Bespoke		Upon valid claim	Bespoke
GS8	Response to land enquiries	5 working days	£48 per day up to £297 (<275kwh) or £595 (>275kwh)		5 working days	£80 per day Cap of £300 if <275kwh Cap of £600 if >275kwh
GS9	Provision of a start and completion date of the works following acceptance of a quotation (<275kwh)	17 working days	£24 per day Cap at £297 or quotation value whichever is lowest		17 working days	£40 per day Cap at £300 or quotation value whichever is lowest
GS10	Provision of a start and completion date of the works following acceptance of a quotation (>275kwh)	20 working days	£48 per day Cap at £595 or quotation value whichever is lowest		20 working days	£80 per day Cap at £600 or quotation value whichever is lowest
GS11	Substantial completion on date agreed with the customer	On agreed date	£24 - £178 per working day depending on contract sum		On agreed date	£40 - £300 per working day depending on contract sum
GS12	Late payments	10 working days	£28		10 working days	£40
GS13	Notification in advance of planned interruptions	7 working days	£24 domestic £59 non domestic Automatic payment		7 working days	£40 domestic £100 non domestic Automatic payment
GS14	Provide response to complaint	5 / 10 (site visit) working days	£24 Payable up to 5 working days		5 / 10 (site visit) working days	£40 Payable up to 5 working days

For more information see Chapter 6: Customer service.

Summary	☑ Output	☑ Commitment
Output / Commitment Title 1.17 Voluntary Interruption Payments		
Wording of commitments	- Voluntary Interruption Payments will be given to customers who suffer gas interruptions of more than 12 hours	
Description	Under GSoP, a customer will only receive compensation where gas is not restored to the Emergency Control Valve (ECV) following an unplanned interruption after 24 hours. There is no equivalent payment for planned interruptions. This output will automatically pay customers for unplanned and planned interruptions where gas is interrupted and not available to the appliances (not just the ECV) within 12 hours. In addition, we are pledging to get gas re-established to the appliances within 2 hours where the customer was not available when we completed the service work, and subsequently contacts us to say they are ready for or agrees to a planned appointment time to undertake the work.	
Type of output	ODI F	

Cost & Bill Impact	
Cost of delivery	£0
Proposed Funding	Compensation payments are excluded from totex.
Customer bill impact	None

Customer benefits & value	
CVP Reference	Appendix 2A - Delivering for Customers and Network Users 2: Interruptions targets For further information please see Appendix 2C3 & 2C4
Summary of customer benefits	Where a customer experiences an interruption which lasts more than 12 hours – measured from gas being switched off to gas being available at the appliances inside the home – we will automatically make a payment of £25. Note: We will be able to 'stop the clock' where the customer does not provide access to the property to complete our works. Where a customer is not available and access to the property is not provided, we will leave a card asking the customer to contact us. When the customer contacts us to arrange access, we will attend the site within 2 hours to reconnect the supply to the appliances. If we fail to do so, we will automatically pay £20.

	Based on our performance in 2018/19, we estimate that we will pay £104k per annum to customers. We aim to significantly reduce these payments by improving the service to customers in these areas.
Distributional impacts	This would apply to all customers, domestic and business.

Stakeholder voice	
Engagement method	We engaged with customers and stakeholders over 4 events, with nearly 19,000 people to gain specific insight into this area. We used information from the analysis of data from our Let's Connect Customer Consultation of over 18,000 people to understand customer priorities of our service delivery areas and to understand more about how this varied over different customer demographics and customer personas. We also sought to understand the priorities of stakeholders through our regional community workshops to understand the regional perspective and any differences in focus on this area, from local community representatives. Research with customers who had experienced supply interruptions of varying periods gave insight into how they had fared during the interruption and what support and compensation they thought would be appropriate – and how they felt they would like to see this balanced between the two, and preference for one or the other. To help hone our commitment proposal we referenced Citizens Advice's annual report on standards of service in the gas and electricity industry. We tested attitudes towards compensation and other consumer vulnerability guaranteed standards of performance (GSoPs), engaging on enhanced GSoPs, Voluntary Connections payments, and Voluntary Interruptions Payments together, with 16 national consumer and consumer vulnerability experts via a telephone research survey, which we carried out collaboratively with the other gas distribution networks. We discussed our specific proposals with members of our business expert panel – our Critical Friends Panel (CFP), at two events with 15 and 16 members in attendance at each event, respectively. At the first event we sought our CFP members' views on our assumptions and at the second we tested out acceptability of our commitment.
Stakeholder views	Throughout GD1, safety has consistently been a high priority for our customers and stakeholders – our Let's Connect Customer Consultation found that maintaining a safe and reliable gas supply was the number one priority. We understand that being without gas causes an inconvenience to our customers and we have worked hard to reduce the length of our

	interruptions during GD1. As a result, our performance is now the best in the industry. To understand how we could provide an even better support service during GD2, we set out to understand how we can best offer enhanced compensation for GSoP failures if gas supplies are interrupted for longer than 12 hours. Qualitative and quantitative customer engagement studies revealed that 62% of respondents scored resolving complaints quickly and compensating customers if things go wrong as 'very important'. Our engagement with stakeholders also revealed that the majority agreed that our proposal for an effective resolution of complaints with an automatic compensation system in place is crucial. This was supported at our regional community workshops, while consumer vulnerability experts expressed the opinion that compensation payments with a requirement to make a claim presented an unnecessary barrier. Some customers and stakeholders felt that during outages, communication is key and that being informed of what is going on is more valuable than financial compensation. This featured in responses from customers who had previously experienced a supply interruption and was also reported in engagement with our Critical Friends Panel, on acceptability of our commitment proposal. As part of our collaborative GDN research project with consumer experts and customers, we looked at the existing GSoPs and whether there was any requirement for a formal appointment standard. While there was not strong support for formalising an appointment standard, the consensus was that up to 2 hours was reasonable and that customers wanted to be kept informed about what was happening. The amount that should be paid as compensation and the duration of time after which a payment should be made have also proven to be areas where there are varying views from our stakeholders. Citizens Advice favourably reported on our voluntary doubling of GSoP payments since 2017. In our engagement on GSoPs with vulnerability experts, a scaled compensation level starting at £50 for the first day of a gas interruption was suggested. On the other hand, our Critical Friends Panel in 2018 did not reach a consensus on the amount of compensation but felt that consideration should be given for making higher payments for those on the Priority Services Register and awarding more during the winter months. At each of our regional workshops, there were lengthy discussions surrounding compensation, but again no consensus was reached. In the light of conflicting views on the level of compensation payments and whether financial compensation is more important than communications around interruptions, we have balanced our approach in developing our commitments in these areas. Key considerations in our commitment development were:

	• Bringing in a requirement for GSoP payments to be automatic is core to our proposals, as this is supported by a majority of our stakeholders. • We propose setting the level of compensation above the minimum required by Ofgem and in line with our GD1 payments, and will track feedback, while staying open to making changes to future levels if necessary. In addition, customer feedback on the importance of communication during interruptions and the requirement for different levels and methods of engagement during that time, will focus in our ongoing customer communication improvement drive, in our aim to provide bespoke customer communications and service delivery. Taking this feedback into consideration, we are committing to providing enhanced compensation for failures under the GSoPs and to voluntarily pay customers compensation if their gas is interrupted for longer than 12 hours or if we are unable to get gas re-established to the appliances within 2 hours where the customer was not available when we completed the service work, and subsequently contacts us to say they are ready or agrees a planned appointment time to undertake the work.
Conclusion of views	While the majority of stakeholders wanted gas interruption times to be minimised, with communication a key customer service focus, the introduction of payments and timescales was supported by a reasonable proportion of stakeholders – and this will help us focus on measuring and improving our performance.

Performance	
Benchmarking data	NGN currently makes some voluntary payments to customers above the GSoP requirements.
WWU GD1 performance	• We currently pay double any GSoP statutory payment. We also pay discretionary payments to customers where they have been adversely impacted by our works. • Time left off gas is also our second highest root cause of complaints after communication. • Our interruptions performance is outlined in 1.3 above but in summary when we do need to interrupt supplies in an unplanned way, our aim is to keep the duration of the interruption to around eight hours on average, compared with the GDN average of 26 hours. Our planned interruptions last just three and a half hours on average, compared with the near six-hour GDN average.
Industry comparison	SGN and Cadent only pay statutory GSoP payments but do make voluntary payments to customers.
Other ambition / requirements	We want to ensure that any customer who experiences a long period of having no access to gas through no fault of their own is automatically offered compensation for that inconvenience. We will also be working to reduce the number of unplanned interruptions through our replacement programme, including innovation, and working with third parties to reduce damage to our assets.

	We will target continued reduction in our average time off gas, currently 6 hours for unplanned works (excluding large incidents) and 3.5 hours for planed works.

Optioneering	
Options considered (including trade-offs innovation)	• We considered aligning the timescale for unplanned interruptions to our commitment of keeping average durations under 10 hours. However, this only measures gas to the ECV. • As customers cannot heat their homes, have access to hot water or cook on gas until gas is at the appliances, we felt it more appropriate that the measure was a commitment to get gas to the appliances. • Where a customer is out when we have completed the work of re-establishing gas to the ECV, we currently only commit to getting the gas back on within 4 hours. We recognise that this is too long and that a commitment to 2 hours is more appropriate. • This aligns to the research undertaken as part of our collaborative research undertaken by TTI on appointment standards associated with our mains replacement work.
Regional differences	The payments will apply to all customers on our network and be paid automatically. SPA 443 will allow us to access suppliers' contact details and phone, text or email customers to speed up the payment of compensation.

Deliverability & Whole Systems Impact	
Deliverability & viability implications	We are building in the measurement and payment of this new output into our IT systems to be delivered in GD2.
Resilience to change	N/A
Whole system impacts & fit with wider vision	N/A

Proposal

Where a customer experiences a planned or unplanned interruption which lasts more than 12 hours – measured from the gas being switched off to gas being available at the appliances inside the home – we will automatically make a payment of £25.

Note: We will be able to 'stop the clock' where the customer does not provide access to the property to complete our works.

Where a customer is not available and access to the property is not provided, we will leave a card asking the customer to contact us. When the customer contacts us to arrange access, we will attend the site within 2 hours to reconnect the supply to the appliances. If we fail to do so, we will automatically pay £20.

		WWU RIIO GD2 proposal	
Worktype	**Description**	**Timescale**	**Payment**
Unplanned interruptions	Supply restoration to appliances following unplanned interruption	>12 hours up to 18 hours (Access available to property)	£25
Unplanned interruptions	Supply restoration to appliances	Where customer was not available 2 hour appointment window agreed with the customer to attend and restore gas to the appliances	£20
Planned interruptions	Supply restoration to ECV and appliances	12 hours from gas being switched off	£25
Planned interruptions	Supply restoration to appliances	Where customer was not available 2 hour appointment window agreed with the customer to attend and restore gas to the appliances	£20

Summary	☑ Output	☑ Commitment
Output / Commitment Title 1.18 Voluntary Connections payments		
Wording of commitment	- Introduce and implement Voluntary Connection Payments across all our customers	
Description	Under the Connections Guaranteed Standards of Performance (GSoP), some types of connections work are excluded from the GSoP payments. We are committing to treat all customers equally and to pay customers who are requesting an isolation quote, diversions quote or a developer requesting a multi property development the equivalent payment that other customers receive under GSoP.	
Type of output	ODI F	

Cost & Bill Impact	
Cost of delivery	£0
Proposed Funding	Compensation payments are excluded from totex.
Customer bill impact	None

Customer benefits & value	
CVP Reference	Appendix 2A - Delivering for Customer and Network Users 1: Enhanced GSoPs and voluntary payments CVP For further information please see Appendix 2C1 & 2C2
Summary of customer benefits	Customers and organisations applying for a firm quotation for works currently excluded from Connections GSoPs will get the same compensation as those who are eligible for poor levels of service. This will cover customers who are applying for isolations, large developments and diversions of our assets. Voluntary standard for processing green gas entry requests will also be incorporated into this suite of payments. Payments will be aligned to the GSoPs and our proposed enhanced payments.
Distributional impacts	Unlike the requirement under the statutory instrument, these payments will apply to all customers and businesses across our network. The existing GSoPs protect domestic customers. These voluntary payments will particularly protect businesses, developers and highway authorities.

Stakeholder voice	
Engagement method	We engaged with customers and stakeholders over 3 events, with nearly 19,000 people to gain insight into this area. We used information from the analysis of data from our Let's Connect Customer Consultation of over 18,000 people to understand customer priorities of our service delivery areas and to understand

	more about how this varied over different customer demographics and customer personas. We also sought to understand the priorities of stakeholders through our regional community workshops to understand the regional perspective and any differences in focus on this area, from local community representatives. Research with customers who had experienced supply interruptions of varying periods gave insight into how they had fared during the interruption and what support and compensation they thought would be appropriate - and how they felt they would like to see this balanced between the two, and preference for one or the other. To help hone our commitment proposal we referenced Citizens Advice's annual report on standards of service in the gas and electricity industry. We tested attitudes towards compensation and other consumer vulnerability guaranteed standards of performance (GSoPs), engaging on enhanced GSoPs, Voluntary Connections payments, and Voluntary Interruptions Payments together, with 16 national consumer and consumer vulnerability experts via a telephone research survey, which we carried out collaboratively with the other gas distribution networks. We discussed our specific proposals with members of our business expert panel – our Critical Friends Panel (CFP) – with 16 members in attendance. At the event we sought our CFP members' views on our assumptions and tested out acceptability of our commitment.
Stakeholder views	Qualitative and quantitative customer engagement studies revealed that 62% of respondents scored resolving complaints quickly and compensating customers if things go wrong as 'very important'. Our engagement with stakeholders also revealed that the majority agreed that our proposal for an effective resolution of complaints with an automatic compensation system in place is crucial. Discussion with internal stakeholders and a review of our performance shows that customers requesting an isolation quote, diversions quote or a developer requesting a multi property development can receive a worse level of service compared to works captured under GSoP. Customer satisfaction scores for connections work do not apply to works with a gas demand of more than 73,200 kwh. We have undertaken periodic surveys of customers who have requested other works from us. These revealed that the time taken to provide a quotation is an important factor for all customers, along with the accuracy of that quotation. Delays in our processes can lead to businesses not being able to fully respond to tenders for works or to complete business cases for works.

Conclusion of views	While we have received very little direct feedback through our stakeholder engagement to support this output, we have concluded that by extending the GSoP connections standard to all works, we will treat all customers consistently and improve our service levels and reputation.

Performance	
Benchmarking data	The annual RRP (tab 8.3) allows us to see the volumes of jobs which are exempt from Connections GSoPs. However, this does not show isolations or diversions requests. We are the second busiest GDN for connections work after SGN Southern.
WWU GD1 performance	We currently do not pay compensation to customers who are exempt from the GSoP standards.
Industry comparison	Through engagement with the other GDNs we are aware that NGN are proposing similar payments for GD2.
Other ambition / requirements	• We will set internal SLAs for these types of work aligned to the most appropriate GSoP and monitor our performance in making automatic payments to customers when we fail. • The payments will apply to firm quotations only (that is, a quotation for which the customer has provided all required information to us and the quotation forms a contract if accepted). • Budget costs are exempt from GSoP. These tend to be based on estimated information and provide the customer with a budget cost for the work with no contractual commitment. We already publish standard charges for isolations and developments and will engage with stakeholders on the design of a portal for costing in GD2. • We will further consider how payment for work planning and completion can be developed with customers. These have been excluded for the business plan as these types of projects are often phased to meet customer requirements over several years.

Optioneering	
Options considered (including trade-offs innovation)	• Continue with the existing GSoP regime adopting the Ofgem changes to GSoP on timescales and statutory payments. This would continue to leave a number of connection groups excluded from receiving payments for poor service. • Pay voluntary payments for quotations only (proposed). • Pay voluntary payments for planning and completion (not at this stage due to the complexity of multiple visits driven by customer phasing).
Regional differences	These payments will apply to all customers across our network

Deliverability & Whole Systems Impact	
Deliverability & viability implications	We will incorporate the measurement and identification of payments due into our systems ready for GD2.
Resilience to change	We will review the appropriateness of the voluntary payments on an annual basis.
Whole system impacts & fit with wider vision	N/A

Proposal

Connections	Description	Timescale	Payment
Exit Connections	Disconnection firm quotations	4 working days desktop 11 working days with site visit	£20 per day Cap at £300 or quote value whichever is lowest
Exit Connections	Diversions firm quotations	21 working days	£40 per day Cap at £600 or quote value whichever is lowest
Exit Connections	GS5/6 excluded connections developers >5 properties firm quotations	11 working days GS5 21 working days GS6	£40 per day Cap at £300 / £600 or quote value whichever is lowest
Entry Connections	Initial Capacity study for entry	15 working days	£40 per day Cap at £600 or quote value whichever is lowest
Entry Connections	Full capacity study	30 working days	£40 per day Cap at £600 or quote value whichever is lowest

For more information see Chapter 6: Customer service.

Summary	☑ Output	☑ Commitment
Output / Commitment Title **1.19** Land remediation		
Wording of commitment	- Invest £6.8m to assess, manage or reduce the negative impacts of historical gas works at around 70 sites in our communities	
Description	We own a portfolio of former gas work sites that have the potential to significantly damage human health, water bodies and the environment that surrounds them. We take this risk seriously and in GD2 we will continue our successful proactive approach to managing our statutory contaminated land liability.	
Type of output	PCD	

Cost & Bill Impact	
Cost of delivery	£6.8m total in GD2.
Proposed Funding	Funded from base totex.
Customer bill impact	Costs per annum to customers (2.5M) will be 54p.

Customer benefits & value	
CVP Reference	N/A
Summary of customer benefits	Our contaminated land assets deteriorate with time and risks can increase with changes to the surrounding land use. This output proactively looks to reduce significant risk to consumers' health and the health of the environment in which they live.
Distributional impacts	Our contaminated land portfolio comprises land assets from across the network.

Stakeholder voice	
Engagement method	We engaged with customers through our Let's Connect Customer Consultation and quantitative research study to understand their priorities as well as characteristics demonstrated through revealed customer personas through questioning on attitudinal statements that included customers' consideration of environmental matters and level of environmental activities. We tested our draft commitment to address historic gas works sites with representative stakeholders responsible for communities that would be impacted by our remediation works (Bristol City Council and Swindon Borough Council) as well as with educated customers through qualitative focus groups and then customers representing our broad customer demographic across our region, through a quantitative research study (971 universe). This was supplemented with a quantitative willingness to pay study with 984 domestic and business stakeholders. We also surveyed colleagues about the level of ambition they expected the company to have for its land remediation programme.

Stakeholder views	Our customers care about the environment and want us to act to make sure they have a clean, reliable and affordable energy future. Two of our revealed customer personas, 'environmentally considerate' and 'environmentally engaged' make up 54% of our customer demographics. These customers are concerned or deeply concerned about the environment, with environmentally engaged taking positive steps to tackle environmental issues. These customer preferences assisted us in developing our land remediation programme and draft commitment. The CEG challenged the level of environmental ambition noting that the focus was on compliance rather than proactive leadership. The CEG also commented that we had undertaken limited engagement on this topic. The feedback on the level of environmental ambition was echoed by the RIIO-2 Challenge Group. Given that this is an area of growing importance for our customers and colleagues we undertook further engagement and as a result have increased the level of ambition significantly. We held face to face meetings with two local authorities to discuss our proposed programme and commitment; both revealed a preference for us to be proactive in terms of land remediation. Swindon Borough Council favoured us having a more proactive approach to converting unused landholdings into sites for beneficial use. Taking a reactive approach would be considerably more expensive for us. Bristol City Council were also in favour of our proactive land management programme, as outlined to them. We discussed our draft commitment with nearly 1,000 customers through both educated customer focus groups as well as a quantitative research study. 65% of customers confirmed that they thought our commitment to assess, manage or reduce the negative impacts of historical gas works at around 70 sites in our communities was acceptable. Similarly, 72% of our colleagues (from 116 respondents) felt that reducing the risk from old contaminated gas work sites to our communities and the environment is very important to WWU. Both domestic and SME customers are generally willing to pay a little more for us to deliver this commitment although there are variances across stakeholder segments, with older people (over 55), people living in vulnerable situations, larger businesses (over 20 employees) along with business customers living in Wales likely to be willing to pay more. In contrast, smaller businesses, domestic customers aged under 55, those living in rural areas, fuel poverty situations and domestic customers in Wales are less likely to be prepared to pay more.
Conclusion of views	Based on the additional insight collected between June and September, including feedback from events such as acceptability testing of our initial business plan, we decided to make our commitment on land remediation more specific by stipulating the investment (£6.8m) we will dedicate to addressing historical gas works across the 70 sites.

Performance	
Benchmarking data	Annual report to Ofgem under Regulatory Reporting (table 3.10).
WWU GD1 performance	To date we have delivered 85 of the 86 land management outputs to be undertaken during GD1. As a result of efficient and effective management we have provided significant savings to consumers during GD1 while reducing our contaminated land risk to human health and the environment. Key practices employed are outlined below: • In-house research of historical site records, publications, previous site investigations, professional knowledge, competency and judgement. • Investment in our framework consultants and contractors through coaching and counselling of our requirements in relation to our own policies, our technical expectations, and climate change adaptation. • Stakeholder engagement and relationship building with both local and national regulators and policy makers (local authorities, the Environment Agency, Natural Resources Wales, Defra). • Competitive tendering of regionally packaged works through a framework of specialist gas works contaminated land contractors. • Working as part of larger gasholder demolition works to remediate gas works sites and backfill below ground gas holder tanks with site won materials.
Industry comparison	As a 'client' that typically works outside of the planning framework in the contaminated land management sphere, direct comparison is not available. However, our approach to land management has resulted in several leading industry awards during GD1, including the following Brownfield Briefing Awards: • 2013 Best Reuse of Materials, • 2015 Best Public Participation, • 2016 Best Biodiversity Enhancement • 2016 Best Use of Combination of Remediation Techniques.
Other ambition / requirements	As part of our overarching GD2 Environmental Action Plan we will be pursuing our ambition to reduce our carbon and biodiversity impact within land management projects.

Optioneering	
Options considered (including trade-offs innovation)	Several options were considered to ensure that we deliver the best value solution to our consumers while protecting them and their environment from legacy contaminated land. These options include: • Reactive statutory – effectively a 'do nothing' option which predicts environmental incidents resulting from poor asset risk management and associated environmental regulatory intervention and fines.

	• Proactive statutory – our preferred option, to manage and remediate our land assets to a minimum statutory level under Part IIA of the Environmental Protection Act 1990. • Proactive Statutory Max – as above with an increase in site assessments to cover a wider proportion of the land management portfolio. Full details of the proposed land management programme are provided within the Engineering Justification and CBA appendices.
Regional differences	The legislation and best practice contaminated land risk assessments are applicable to the whole of England and Wales.

Deliverability & Whole Systems Impact	
Deliverability & viability implications	We employ specialist contaminated land professionals who provide significant experience having successfully delivered our award-winning land management programme within GD1.
Resilience to change	The land management programme is internally managed and externally supported by contaminated land specialists. Political, social and technical change is monitored to ensure that our approach provides the best value to consumers now and into the future.
Whole system impacts & fit with wider vision	Responsible management of our contaminated land portfolio is fundamental to our sustainability strategy and commitment to protect and enhance the natural environment for the benefit of consumers and stakeholders.

Proposal
We will deliver 85 land management outputs (across 70 sites) by managing or remediating the risk to human health and controlled waters posed by our legacy gas works sites.

For more information see Chapter 14: Environmental Action Plan and Appendix 15A – Cost Benefit Analysis and Appendix 15B – Engineering justification document.

Commitments

Summary	☐ Output	☑ Commitment
Output / Commitment Title 1.20 Data sharing agreements Continue our leading work in data sharing agreements with the aim of aligning the gas, water and electricity sectors into a virtual common PSR while working towards a single PSR for all utilities in GD3		
Description	Given the importance of our services for vulnerable customers, we undertook a deep dive engagement programme on the topic as part of our RIIO-2 preparations. Vulnerable customers and their carers told us they wanted us to work harder to promote the PSR in our network and to collaborate with other utility companies. We had significant success in GD1, working together to drive PSR sign-ups and jointly leading our first ever 'Stronger Together' conference. We hope to continue our collaboration with our regional electricity and water companies in GD2 to support customers living in vulnerable situations. In GD2 we are committing to at least 12,000 sign-ups per annum. These customers will be added to the gas, electric and water PSRs and will receive a range of support services as well as financial benefits if they are eligible for social water tariffs or Warm Home Discount payment of £140 per annum from certain, obligated suppliers. Our focus area for this commitment will be promoting the PSR and sharing referrals with suppliers and other utilities.	

Cost & Bill Impact	
Cost of delivery	Part of the Use it or lose it allowance – £0.05m per annum allocated for PSR sign-ups and data sharing.
Proposed Funding	Use it or lose it allowance – share of £30m proposed by Ofgem.
Customer bill impact	2p per annum

Customer benefits & value	
CVP Reference	Appendix 2A – Delivering for Customers and Network Users 7: PSR joined up utility approach. For further information please see Appendix 2C13 & 2C14
Summary of customer benefits	Once customers are registered on a PSR they can benefit from receiving communications in their chosen format, set passwords for calls and visits, and get prioritisation in the event of a supply interruption. This leads to health and wellbeing benefits. In addition, once known to utility companies, the household may benefit from financial support such as the Warm Homes Discount that is worth £140 per year or access to social water tariffs.

	While we share data with other utilities and suppliers, customers are confused by the need to complete additional forms sometimes for the different PSRs or by receiving calls from multiple providers. The vision of a single register across all the suppliers and utility companies is widely supported by the industry and by customer groups.
Distributional impacts	All customers who are eligible to be registered on the PSR would benefit. If we can get Ofgem and Ofwat to implement such as system, this would benefit priority customers across the whole of the UK.

Stakeholder voice	
Engagement method	We engaged with over 3,300 customers and other stakeholders at 11 discrete engagement activities during our consumer vulnerability engagement campaign. We engaged multiple customer and stakeholder groups through different, appropriate engagement channels, with 1,162 self-identified as vulnerable through our research surveys. We also spoke face to face to 100 vulnerable customers in interviews that importantly contained elements of ethnographic engagement, identifying emotional vulnerability in addition to other vulnerabilities encountered through this engagement. A range of research and engagement channels, including engagement with customers in vulnerable situations in their homes, helped us understand our stakeholders' and customers' priorities for our investment focus in vulnerability and the PSR. These included focus groups and community workshops – more details are in the supporting synthesis report for this commitment. Our PSR and data sharing commitment was shaped through further one-to-one engagement with customers in vulnerable situations in their homes, and through engagement with our expert Critical Friends Panel and national consumer vulnerability experts. Acceptability of our commitment was tested in two phases of quantitative customer engagement, where our commitment was honed following phase 1 engagement and with phase two acceptability engagement including customer willingness to pay. In addition, we tested acceptability of our commitment in face to face in-home interviews with vulnerable people, as well as paired depth interviews with vulnerability carers, to give an alternative and informed opinion.
Stakeholder views	Feedback was unanimously supportive of our continuing work on data sharing among utility companies. At almost all of our regional workshops, consumer advisory and third sector stakeholders discussed the PSR, emphasising that data should be better shared among utilities, including gas and electricity networks. The register should also be available to all organisations and groups that could

	provide benefits to people in vulnerable situations to maximise its impact. There was a consensus among our Critical Friends Panel that we should do all we can to simplify the sign-up process and ideally strive to work towards a unified shared register. This was reinforced by our 'bill increase willingness to pay' customer acceptability testing in which continuing our work on data sharing ranked third among SMEs out of our commitments relating to meeting the needs of consumers. Acceptability testing with vulnerable customers and carers also ranked this commitment as their third most important, with carers' acceptability at 47% and vulnerable customers' acceptability at 55%. These efforts would not only streamline increasing PSR sign-ups but also remedy customer confusion about the vast number of existing registers. Engagement on customer needs placed social obligations and supporting customers in vulnerable situations ahead of general customer service, further emphasising the need to make the PSR more widely accessible and easily available. Our expert Critical Friends Panel and customer focus groups supported sharing data and information between utilities, although support varied. Everyone was keen to ensure that vulnerable people get the help they need, when required. More than 95% of respondents in focus groups agreed with sharing customer contact details in the gas industry without the need to inform customers, except those of vulnerable customers, as these customers may be worried or more susceptible to fraud. Customers at focus groups reiterated their support for us to work with specialist partners who can refer vulnerable individuals directly. To achieve this, we believe it necessary to start working towards a virtual shared PSR between utilities in the GD2 period leading up to that. Our commitment has therefore evolved from: Continue our leading work in data sharing agreements, while working towards a single PSR for all utilities in GD3. To: Continue our leading work in data sharing agreements, with the aim of aligning the gas, water and electricity sectors into a virtual common PSR – while working towards a single PSR for all utilities in GD3. Willingness to pay as a price perception of importance acceptability testing revealed that more than half (54%) of customers thought this commitment was relevant to them, with 61% saying it is acceptable.

	However, only 21% would be willing to pay more on their bill to ensure we deliver on this commitment, a sentiment which was reinforced by our domestic customers in November in our latest 'bill increase willingness to pay' round of acceptability testing, among whom data sharing ranked 5th out of our 6 commitments in this field.
Conclusion of views	Stakeholders have a low awareness of the PSR. There is also surprise that there are multiple PSRs across the utilities and stakeholders have asked us to play a lead role in working with regulators to enable a common PSR register to be introduced in GD3 across gas, electricity and water.

Performance	
Benchmarking data	Ofgem and Ofwat publish some data in their vulnerability reports. There is no direct comparator in the annual gas RRP.
WWU GD1 performance	We have steadily increased the number of people signed up and referred to suppliers and other utility companies over the last five years. In 2018/19 we referred over 4,500 people. In 2019/20 we have referred over 8,000 people and expect to reach 12,000 by the end of the financial year. While we do identify that up to 25% of addresses are already on the register, we share the new data with all gas suppliers, DNOs and Welsh Water as the new data may supersede existing records and this sharing aids the maintenance of the PSRs.
Industry comparison	Ofgem's Vulnerable customers in the energy market report 2019 states that: The proportion of consumers on the PSR is highest in Wales with 28% gas and 26% electricity customers, followed by England with 24% for both gas and electricity, and Scotland with 22% gas and 21% electricity customers on the PSR. Water companies tend to be much lower with less than 10% of customers registered on the PSR. Water companies have all pledged to do more in their next price control period.
Other ambition / requirements	We want to make the process as easy as possible for customers as well as carers and families to sign people up to the register and to keep it maintained. Whilst GDPR must be a key driver to protect customer data, it should not be an excuse for not sharing data.

Optioneering	
Options considered (including trade-offs innovation)	Maintain the status quo by continuing to share our sign ups with other utilities and suppliers. This accepts the continuation of multiple PSRs and investment from multiple organisations to maintain that data. Pursue an objective of a common PSR with data shared by utility companies and suppliers. This would need a lead company to administer the data feeds and enable sharing of the data amongst companies as required. Each company would need to pay a fee towards the annual costs. While this may result in positives and negatives on costs for individual companies, the overall impact should be a lower overall cost to customers. While implementation in GD2 would be the ideal situation, there are many organisations that need to sign up to the vision first, along with Ofgem and Ofwat. Appointing a lead organisation, and specifying and building the system would take up to 18 months. Our vision would be to have the system up and running by 2025 as the gas industry runs into GD3. Any consultation should also look beyond gas, electric and water. Telecoms could also be included to make this a truly utility wide initiative. The ability to take in data from local authorities and emergency services would be the ultimate aim but will create more complexity around GDPR and who can see what data.
Regional differences	All customers who are eligible to be registered on the PSR would benefit. If we can get Ofgem and Ofwat to implement such a system, this would benefit priority customers across the whole of the UK.

Deliverability & Whole Systems Impact	
Deliverability & viability implications	Deliverability is dependent on getting Ofgem and Ofwat aligned, and then getting all industry organisations on board with the principles. The first steps are already being taken with the water, gas and electricity PSR codes being aligned from 2020. This will make data sharing easier and we will look to use that momentum to push the vision and development of a common PSR.
Resilience to change	The new PSR system should be adaptable. Consideration will need to be given to changes in the role of organisations and new markets such as hydrogen and heat distribution.
Whole system impacts & fit with wider vision	The need for PSR to protect an increasing number of vulnerable customers will be an ongoing requirement for utilities, however the future of energy and the ownership of utility companies evolve.

Proposal
Continue our leading work in data sharing agreements with the aim of aligning the gas, water and electricity sectors into a virtual common PSR while working towards a single PSR for all utilities in GD3.

For more information see Chapter 7: Social obligations.

Summary	☐ Output	☑ Commitment
Output / Commitment Title 1.21 Work with partners to increase PSR sign-ups Work alongside partners and carer networks to increase the number of PSR sign-ups by 200% to 12,000 per annum, compared to 2018/19.		
Description	We will promote the Priority Services Register and actively refer households to the registers of the suppliers, electricity and water companies.	

Cost & Bill Impact	
Cost of delivery	£50k per annum
Proposed Funding	Part of the 'Use it or lose it' allowance for vulnerable customers and carbon monoxide awareness.
Customer bill impact	£50k / 2.5m MPRNs = 2p per annum

Customer benefits & value	
CVP Reference	Appendix 2A - Delivering for Customers and Network Users 7: PSR joined up utility approach For further information please see Appendix 2C13 & 2C14
Summary of customer benefits	Vulnerable customers will be reached via a variety of channels and made aware of the benefits of the Priority Services Registers (PSR). Customers will be signed up via our website, by our engineers, and by our partners and will be referred to the suppliers, electricity and water PSRs. Customers will benefit from a range of services: • Tailored communications for their needs • Password schemes • Prioritisation in the event of a supply interruption or works in their community • Eligibility for the Warm Homes Discount • Eligibility for social water tariffs.
Distributional impacts	This output applies to vulnerable customers eligible for the PSR. It also provides a level of assurance to the families and carers who look after those customers.

Stakeholder voice	
Engagement method	We engaged with over 3,500 customers and stakeholders over discrete engagement activities during this subject area of our consumer vulnerability engagement campaign. For our enhanced GD2 engagement, we set about understanding more about our customers, looking at their segmentation and specifically understanding more about vulnerability from those who would be described as living in vulnerable situations, people caring for vulnerable customers and others working to deliver support

	services such as our partner case workers. We gained information from our qualitative and quantitative customer engagement focus groups and 1,000-person survey, alongside in-depth engagement that included elements of ethnographic engagement with vulnerable people in their own homes. We looked to understand opinions of the impact of our services on customers living in vulnerable situations through the range of viewpoints from those identified above. We then sought to hone our commitments through feedback from these customers and stakeholders, alongside experts representing different consumer vulnerability groups. We tested out our commitment with customers in vulnerable situations and their carers, expert representatives and our general customer demographic, who would have to bear the cost of additional services for this specific segment of customers. This was further tested though a quantitative willingness to pay study with 984 domestic and SME customers. We commenced a social media trial in May 2019 with targeted Facebook adverts to the elderly, people with serious health conditions, and parents with young children. This showed that social media enables a wide reach to the vulnerable, their families and carers and allows sign ups at an efficient unit cost of around £3 per referral.
Stakeholder views	During GD1, we have engaged with health professionals at a range of events over the last three years including carers and occupational therapists, to understand more about the services we might provide to support customers in vulnerable situations in relation to our activities. In Wales we have been part of the Welsh Government's Jig-so project aimed at supporting young and vulnerable expectant parents, to understand how we can support this vulnerability group. We have also been active members of the GDN safeguarding working groups. Our three phase deep dive consumer vulnerability engagement programme with customers, carers, case workers and vulnerability experts, demonstrated the lack of knowledge of the existence of Priority Services Registers (PSRs) in the energy and other utility industries, alongside a whole range of vulnerabilities, including emotional vulnerable as an emerging and growing vulnerability that required support. It was clear that if we were going to be able to support people in vulnerable situations, we needed to be able to identify them. Our research evidenced that stakeholders want us to work harder to promote the PSR in our network and asked us to collaborate more closely with other utility companies. In GD1, we trained our colleagues and partners to sign-up customers to the PSR via apps, forms and websites. We also used social media campaigns to reach targeted priority groups. We signed up 12,000 homes over a 4-year period from 2014 to 2018. A social media trial in 2019 opened our eyes to the power of social media and the cost

	efficiency of that channel. We are forecasting 10,000 sign ups in 2019, based on the strength of this work. Again, during GD1, we worked with other utility companies to drive Priority Services Register sign-ups and jointly led our first ever 'Stronger Together' conference. We hope to continue our collaboration with our regional electricity and water companies in GD2 to support customers living in vulnerable situations. Through our wide range of engagement programmes with customers, customers in vulnerable situations, representative expert stakeholders and politicians, we have sought to gain as wide an understanding of the role as possible that we should take with regards to PSR sign-ups and the ways in which we should do that. Consideration has been given to a range of methods and partners with whom we should work – suggestions have been wide-ranging on how we should communicate the PSR method. Raising awareness and getting PSR sign-ups through local partnerships and collaboration is key, according to the feedback gathered. There were several suggestions and concerns about how to raise awareness of the PSR – see the related engagement synthesis report for more detail on this engagement feedback, together with discussions around eligibility to join the PSR and simplifying the sign-up process. A significant body of feedback about collaboration focused on information sharing between organisations. There was strong support for sharing information across utilities and suppliers to avoid multiple sign-ups to different registers and updating systems regularly. Our Critical Friends Panel suggested that suppliers and regulated industries work together to share PSR data, as well as smart meter data. Respondents to our vulnerability interviews expressed surprise that utilities and suppliers are not working together more to ensure that the PSR is familiar to all and that all who are eligible are encouraged to sign up. Stakeholders asked us to do more to raise awareness of the PSR and to work with partners to find the hardest to reach people. They also asked us to share the data with other utilities once a person gave consent to be added to the register. Stakeholders also asked us to use our influence to work towards a common utilities PSR across the UK. Overall, domestic and business customers are prepared to pay slightly more for us to deliver this commitment, although there are variances across segments; notably domestic customers living in vulnerable situations, suburban areas and the south west are more likely to be inclined to pay more, with those in rural areas, Wales and those living in fuel poverty less likely to be prepared to pay more. In respect of business customers, those in both the south west and Wales, and larger businesses (over 20 employees) are more likely to be willing to pay more than smaller businesses (under 20 employees).

Conclusion of views	Given the fact that the PSR and its services are viewed as essential, particularly by vulnerable customers, and that many of our respondents in vulnerable situations were not on the register, we felt it is appropriate for us to increase the percentage of sign-ups from our July commitment of 150% to 200%, meaning 12,000 sign-ups per annum.

Performance

Benchmarking data

The GDNs share best practice via the Safeguarding working group.

WWU GD1 performance

	14/15	15/16	16/17	17/18	18/19	19/20 (7 months)
Referrals	0	792	2,183	3,555	4,249	6,907

Industry comparison

Based on discussions at the Safeguarding groups, we are currently referring more customers than the other GDNs combined.

Other ambition / requirements

We have already made representations to Ofgem about a utility wide PSR in GD3.
Ensure customers are offered other services under the Use it or lose it allowance for vulnerable customers and carbon monoxide as part of the engagement opportunity.
We will investigate options for collaborative GDN projects and joint working with suppliers and the Gas Safe Register, as well as national charities to further increase awareness and referrals.

Optioneering

Options considered (including trade-offs innovation)

- Maintain level of 4,500 as per performance 2016/17 to 2018/19 at partnership cost of £20k per annum.
- Increase sign-ups to 9,000 per annum – thought to be a stretch until the social media trial – partnerships costs to increase towards £40k.
- 12,000 sign-ups per annum based on the social media trial and partnership sign-ups in 2019/20 – £50k cost, of which £25k for 8,000 social media sign-ups at unit cost of £3 each plus £20k payments to partners and £5k admin and literature.

Regional differences

The service is offered across our network and sign-ups tracked visually on a map to ensure that the service is provided consistently by our engineers and partners across our network.

Deliverability & Whole Systems Impact	
Deliverability & viability implications	Risk that social media channels exhaust sign-ups. We will need to develop additional partnerships to find hard to reach customers across our network. Currently working with Care and Repair Cymru and some partners in the south west, Fire and Rescue Services, Warm Wales/Warm West. We will actively review the effectiveness of our partnerships throughout GD2.
Resilience to change	As above
Whole system impacts & fit with wider vision	N/A

Proposal
We will target at least 12,000 referrals of vulnerable households to the PSR each year at a cost of £50k per annum.

For more information see Chapter 7: Social obligations.

Summary	☐ Output	☑ Commitment
Output / Commitment Title		
1.22 Align our priorities to relevant UN Sustainable Development Goals		
Description	We are aligning our priorities, values and business activities to work toward the United Nations Sustainable Development Goals. We will set commitments and targets against several priority goals and will endeavour to work towards all 17 of the SDGs. Collecting data and information to report on will also be an important stage in the work to set future goals and commitments and to ensure a drive to meaningful change in WWU.	

Cost & Bill Impact	
Cost of delivery	£0 – Part of base opex costs
Proposed Funding	Part of base opex
Customer bill impact	£0 – No additional cost for customers

Customer benefits & value	
CVP Reference	N/A
Summary of customer benefits	This will be far reaching as there are many benefits to consumers. Committing to the SDGs we will measure and improve on many aspects of our work driven by the tool of SDGs (for example, air quality, waste to landfill reduction, and carbon emission reduction).
Distributional impacts	Embedding the SDGs, which are all-encompassing, will benefit many people, especially people who are more in need. Future customers will be protected due to the nature of delivering a more sustainable network.

Stakeholder voice	
Engagement method	The decision to explore the UN SDGs had not been taken when we commenced our early customer consultation quantitative survey, so we did not specifically seek feedback at this point. However, feedback at our qualitative focus groups on sustainability gave early indication of the importance consumers placed on environmental concerns. At a similar time our BAU engagement via regional workshops saw an increase in the levels of importance placed on the environment and future of energy matters. It became clear to us that this increased focus on environmental issues is an emerging theme for stakeholders. The CEG challenged our ambition on sustainability, explaining that we were behind the curve in this area, especially given the positive impact a business of our size could have. We took this challenge very seriously and invested in external support to evaluate our role and our contribution to sustainability. While we have an excellent track record with the environment – taking on board the feedback to date we felt that we should consider

	how we should broaden our focus into sustainability. So, we sought expert guidance from TBL who assisted with some educational workshops internally and a ranking and review process with internal stakeholders. This led to our first phase prioritisation of the UN SDGs. As a result of the breadth of the SDGs we decided to undertake broad engagement for this topic across all stakeholder groups. Next, we commissioned deep dive workshops which explored the SDGs and their possible uses with an educated customer panel and SMEs. This reviewed the internal work that had been undertaken to seek consumer feedback on what was important to them and to provide feedback on the goals they prioritised. We engaged with industry experts at 'business as usual' conferences and workshops to incorporate their thinking as well as undertaking a survey of expert stakeholders in this area to ensure that we had the depth of feedback. In addition, engagement with local county councils such as Swindon added to the depth, as did discussions on sustainability as part of the energy trilemma at our future bill payer workshops with our own apprentices and university students. This feedback resulted in a second phase prioritisation of the SDGs internally which we subsequently sought feedback on from our 2019 regional workshops with community representatives. As the business plan developed further we were challenged by the CEG not to narrow our thinking. Now our whole plan aligns to all of the 17 SDGs, with each section highlighting the relationships to them, and a detailed plan is underway to align our business reporting and strategies to ensure that each decision takes account of sustainability issues. We still expect to focus initially on the priority goals identified by stakeholders in the early stages of our delivery plan but the alignment of our priorities and all different aspects of the business plan takes account of all SDGs. Our 'internal first' engagement approach was commended in a recent discussion with sustainability experts, AccountAbility. Finally, we commissioned a quantitative 'willingness to pay' study to consider this commitment, engaging with 984 domestic and business customers.
Stakeholder views	As we have started to refine our thinking on the SDGs, stakeholders have shown support to our sustainability goals and they are particularly supportive of the ones that will deliver tangible environmental benefits that can be measured. This was highlighted to us during our regional community workshops in the spring of 2019. After some internal work to prioritise the SDGs in terms of what colleagues thought was important, we asked workshop attendees what they thought. They made it apparent that for them, some of the SDGs were more applicable to us than others.

Furthermore, domestic and small business consumers, at our regional deep dive session on sustainability, expressed that they felt there are limited contributions that we could make to goals such as 'Goal 16: Peace, justice and strong institutions' and 'Goal 2: No hunger'.

In summary, the deep dive sessions resulted in a consolidated list of the following goals which stakeholders felt were particularly suited to us to address:

- Goal 7: Affordable and Clean Energy.
- Goal 8: Decent Work and Economic Growth
- Goal 9: Industry, Innovation and Infrastructure.
- Goal 12: Responsible Consumption and Production.
- Goal 13: Climate Action.
- Goal 17: Partnerships for the Goals.

While respecting these as priorities, as a result of all of the feedback we have been given, our plan now addresses **all** of the goals, including the ones that some of our stakeholders have identified as being particularly relevant.

As an example of this, we refer to 'Goal 7 – Affordable and Clean Energy'. As a gas network we have a more influential role in this respect than many other organisations. So, here, we are committing to new or existing outputs and deliverables to help achieve this goal including:

- Reinforcing our network via our mains replacement programme to limit leakage,
- Preparing our network to transport green gases
- Committing to a zero-carbon ready network by 2035
- Promoting best practice through a Wales Green Gas panel
- Funding first-time gas connections to fuel poor households via our Fuel Poor Network Extension Scheme
- Offering support to those in fuel poverty through our hardship fund and
- Supporting those in fuel poverty through our Healthy Homes, Healthy People community partnership project.

In our regional workshops attended by community representatives, some stakeholders felt that 'Goal 13: Climate Action' should be an overarching goal for our company. These stakeholders were of the view that the company's role in this should be to empower people to become more energy-efficient. Other suggested initiatives included cutting emissions, reducing leakage and enabling small businesses to make use of Combined Heat and Power (CHP). This has influenced our commitments on net zero as well as on the SDGs.

This feedback was also a contributory factor to the evolution of our business ambition and priorities to support the overarching vision of sustainability for GD2.

	Stakeholders also felt that the company should work more collaboratively with the electricity sector. We firmly recognise and support this position and our plan is bold in our ambition to take on a key role in creating a cleaner future and working more effectively with other networks in the industry. While we have had strong support for our proposed approach to addressing the UN SDGs, some stakeholders have suggested that they feel we could be aiming even higher on a few of the goals. For example, during our regional session in Bristol, stakeholders in attendance wanted us to be clearer on the anticipated delivery dates of some of our proposed initiatives – as a result these are now clarified within the roadmap of our Environmental Action Plan. Some attendees also wanted justification of the benefits of plastic pipes, noting the negative connotations of using plastic. We explained that this is not 'single use' plastic but pipes that will likely be in place for around 80 years. During our engagement some stakeholders challenged us as they felt there were a few goals that we have not focused strongly enough on such as 'Goal 3: Good health and wellbeing', 'Goal 14: Life below water' and 'Goal 15: Life on land'. For example, consumers and small businesses in our deep dive sessions made the case that there are risks around drilling for gas under the sea and the potential to damage ecosystems and that it would be fitting for us to recognise this through incorporating Goal 14 within our relevant goals. Despite the feedback, we are not prioritising this area as our ability to make a direct impact in this area is limited. However, in a different area – 'Goal 15' we are better positioned to respond to stakeholder feedback around the felling of trees and disturbing the environment when laying or replacing pipes throughout our network. Therefore, this has been addressed in our Environmental Action Plan and 'Goal 15 – Life on Land' is now a 7th priority goal. Our expert stakeholders have made it clear to us that carbon emissions should be at the forefront of our considerations when determining our role in helping achieve the relevant UN SDGs. We have taken note of this feedback and will continue to ensure that our investments in our network take into account our carbon emissions and that these are compatible with us becoming a zero-carbon ready network by 2035 and net-zero by 2050. Tools such as Pathfinder will play a key role in helping us to achieve this. We will use Pathfinder for our own analysis and continue to share it with groups in and outside of our network that are working to influence regional decarbonisation plans. Our Green City Vision project is a specific example of how we have used Pathfinder and worked with DNOs to consider how a range of future decarbonisation options would impact whole systems usage in Swindon. As revealed in our Green City Technical Report, the goal of

	achieving an 80% reduction in carbon emissions by 2050 relative to 1990 requires balancing available technologies and options to minimise system disruption and costs to consumers. Finally, our willingness to pay research showed that overall domestic and business customers are prepared to pay slightly more for us to deliver this commitment, notably domestic customers aged under 55, and those living in suburban areas, while older people (over 55), people living in rural areas and those in fuel poverty are less likely to be willing to pay more. Meanwhile, business customers (over 20 employees) and those living in the south west are more likely to be prepared to pay more in contrast to smaller businesses and those in Wales.
Conclusion of views	We have engaged widely in this area to seek views and shape our thinking on the use of the UN SDGs within our plan and across the business. Based on 14 engagement events with over 3,400 stakeholders the broad feedback was in favour of us aligning with the SDGs. Stakeholder views have helped us to prioritise our focus areas to seven of the goals as well as encouraging us to keep our overarching plan quite broad with reference to all SDGs across the plan.

Performance	
Benchmarking data	This is the first time we have used SDGs. While there is data for other external companies this does not include other gas companies as they are at similar stages to us.
WWU GD1 performance	N/A
Industry comparison	Other gas companies are in a similar position to us. Two of the other four gas distribution networks are completing work on the SDGs and their sustainability strategies.
Other ambition / requirements	Becoming a member of a registered body such as UN Global Compact will ensure that we are continually improving and delivering in line with best practice. A further ambition would be to become a leader in the energy industry and be widely regarded as a leading force for sustainability and the SDGs.

Optioneering	
Options considered (including innovation)	SDGs are used as a tool to set goals and place a framework on sustainability work and the global agenda of improving sustainability. The Well-Being of Future Generations Wales Act is an option, but this would only cover Wales and not the rest of the network we cover in England. Narrowing our focus onto the priority goals only was considered; however, following feedback we recognise our impact on all of the goals.
Regional differences	The SDGs are a global ambition so precludes any regional differences. The only regional difference that affects this work is the Well-Being of Future Generations Wales Act. We are mapping the SDG work to that Act so that we can voluntarily report on this to the Welsh Government and become more embedded in sustainability plans within Wales. As an 'anchor' company for the Welsh Government it is important to us to be able to do this.

Deliverability & Whole Systems Impact	
Deliverability & viability implications	Our business plan has been built on the SDGs as referenced throughout the plan. This is a new area we are embarking on but one we are committed to delivering with top-level sponsorship, management accountability and business ownership.
Resilience to change	Targets and commitments under each of the goals are flexible and can be changed as and when required. This can be in response to many variables including but not limited to social, political and energy system changes. We have an action plan under development for 2020 to agree reporting and action plans, and to finalise our sustainability strategy.
Whole system impacts & fit with wider vision	With the UK moving towards a net zero country by 2050, fitting in with not only our wider vision but also a UK wider vision, using the SDGs as a stepping stone to set commitments and targets will assist in the plan moving forward.

Proposal
We fully engage with and incorporate the SDGs into our business and use them as a tool to make improvements to support the whole business, and its vision to be sustainable and net zero ready by 2035.

For more information see Chapter 14: Environmental Action Plan.

Summary	☐ Output	☑ Commitment
Output / Commitment Title 1.23 Evolve our GD1 Critical Friends Panel Evolve our GD1 Critical Friends Panel and create a new GD2 Citizens' Panel, in a 'centrally facilitated, locally delivered' approach to enhanced engagement		
Description	This is a commitment to improve access to as well as overall engagement with end customers, and to increase customer trust levels in our delivery plans and performance. We are introducing an educated customer panel – or Citizens' Panel. In addition, we are evolving our Critical Friends Panel (CFP) to include more meetings across other regions to increase engagement with expert community, business and representatives of other organisations.	

Cost & Bill Impact	
Cost of delivery	Circa £125,000 per annum
Proposed Funding	Base totex
Customer bill impact	4p per annum

Customer benefits & value	
CVP Reference	N/A
Summary of customer benefits	Customers across our area will have customer champions who will help give them a qualitative voice in shaping our business plan delivery in GD2. We will also carry out quantitative customer research, and the Citizens' Panel can help to make sure that the questions we ask our customers will be easily understood. Members of the panel will be chosen to represent key customer segmentations whose voices will be important to hear as we work towards a net zero ready network e.g. people living in cities designated as hydrogen cities, and future as well as current customers. Increasing access to attend meetings and give feedback for community representatives and others will help in adding to the customer voice.
Distributional impacts	Delivery of our business plan can more easily be shaped and co-determined by customers and expert community representatives. We will ensure we have representatives across our diverse regions and communities, and through a broad spectrum of our customer and stakeholder segmentations.

Stakeholder voice	
Engagement method	Our early engagement via the Let's Connect Consumer Campaign reaching more than 20,000 consumers and members of the public, demonstrated that, despite a lack of knowledge of Wales & West Utilities and our role within the industry, there was a desire to learn more and have a say in our business. As we evolved our pre-GD2 engagement from large-scale surveys into focus groups and workshops with Educated Customer Panels (ECPs) via Impact Research, the call for direct involvement of domestic and small business customers was repeated. This became influential in our thinking as we started to plan our engagement forums for GD2, reviewing our options for the existing channels and seeking ideas in respect of best practice happening elsewhere. We particularly used the 'Strengthening the voice of consumers in energy network's business planning' report from Citizens Advice (published in May 2018). We undertook some joint gas network (including transmission) engagement, commissioned with Accent to seek the views of national stakeholders. We reviewed this feedback, and honed it into a commitment, which we finally tested back with our own Critical Friends Panel in September 2019. Subsequently, we commissioned a quantitative willingness to pay study with 984 domestic and business customers (772 domestic and 212 SMEs).
Stakeholder views	Our early engagement via the Let's Connect Consumer Campaign demonstrated a desire to learn more and for customers to have a say in our business. This was particularly evident in our face to face discussions with thousands of consumers who spoke to us at the 2018 summer show programme where we attended the Royal Cornwall Show, the Bath & West Show, the Royal Welsh Show and the Welsh National Eisteddfod. Customers at these events said they valued the conversations and wanted to know that their views were being reflected in our business decision making and future planning. Through GD1 we mainly focused on seeking the consumer voice by analysis of customer feedback on our works, social media interactions using monitoring and insight, and doorstep conversations within our communities with residents, businesses and community representatives. This was overlaid with a formal programme with regional community workshops and a bi-annual Critical Friends Panel. As we evolved our pre-GD2 engagement from large-scale surveys into focus groups and workshops with an Educated Customer Panel (ECP) via Impact Research, the call for direct involvement of domestic and small business customers was repeated.

In the Accent joint gas network engagement, a quarter of 78 national stakeholders expressed that they did not feel they have a close relationship with the networks, a clear indication for changes in engagement styles to take place. Improved communication and provision of clear feedback is an overriding requirement for this group, with over a quarter noting that they expect this as an outcome of the engagement.

They suggested improved communication in the form of more personal contact, with approximately half of the group eager to be involved in a workshop forum. This number was even higher (65%) among those who had engaged with networks in the past.

In reviewing best practice and the 'Strengthening the voice of consumers in energy networks' business planning' report from Citizens Advice (May 2018) we considered the recommendation of the creation of a customer panel, as this also seemed to respond to the call from customers themselves to be engaged in our business decisions and plans at a more strategic level.

Our experience with ECPs showed the value of engaging with consumers who had been educated about our business as they were more informed. This moved our engagement from 'informing and consulting' towards 'involving and collaboration'. So, the concept of a Citizens' Panel, members of which could be recruited on a targeted basis, educated about our business and involved in decision making and co-creating outcomes, was developed. At this point we expected this to replace our existing CFP.

We sought feedback from regional stakeholders in May 2019 specifically about our CFP format. They generally felt that this was a worthwhile forum, but that it could be more effective if it were held in regional areas, with a broader range of stakeholders who expressed interest in being involved in a workshop style event.

During engagement conducted with our CFP facilitated by EQ Communications, we explained that stakeholders felt the forum to be worthwhile, provided we act on feedback for this. The CFP concurred, adding that it was helpful having different stakeholders in the same room to provide alternative perspectives.

When we engaged with our CFP in September 2019 to hear their feedback on our draft business plan, it was noted that they thought the Citizens' Panel was a good idea, particularly if it were to be held regionally where a larger concentration of people from each area are knowledgeable about detailed specifics of a given region.

Our first round of customer acceptability testing (770 domestic customers, 201 SME) demonstrated a low acceptability for the commitment, through importance expressed through a willingness to pay rating, with domestic customers at 15% and SMEs at 37%. This increased for customers who had previous contact with us to 38%.

	Our further research to ascertain willingness to pay a higher bill increase for delivery of the commitment showed that businesses overall are more likely to be willing to pay for this approach than domestic customers, who overall would only accept a very small bill increase. Taking all our engagement into consideration, we altered this commitment between the July and October business plans to demonstrate our commitment to an evolved Critical Friends Panel that would encourage more regional representation, together with a new GD2 Citizens' Panel.
Conclusion of views	Based on 11 engagement events involving over 3,500 stakeholders; it became clear that our GD1 Critical Friends Panel could be enhanced by including a wider range of regional stakeholders to provide additional and area-specific perspectives. As a result, we have committed to evolving our GD1 Critical Friends Panel and to creating a new GD2 Citizens' Panel, in a 'centrally facilitated, locally delivered' approach to enhanced engagement – with the aim of involving and collaborating with stakeholders through GD2 and beyond. It is important to note that this is a part of our overall engagement strategy which also incorporates an enduring role for the Customer Engagement Group, retaining regional stakeholder workshops, undertaking research, using nationally available and our own customer data to provide insight and the co-creation of solutions with stakeholders.

Performance	
Benchmarking data	This is recognised good practice across other energy networks.
WWU GD1 performance	We have been successfully running our Critical Friends Panel since 2013 in two regions. Membership has varied, with distance to meetings sited as a reason for non-attendance, on occasion. Feedback comments from members who attend meetings, received when we consulted on our evolved strategy, included that they feel valued for their input into meetings. Members were also happier when discussions were held in smaller groups, which they felt made them more open sessions. We also now have experience of Educated Customer Panels through our engagement for GD2.
Industry comparison	This is proposed as best practice engagement as stated by an RSA report on gaining public support for building significant infrastructure projects (2018).
Other ambition / requirements	We will review and evolve our approach to engagement throughout GD2 through regular evaluation and reviewing best practice to ensure our engagement is effective.

Deliverability & Whole Systems Impact	
Deliverability & viability implications	We have a track record of delivering a Critical Friends Panel in two regions throughout GD1. Increasing this to more regions will encourage a broader membership of community representatives in areas where there is significant regional difference. There will be a challenge of recruiting and retaining members for both the Critical Friends Panel and the Citizens' Panel and their viability will be dependent on our ability to successfully recruit and retain.
Resilience to change	We will review and evolve our approach to engagement throughout GD2 as well as being responsive to any new requirements placed on us by Ofgem. We intend to continue with the role of the CEG who will provide independent assessment of the effectiveness of these channels of engagement throughout GD2.
Whole system impacts & fit with wider vision	Part of our wider engagement plan will be to engage with relevant stakeholders to deliver our whole system approach and to deliver our net zero ready vision. The Critical Friends Panel and the Citizens' Panel will help us to understand and deliver against the priorities of local communities in terms of decarbonisation.

Proposal
We plan to evolve our Critical Friends Panel as well as introduce a new Citizens' Panel. We are relatively 'remote' from our customers, due to the nature of the 'hidden' services that we provide and the chances of an unplanned interruption occurring once in a lifetime. It is important that customers understand what we do to be able to provide feedback on our activities from an educated perspective. Introducing an educated customer panel – or Citizens' Panel – is one way to do that with a consistent and demographically and geographically sound group of customers, offering value for money engagement. Evolving our Critical Friends Panel to include more meetings across other regions is a way of increasing engagement with expert community, business and other organisation representatives to support the delivery of our business plans across communities.

For more information see Chapter 5: Giving customers and stakeholders a stronger voice.

Summary	☐ Output	☑ Commitment
Output / Commitment Title 1.24 Reuse and recycle at least 80% of our waste by 2026 and send zero waste to landfill by 2035, to achieve our ambition to be a zero waste company by 2050		
Description	Commitment aligning our resources management to our sustainable ambition by limiting our waste disposal to landfill.	

Cost & Bill Impact	
Cost of delivery	None – disposal costs are provided within our existing base totex – no incremental costs proposed to deliver this commitment.
Proposed Funding	N/A
Customer bill impact	£0

Customer benefits & value	
CVP Reference	N/A
Summary of customer benefits	This commitment directly benefits customers through good environmental management. Reducing waste disposal to landfill protects the environment, reduces social and community impacts and limits financial burdens through efficient use of materials.
Distributional impacts	Ability to divert waste from landfill is dependent on the availability of licenced recycling waste facilities. Across our network waste facilities are readily available within urbanised areas and are deficient within rural regions, such as the south west of England.

Stakeholder voice	
Engagement method	We engaged with over 2,000 customers and stakeholders at 6 events to understand the ambition for our waste management recycling targets, as well as determining customer acceptability of our final commitment in this area. To understand their investment priorities and to help us shape our environmental commitments, we held deep dive educated customer focus groups in Cardiff and Bristol with 20 attendees, representative of our customer demographics, including current and future customers. We examined their attitudes to our gas pipe replacement works and associated waste management as part of this engagement. Having understood that waste management, as a significant contributor to our environmental decarbonisation targets, was important to all stakeholders, we discussed our proposed commitment in this area with our Critical Friends Panel (16) expert community representatives, as well as on a face-to-face basis with representatives from Swindon local authority, where gas pipe replacement works are planned during GD2, to understand how acceptable this commitment was to them.

	In addition, acceptability for this commitment was included in our 971 universe quantitative customer research study, following an engaged customer focus group. We also commissioned a further quantitative study to understand willingness to pay with 772 domestic and 212 SME customers (984 total). This was supplemented with a qualitative study involving 40 customers living in vulnerable situations and 16 carers to explore acceptability of the commitment. We engaged 116 colleagues through an online questionnaire to explore the relative importance of environmental initiatives.
Stakeholder views	Our broad stakeholder engagement identified that the environment and decarbonisation are both important and key priorities for customers and stakeholders on which we should focus future investment planning. The CEG challenged the level of ambition in this area noting that the focus was on compliance rather than proactive leadership. The CEG also commented that we had undertaken limited engagement on this topic. The feedback on the level of ambition was echoed by the RIIO-2 Challenge Group. Given that this is an area of growing importance for our customers and colleagues, we undertook further engagement and as a result have increased the level of ambition significantly in terms of reducing emissions and waste. From our quantitative research, it was possible to derive broad domestic customer segments and attach personas. Two of the groups – the 'environmentally engaged' and 'environmentally considerate' – make up 54% of the sample population. The environmentally engaged (female dominant, higher proportion of under 35s, more likely to rent and be from the south west and higher proportion of C1C2) are generally extremely concerned about the environment and take positive steps to reduce the energy they use (and their carbon footprint). They actively recycle and are prepared to make lifestyle compromises to benefit the environment. They believe a difference can be made if everyone does their bit. The 'environmentally considerate' (45:55 male:female, generally older, own property rather than rent, lower SEG) tend to have more time on their hands and are less likely to be under pressure to do as many things as possible. They have concerns about the environment and make small changes to their lifestyles and in their homes to focus on what is important to them; reducing their carbon footprint. As 'environmentally conscious' customers make up over 50% of our domestic customers, setting an ambitious waste management target was important to achieve. At one of our innovation deep dive sessions, however, the achievability of completing our works without any disruption and not sending any material to landfill was questioned. This was seen as something that should be 'business as usual' anyway. Participants at our Critical Friends Panel thought reusing and recycling 80% of our waste to be an achievable target. Our regional local

	authority stakeholders in Swindon also supported this and are keen to see us using local licensed waste operators to minimise waste disposal travel. The environmental impact of our operations is an increasingly important issue and it is imperative for us to reuse and recycle, towards our zero-waste goal. Domestic customers overall are slightly more willing to pay towards us achieving this commitment to reuse and recycle waste, although notably this is not the case for some sub-groups, particularly those living in fuel poverty. Businesses overall are also willing to pay more to support this enhanced service delivery, although this was primarily larger businesses, with those employing less than 20 employees not willing to pay more. 87% of our colleagues surveyed feel that diverting waste from landfill by increasing recycling and reuse is very important. Based on the insight collected between June and September, we decided to make this a new commitment, specific to reusing and recycling our waste. We see this as a key commitment that will enable us to further reduce our overall carbon footprint stemming from our everyday core operations.
Conclusion of views	Customer and stakeholder opinion is supportive of our waste target and is found to be at an achievable level. Based on this feedback and the fact that mechanisms, facilities and incentives are in place, we are committing to reusing and recycling at least 80% of our waste by 2026, zero waste to landfill by 2035 and to achieve our long-term ambition to be a zero waste company by 2050.

Performance

Benchmarking data	Annual report to Ofgem under Regulatory Reporting (table 7.7)
WWU GD1 performance	

	13/14	14/15	15/16	16/17	17/18	18/19
Spoil to landfill (as % of excavated spoil)		23	25	21	15	17
Spoil to landfill (tonnes)		45186	48142	45162	29218	26789

As our business plan explains, we will be increasing the amount of open cut technique used in our mains replacement programme in GD2, which will lead to there being more waste to reuse or recycle. In addition, the regional variations on locally, licensed, available spoil recycling centres within the southwest of England (where our works will be predominantly completed) compared to Wales and the M4 corridor will significantly challenge our recycling targets without compromising impacts on efficiency, carbon emissions and air pollution.

	We are currently working on plans to minimise the negative impacts of this to ensure we can deliver our waste commitments in GD2.
Industry comparison	Regional variance in the availability of waste transfer and recycling opportunities materially affect the ability to complete industry comparisons in a robust way. Detailed analysis has been undertaken to understand the current availability of waste treatment facilities within the areas in which we will be working in GD2. Our commitment is balanced against increased financial and costs to consumers associated with transporting spoil to appropriate facilities.
Other ambition / requirements	Our overarching ambition is to divert 100% of our excavated spoil from landfill during GD2. Excavated spoil represents most of our waste generation.

Optioneering	
Options considered (including trade-offs innovation)	We have reviewed the nature, extent and location of our proposed GD2 workload to understand the options available to limit our waste to landfill. We consider not attempting to limit resource use and diverting waste from landfill unacceptable business practice. Building on successful initiatives within GD1 we propose to: • Work hard to use alternative techniques (insertion, thrust boring, directional drilling and vacuum extraction) to digging large holes in order to repair and replace gas services. This significantly reduced the volume of spoil requiring treatment and/or disposal and the volume of virgin aggregate required for reinstatement. • Reuse excavated spoil within our excavations where UK law and local authority policy standards permit. • Use waste treatment facilities wherever possible to bring excavated spoil back to beneficial use. • Define, where possible, uses for our waste products in support of our commitment to embedding the circular economy within the business. • Seek innovative solutions to make a positive impact on the environment e.g. replacing backfill and reinstatement materials with sustainable alternatives.
Regional differences	Significant challenges will face us associated with the locally availability licensed waste transfer/treatment facilities within the south west of England in comparison to south Wales and the M4 corridor.

Deliverability & Whole Systems Impact	
Deliverability & viability implications	We know we will face regional challenges in GD2 with increasing work taking place in Devon and Cornwall and limited viable waste treatment options, fewer local quarries and an increased use of open cut techniques associated with the mains replacement work (see Chapter 16: The distribution network). These challenges have the potential to increase our business carbon footprint, the amount of spoil sent to landfill and our use of virgin aggregate against GD1 levels. However, we are committed to identifying innovative alternatives to achieving this commitment and our overarching ambition to send zero excavated spoil waste to landfill.
Resilience to change	Our environmental management system tracks environmental legislative changes that may impact on our commitment, allowing us to adapt our working practices to the benefit of consumers.
Whole system impacts & fit with wider vision	N/A

Proposal
We will be reusing and recycling at least 80% of our waste by 2026, as a stepping stone to achieve our overarching and long-term ambitions to send zero excavated spoil to landfill by 2026 and be a zero waste company by 2050, respectively.

For more information see Chapter 14: Environmental Action Plan.

Summary	☐ Output	☑ Commitment
Output / Commitment Title 1.25 Achieve a zero emissions fleet by 2035 Move 75% of company cars to hybrid or ultra-low emission vehicles by 2026, explore green alternatives for our commercial fleet, and reduce mileage to achieve a zero emissions fleet by 2035 – supporting biodiversity and improving air quality.		
Description	By encouraging the take up of alternatively fueled vehicles we will reduce our carbon footprint and impact on air pollution and biodiversity. This initiative is designed to act as a stepping stone to change employee behaviours in and outside of work to consider greener vehicle options now and in the future.	

Cost & Bill Impact	
Cost of delivery	£0
Proposed Funding	N/A
Customer bill impact	£0

Customer benefits & value	
CVP Reference	N/A
Summary of customer benefits	This commitment will directly reduce our business carbon footprint impact on air quality and biodiversity.
Distributional impacts	This would apply to all eligible employees across the network.

Stakeholder voice	
Engagement method	We engaged at over 12 events with over 3,500 customers and stakeholders to understand priorities and ambitions in this area to help shape and agree our commitment. Our broad stakeholder engagement identified that the environment and decarbonisation are both increasingly important and key priorities for customers and stakeholders on which we should focus future investment planning. From our quantitative research, it was possible to derive broad domestic customer segments and attach personas. Two of the groups – the 'environmentally engaged' and 'environmentally considerate' make up 54% of the sample population. The environmentally engaged (female dominant, higher proportion of under 35s, more likely to rent and be from the south west and higher proportion of C1C2) are generally extremely concerned about the environment and take positive steps to reduce the energy they use (and their carbon footprint). They actively recycle and are prepared to make lifestyle compromises to benefit the environment. They believe

	a difference can be made if everyone does their bit. The 'environmentally considerate' (45:55 male:female, generally older, own property rather than rent, lower SEG) tend to have more time on their hands and are less likely to be under pressure to do as many things as possible. They have concerns about the environment and make small changes to their lifestyles and in their homes to focus on what is important to them; reducing their carbon footprint. We also examined the opinions of customers in vulnerable situations, and looked at further context provided by people who work as professional carers for vulnerable people. Understanding that this was a customer priority, we looked to further understand the level of ambition that our stakeholders, including expert stakeholders felt was acceptable in this area. We engaged through regional community workshops with representative stakeholders who were able to give a regional perspective on our commitment, and took into account the feedback we received from more expert stakeholders, too. We looked at acceptability for our commitment through quantitative customer research (971 universe) as well as from our expert Critical Friends Panel and directly from other organisations in similar situations to ourselves who maintain fleets of vehicles and who are also responsible for maintaining community environmental air pollution zone standards that we would be required to comply with (Bristol local authority). This was supplemented with a qualitative study involving 40 customers living in vulnerable situations and 16 carers to explore acceptability of our broad commitments. We received 116 responses to a colleague online survey on the relative importance of environmental initiatives. We also commissioned a quantitative study to understand willingness to pay with 984 stakeholders (772 domestic and 212 SMEs). We engaged 116 colleagues through an online questionnaire to explore the relative importance of environmental initiatives.
Stakeholder views	We know from our customer segmentation and characteristic analysis that environmental protection and decarbonisation is an over-riding priority and that over 50% of customers take action in one form or another to support decarbonisation, to varying degrees. It is a key concern of national stakeholders as well as regional community stakeholders. In our colleague survey, 84.5% of those who responded feel that reducing air pollution – which this commitment would support – is very important. We discussed with our stakeholders that we have the overarching, long and short-term business carbon footprint ambition to be a carbon net-zero company by 2050 and see a 37.5% reduction in

	greenhouse gas emissions by 2035. We understand that this will require us to undertake a range of activities, both top-down and bottom-up. Some stakeholders have highlighted to us that upgrading our company cars to electric vehicles is a great step but it is only a small step compared to our overall entire environmental impact. We take this view on board and widened our commitment in response to take account of commercial fleet. We believe the culmination of all our initiatives, large and small, will all help us achieve our ambition. Through our engagement activities we were challenged on the target we had set ourselves, which included to take a look at all the company's transport needs including train and air travel, and to take that as a reference point from which to set reduction targets. Also, in terms of reducing our environmental impact, changing our company car policy to achieve this commitment was seen as a drop in the ocean compared with the 96% of carbon emissions that come from gas leaking from old gas pipes. However, we know that reducing vehicle emissions is also important for maintaining clean air policies, as expressed by Bristol local authority with their new clean air zones – being the first city to ban diesel cars from entering parts of the city. We decided to also commit to explore green alternatives for our fleet and reduce company mileage, where possible. See our synthesis report on this commitment for a more detailed description of our engagement activities. The CEG challenged the general level of ambition on the environment, noting that the focus was on compliance rather than proactive leadership. The CEG also commented that we had undertaken limited engagement on this topic. The feedback on the level of ambition was echoed by the RIIO-2 Challenge Group. Given that this is an area of growing importance for our customers and colleagues we undertook further engagement and as a result have increased the level of ambition significantly in terms of achieving a net zero network and improving biodiversity. Our additional research showed that domestic and business customers overall are willing to pay more for the transition to low emission vehicles supporting biodiversity and improving air quality. This was more marked among young people and larger businesses. In contrast, small businesses (less than 20 employees) and customers who are living in fuel poverty and in vulnerable situations in particular are generally unwilling to pay more.
Conclusion of views	As a result of customer and stakeholder views expressed as part of our engagement activities we have decided to strengthen the ambition of our commitment in this area. We decided to make it more explicit that we will explore green alternatives for all our commercial fleet, which includes all forms of transportation, and we will put in place effective initiatives to reduce our mileage. There was a broad consensus that decarbonisation is a critical priority for customers and stakeholders, so we have increased our ambition in this area. We are committing that 75% of company cars will be hybrid

	or ultra-low emission vehicles by 2026 and we will explore green alternatives for our commercial fleet and reduce mileage; supporting biodiversity and improving air quality. We further strengthened our longer-term ambition following all of this customer and stakeholder feedback to include an ambition for a zero emissions fleet from 2035.

Performance	
Benchmarking data	Annual report to Ofgem under Regulatory Reporting (table 7.6) reports carbon emissions associated with vehicle use.
WWU GD1 performance	We have altered the company car process to promote the uptake of hybrid and ULEV to encourage early uptake of this opportunity.
Industry comparison	Department for Transport Vehicle Licensing Statistics for 2018 indicate that at the end of 2018 ULEVs accounted for 0.5% of all licensed vehicles. Engagement with utility providers within the UK indicates that migration to ULEVs is a priority but that uptake is regionally variable.
Other ambition / requirements	This commitment forms part of our overarching ambition to have a zero emissions fleet by 2035.

Optioneering	
Options considered (including trade-offs innovation)	Various options to reduce our impact on greenhouse gas from vehicles emissions were considered. Thought was given to cost to consumers, potentially negative impact on emergency call out response, obsolescence, and regional variability in infrastructure. For example, converting the operation fleet to CNG – great strides are being made in a rapidly evolving automobile industry. Existing vehicles and infrastructure are developing and promise great opportunities for environmental improvement. Business travel forms a large part of our business carbon footprint however, high investment costs in vehicles and associated infrastructure and the anticipated high obsolescence rate of the vehicles are considered too high a risk for consumer investment at this stage. We will, however, continue to use our influence to encourage the industry to advance within this sector and actively seek opportunities to collaborate with external stakeholders and innovate on existing studies to develop a commercial CNG fleet or emerging alternative. By providing options for the length of lease of a company car to between 1 and 4 years we aim to influence behaviour changes; encouraging employees to look at hybrid vehicles as a stepping stone to full electric or alternatively fuelled options.

Regional differences	Infrastructure is variable across the UK and within our network. Solutions to tailpipe emissions must be viable within both our urban and rural communities. We need to a take a regional approach to implementation that reflects the infrastructure development between now and 2035.

Deliverability & Whole Systems Impact	
Deliverability & viability implications	We have a proactive fleet management team who will continue to ensure that our fleet provides a reliable service to our customers whilst improving its environmental ambition. We will continue to refresh the fleet with the best available technological advances, influence car and commercial fleet providers and government bodies to deliver our commitment. Our reliance on the continued improvement in vehicle design is fundamental to the delivery of this commitment.
Resilience to change	Changes in the car and fleet market are rapidly evolving with regionally variability created by increased national government focus on carbon emissions and local government focus on air quality. By promoting more environmentally responsible vehicles we are providing a level of resilience to our workforce within this changing sphere. However, we will continue to assess policy changes and technological advances to provide the necessary resilience.
Whole system impacts & fit with wider vision	This commitment supports our sustainable ambitions for the future – our vision clearly extends beyond decarbonisation of heat.

Proposal
75% of company cars will be hybrid or ultra-low emission vehicles by 2026 and we will explore green alternatives for our commercial fleet to achieve out ambition of having a zero-emission fleet by 2035.

For more information see Chapter 14: Environmental Action Plan.

Summary	☐ Output	☑ Commitment
Output / Commitment Title 1.26 Delivering a net zero ready network by 2035		
Description	We are committed to delivering a gas distribution network which is fully plastic and ready to receive green gases by 2035.	

Cost & Bill Impact	
Cost of delivery	Up to £28m per annum via an uncertainty mechanism
Proposed Funding	Uncertainty mechanism
Customer bill impact	64p per annum (if uncertainty mechanism is approved)

Customer benefits & value	
CVP Reference	Appendix 2A - Delivering an Environmentally Sustainable Network 2: Whole Systems Data and Pathfinder Model For further information please see Appendix 2C19 & 2C20
Summary of customer benefits	Supports the UK's and stakeholders' green ambition in facilitating increased transportation of green gases in our network and supporting the use of gas for new load types such as flexible electricity generation and transport.
Distributional impacts	We anticipate that different solutions will be appropriate in different regions, with major cities and industry using more hydrogen and rural areas relying on biomethane and synthesis gas. Funding will be via uncertainty mechanisms in response to specific customer requests.

Stakeholder voice	
Engagement method	We engaged with over 22,000 stakeholders and customers through 22 engagement activities using a range of methods appropriate to the stakeholder group taking into account previous knowledge, interest and convenience of the method for the stakeholder group. Early research focused on establishing stakeholders' broad priorities, what is important to them and segmentation to inform future engagement. An important segmentation is customers living in the region of cities highlighted as potential 'hydrogen' cities and to also consider current and future customers – alongside external insight both in terms of climate change activists and Government advisory groups (Committee on Climate Change etc.) to ensure investment decisions are balanced, but also take account of climate change research as well as new trends in public opinion on the pace of climate change actions. Further research and analysis brought together existing studies, qualitative insight gathered from focus groups and quantitative data from 1,000 customers (802 domestic and 200 SMEs). Telephone interviews were used for hard-to reach groups who may not have on-line access. The research sought to identify different types of customers and whether there were differences in their priorities – this was established through responses to 27 attitudinal statements and demographic questions.

	We commissioned separate research to explore the priorities of customers living in vulnerable situations through direct one to one in-depth interviews in home (20), 3 focus groups of 8, 31 online surveys completed by case workers and a telephone survey of 100 customers. We also appointed a specialist company to analyse engagement (incorporating CHAID analysis) from our 2018 Let's Connect Customer Consultation Campaign (18, 403); spanning summer shows, workshops, conferences and responses through a portal. Our 'critical friends' were also engaged across 2 workshops with a total of 20 attendees. To identify broad high-level customer and stakeholder investment priorities and hone these into desired outcomes and commitments, we took a workshop approach engaging with 81 informed stakeholders (industry, voluntary sector, local Government) across 7 regional events in 2018 and 3 regional events in 2019. Additionally, we wrote to and surveyed our 'major users', offering each a one to one meeting which took place in 4 cases. We also carried out strategic and targeted engagement including a joint gas network workshop on the future of gas with 37 national expert stakeholder attendees. This was in addition to one to one and small group meetings with specialists from 5 academic institutions and localised workshop style engagement/meetings around community decarbonisation in Caldicot and Bristol. We held separate deep dive focus groups on the future of energy, sustainability and innovation in Bristol and Cardiff. In order to speak to users of our network we ran a workshop for 39 stakeholders representing power generators and other networks. We also held meetings and participated in workshops with expert stakeholders including the statutory sector – BEIS and Welsh Government (7 expert officials at 36 meetings) and UKCCC on decarbonisation and net zero. This included the evaluation of specialist reports e.g. UKCCC in May and demand forecasting research. In evolving and broadening our commitment, we listened to feedback and external horizon scanning and acceptability testing on the updated commitment. Our critical friends (16) were engaged again at a workshop and quantitative customer research across two phases (971 at phase 1 and 984 at phase 2, respectively) was conducted on the acceptability of the commitment, with phase 2 focusing on willingness to pay. Qualitative acceptability testing was also conducted with 40 customers living in vulnerable situations in home and 16 carers mainly in paired in home situations.
Stakeholder views	Our broad stakeholder engagement identified that the environment and decarbonisation are both important and key priorities for customers and stakeholders on which we should focus future investment planning.

	The CEG challenged our early strategy, commenting that it was too narrow and that it focused solely on heat and did not adequately consider scenarios from other sources. We have worked extensively with the CEG to explain our whole systems data and modelling. We have also significantly widened our GD2 focus to incorporate heat, power and transport and have increased our ambition to deliver a net zero ready network by 2035. From our quantitative research, it was possible to derive broad domestic customer segments and attach personas. Two of the groups – the 'environmentally engaged' and 'environmentally considerate' make up 54% of the sample population. The environmentally engaged (female dominant, higher proportion of under 35s, more likely to rent and be from the south west and higher proportion of C1C2) are generally extremely concerned about the environment and take positive steps to reduce the energy they use (and their carbon footprint). They actively recycle and are prepared to make lifestyle compromises to benefit the environment. They believe a difference can be made if everyone does their bit. The 'environmentally considerate' (45:55 male:female, generally older, own property rather than rent, lower SEG) tend to have more time on their hands and are less likely to be under pressure to do as many things as possible. They have concerns about the environment and make small changes to their lifestyles and in their homes to focus on what is important to them; reducing their carbon footprint. Areas identified for potentially using hydrogen included the cities of Cardiff and Bristol as well as the M4 corridor running through our network area, as well as the highly industrialised area of Neath Port Talbot in Wales. We made sure to engage with customers in the vicinity of hydrogen cities, who stated support for the use of hydrogen in the network but also wanted more information on its safety. Similarly, national expert stakeholders at our collaborative gas network workshop expressed concerns about the need for a national energy conversation with customers, due to the variety and complexity of prospective future energy scenarios and the need for networks to take a role in bringing customers along with current thinking and not leaving anyone behind. We are committed to playing an active role in supporting customer education on future energy scenarios and opportunities alongside gas and electricity networks, suppliers and others in the industry, and including central and devolved governments. In our vulnerable customer research on our strategic objectives, 43% of respondents said that a sustainable future is the most important objective, after reliability of supply and our 'Critical Friends' highlighted decarbonisation as a key area of importance. Our commissioned research also indicated that investments in innovative and greener technology are the second most important priority to domestic customers. Following the broad engagement, our initial focus was on understanding stakeholder and customers' needs, opinions and wants in relation to the facilitation of 'green' gas and taking a whole systems approach such as the Freedom project. Indeed, during the

	regional workshop on future energy scenarios the majority highlighted an expectation for us to do more in encouraging a green gas network, while Welsh Government officers raised interest in deploying the 'Freedom project' as soon as possible and using as an industry example of an innovative solution to decarbonise heat through a whole systems approach. Subsequent broader engagement as part of a Welsh Government decarbonisation workshop showed that while local authorities are supportive of hybrid heating systems, there is considerable concern over the cost of funding these across local authority owned homes. During the strategic and targeted stakeholder engagement stage, it became clear that there is interest (across groups) in a broader approach to decarbonisation considering the integration of heat, power and transport; and this is consistent with the Government announcement on net zero. We set up a strategic infrastructure group in Cardiff – a potentially designated hydrogen city, to specifically engage and work with other stakeholders in the planning of key infrastructure projects. Our engagement and co-design approach in communities such as Caldicot, Bristol and Swindon linked to our Pathfinder programme has been welcomed by stakeholders and our focus changed to engaging on being net zero ready by 2035. A potential conflict highlighted by stakeholders at regional workshops is around the financing of a net zero ready network. Stakeholders also want us to make sure that affordability and network reliability will not be impacted. Similarly, during the sustainability deep dive session, there was reference to keeping our actions and network as green as possible without drastically increasing bills. Another concern is the potential for job losses, although it was acknowledged that there is a skill gap. It should be noted that we consider price, reliability and workforce resilience in other commitments. Consumer representatives highlighted the importance of engagement with communities and in particular a need to demonstrate economic benefits and Welsh Government engagement highlighted the importance of considering other incidental benefits such as health and wellbeing, biodiversity awareness and upskilling. Phase one acceptability research had an overall acceptability rate of 64%. Phase two research showed that overall domestic and business customers are willing to pay more, but there are differences when this is broken down. In particular larger businesses (20 and over employees) and domestic customers up to age 55 are generally prepared to pay more, while smaller businesses (less than 20 employees, fuel poor, vulnerable and older customers are less likely to be willing to pay more. There are regional differences in that overall businesses in Wales and the south west are prepared to pay more, but overall domestic customers in Wales are unwilling to pay more unlike overall domestic customers in the south west.

	See our commitment synthesis report for a full summary of our engagement activities.
Conclusion of views	Based on extensive engagement across a wide range of stakeholders, we believe that our commitment to deliver a net zero ready network by 2035 is viewed as the right thing to do by our stakeholders however we have not proposed any additional base funding and instead, we are proposing an uncertainty mechanism to fund this investment in GD2.

Performance	
Benchmarking data	N/A
WWU GD1 performance	N/A
Industry comparison	Work in this area has been carried out via a number of different means including collaborative projects with other gas and electricity networks and via ENA. We have reviewed external reports for regions and the whole of the UK e.g. from Welsh government, Committee of Climate Change, BEIS as well as more locally with Local authorities.
Other ambition / requirements	We recognise the change in approach from Ofgem from May 2019 to June 2019 following the government announcement of net zero – which we welcome. We have considered our role in facilitating this objective and the decarbonisation pathways that are most likely in our region. Based on evidence described in Chapter 13 and related appendices we have targeted 2035 as our goal which reflects the ambition of our stakeholders and allows a sensible balance between the speed and cost of delivery. We have considered a range of decarbonisation pathways and the evidence of a number of projects including most recently the Pathways project, suggests that our regions will most likely be decarbonized through a mix of green gases and hybrid heating. The work we will do to facilitate net zero includes providing a network that can safely transport a range of gases including Hydrogen, and that is able to provide capacity for new requirements from supply and demand customers. We have proposed that specific work in this area is funded via a net zero uncertainty mechanism to protect customers. We will continue to review our ambition responding to regulatory and government policy changes as required.

Optioneering	
Options considered (including trade-offs innovation)	The legal obligation to eradicate the UK's net contribution to climate change by 2050 is a new requirement that changed this summer and as such a number of the guidance and policy documents to which we work do not reflect or support it. We have considered 3 options: 1. Assume that our guidance will remain as is and that costs for decarbonisation cannot be socialised – this was the option take in our July business plan which we recognised would

	stifle progress. We received significant feedback that this led to our plan being insufficiently ambitious. 2. Assume that OFGEM policy will change in recognition of the UKs new net zero ambition and include our net zero ambition work as business as usual – we declined to take this approach due to uncertainty in the regional approaches that are likely to be taken with decarbonisation and because many factors are outside our control. 3. Include net zero associated costs as an uncertainty factor to allow us to respond once further certainty is available. This is the option we chose. We will continue to seek collaborative innovation as a key enabler to solve the focus themes identified in Chapter 11. We aim to progress knowledge through robust research and deliver pilot programmes for low carbon technologies to evolve our networks and meet the UK challenges.
Regional differences	As in point 2 above it is likely that different regions will adopt different approaches to decarbonisation and option 3 allows the most flexibility to adapt our solutions to meet our customers' and stakeholders' needs.

Deliverability & Whole Systems Impact	
Deliverability & viability implications	Significant work is underway at national and local levels to determine the most effective way of decarbonising the UK. In the absence of clear government policy our vision has taken account of the cost and disruption associated with different options. This along with the findings of a number of research projects have resulted in the projections in chapter 13. We note that all pathways require significant change and there are a number of areas where the actions of third parties will have an impact and where market forces will come into play. We have included details of a range of third-party enablers in table 1 in chapter 13. In table 2 in that chapter we have provided details of the ways in which consumers may be enabled to uptake low carbon heating e.g. hybrid heating systems. The use of an uncertainty mechanism gives us the best opportunity to adapt to customers' and stakeholders' needs.
Resilience to change	Our network is reliable and resilient to change. Through our research and planning we are proposing processes and mechanisms that would support the changes we think will be necessary. If these changes do not occur our network will continue to provide safe and reliable supplies in scenarios where increased capability is not required, The use of a net zero uncertainty mechanism means that investment will only be triggered once more certainty is available and in most cases as a result of specific customer enquiries.
Whole system impacts & fit with wider vision	We will continue to lead the development of detailed Local Area Energy Plans as described in Appendix 13D. The development of these plans will ensure whole systems and regional factors are fully considered.

	Decarbonisation solutions by their nature will be significantly impacted by whole system considerations and this uncertainty mechanism gives us the best opportunity to be flexible to the different strategies that might be adopted.

Proposal

Our proposal is to deliver a Net Zero Ready Network by 2035

Our proposal is funded by an uncertainty mechanism to support investment to support whole system decarbonisation solutions including:

2. Reinforcement for flexible generation and transport loads
3. Use of compression and smart systems to increase entry capacity for low carbon gases
4. Improvements to system operability functions to allow us to use our network in smarter ways and to increase engagements with our local authorities as they develop decarbonisation strategies.

For more information see Chapter 13: Our net zero ready vision for 2035

Summary	☐ Output	☑ Commitment
Output / Commitment Title		
1.27 Support the national strategic energy challenges Invest in innovation to support the national strategic energy challenges, working collaboratively with Ofgem, BEIS and the wider industry		
Description	We will invest in innovation to identify solutions and steps to deliver a net zero ready network by 2035. Network Innovation Allowance (NIA) funding will be used to collaborate with industry and support projects that deliver customer benefits and provide the lowest cost pathway to heat decarbonisation.	

Cost & Bill Impact	
Cost of delivery	£10m (of a total of £13.3m NIA) has been projected in GD2
Proposed Funding	This is currently not in our base costs so the cost of the bill below is for context, when the funding mechanism is agreed with Ofgem we will discuss further with Ofgem the proposed offering.
Customer bill impact	£1.06 per annum

Customer benefits & value	
CVP Reference	For further information please see Appendix 13C CVP
Summary of customer benefits	This investment will target the return of more than £82m to customers avoiding costs of alternative energy solutions and driving carbon savings.
Distributional impacts	Costs and savings associated with innovation will be distributed proportionally to the scale of energy usage.

Stakeholder voice	
Engagement method	We engaged with over 22,000 stakeholders and customers through 20 engagement activities using a range of methods appropriate to the stakeholder group taking into account previous knowledge, interest and convenience of the method for the stakeholder group. We started by reviewing previous feedback such as our alternative gas in the future workshop with 64 representatives from SME's, utilities, local authorities and academia in 2017. This was followed by engagement to establish stakeholders' broad priorities; including our 7 regional workshops across Wales and the south west in 2018 involving 81 stakeholders from Government, industry and the voluntary sector. This was supplemented through a workshop with 15 members of our critical friends' panel. We commissioned separate research to explore the priorities of customers living in vulnerable situations through direct one to one in-depth interviews in home (20), 3 focus groups of 8, 31 online surveys completed by case workers and a telephone survey of 100 customers. Further research and analysis brought together existing studies, qualitative insight gathered from focus groups and quantitative data

	from 1000 customers (802 domestic and 200 SME's) - telephone interviews were used for hard-to reach groups who may not have on-line access. The research sought to identify different types of customers and whether there were differences in their priorities – this was established through responses to 27 attitudinal statements and demographic questions. This analysis also reviewed the topline results of our Let's Connect Have your Say survey with 18403 combined responses. As part of our engagement on future energy challenges described in the net zero ready by 2035 report 1.24, we undertook strategic and targeted engagement including: A joint gas network workshop on the future of gas with 37 national expert stakeholder attendees; a power generators workshop with 39 industry stakeholders; one to one and depth interviews with 23 Government officials and elected members; and Regen workshops on future energy scenarios for gas and heat with 156 stakeholders representing SME's and sector stakeholders. Two commitments were derived from the feedback and further insight sought at 3 regional workshops involving 60 stakeholders from local government, industry and the voluntary sector. The commitments then underwent acceptability quantitative testing with domestic and SME customers through a survey across two phases (971 at phase 1 and 984 at phase 2, respectively, with phase 2 focusing on willingness to pay. Qualitative acceptability testing was also conducted with 40 customers living in vulnerable situations in home and 16 carers mainly in paired in home situations.
Stakeholder views	Our review of existing feedback such as our alternative gas workshop in 2017 showed that stakeholders want us to work collaboratively with DNO's, other GDN's and relevant industries. This was supported at our regional workshops where stakeholders highlighted that they would like us to further develop relationships with community/energy projects and local authorities to support energy needs. The CEG challenged us about the extent to which innovation is embedded within our business. We were able to demonstrate this and have updated our business plan to reflect this, showing that innovation is embedded across the entire organisation and has enabled the delivery of a number of efficiency savings, service improvements and other benefits – and will continue to do so in GD2. Analysis of Let's Connect Have your Say survey showed that investment in new and innovative technology is the second highest priority after reliability (safety not measured). While stakeholder perspectives on the delivery of a net zero ready network by 2035 derived from targeted engagement workshops and meetings are articulated in the separate output/commitment report 1.24. Furthermore, our critical friends panel pinpointed the rapid technological developments (associated with the future of gas) contributing to a knowledge disparity in the range of options. In broad terms, our engagement indicated that decarbonisation and environmental topics are areas where we could do more to raise awareness and understanding of the work we are already involved in such as our Freedom project and Pathfinder model.

	Indeed, frequent meetings with BEIS representatives have established that our Freedom project, which trials smart hybrid systems is feeding into their strategic thinking on the future of heat modelling. Equally, BEIS officials highlighted that the Pathfinder tool could help local authorities understand future energy challenges. A potential conflict highlighted by stakeholders at the gas network collaborative future of gas workshop is the possible disconnect between short term RIIO2 timeframes and longer-term decarbonisation targets along with some concern that pressure on network company costs may prevent innovation. However, whilst the RIIO2 timeframe is limited, Government targets are longer term as is our commitment associated with net zero ready by 2035. Based on feedback, two commitments were derived: - Work collaboratively to invest in innovation to support the future energy challenges as national demand increases. - Work collaboratively with BEIS, Ofgem and the networks to develop an agreed narrative and engagement programme on the future of energy. Additional insight from our 2019 regional workshops which explored future of energy scenarios for gas and heat combined with lower end acceptability test scores of 51% and 57% respectively in phase one resulted in the commitments being merged to add strength and ensure that there was not duplication. Phase two research showed that overall domestic and business customers are willing to pay more, but there are differences when this is broken down. In particular, larger businesses (20 and over employees) and domestic customers up to age 55, along with customers living in urban areas are generally prepared to pay more, while smaller businesses (less than 20 employees), fuel poor, vulnerable and older customers are less likely to be prepared to pay more. There are regional differences in that overall domestic and business customers in the south west are willing to pay more, while domestic customers in Wales are less prepared to do so.
Conclusion of views	Based on 20 engagement events involving over 22,000 stakeholders, it was clear that there are areas where we could do more to share information on future energy scenarios and decarbonisation with key industry stakeholders. Our stakeholder feedback and external horizon scanning on the importance of supporting the national strategic energy challenges tells us that investing in innovation in this area is particularly appropriate.

Performance	
Benchmarking data	There are no relevant benchmarking tables available
WWU GD1 performance	• We have developed our evidence-based net zero ready vision for the future of energy based on extensive research and live trials to decarbonise heat, power and transport on our network. • During GD1 we have delivered 30 innovation projects representing a total investment of £3.6m or 47% of NIA spend on projects for our customers of tomorrow. • We have built a whole system modelling tool, called Pathfinder and we will use it widely across our business, industry and government • We share the learning from our innovation in a variety of ways making sure that benefits can be gained by others • We play an active role in industry groups, attend conferences and frequently present our project outputs to interested parties
Industry comparison	We have and will continue to play a full and active part in the development of sustainable energy solutions in collaboration with industry. Whilst direct comparison data is not available, our energy futures focussed innovation portfolio has resulted in 7 industry awards during GD1, examples are: • Energy efficiency award • R & D program of the year • Gamechanger award • Best collaborative project • Best emerging cross-vector technology
Other ambition / requirements	N/A

Optioneering	
Options considered (including trade-offs innovation)	Two options were considered when developing our innovation portfolio. These options were: • Option 1 Self-funding innovation programme - Only completing innovation that is self-funding. These projects would only be focussed on reducing or avoiding costs. • Option 2 A blend of incentive funded and self-funding innovation – in addition to focussing on reducing or avoiding cost the portfolio will consider completely new concepts and direction, research, pilot programmes and demonstrations. Our innovation strategic ambition reflects option 2. This decision was made from the feedback received from customers and stakeholders to reduce costs and use incentivised funding to deliver large and higher risk projects that bring societal and environmental benefits.

Regional differences	In our region Swansea, Cardiff, Newport and Bristol and big industry will be converted to run on hydrogen. Remaining cities, towns and suburbs will be fuelled by green gas and have hybrid heating systems.

Deliverability & Whole Systems Impact	
Deliverability & viability implications	Our delivery plan is supported by our governance and processes and the innovation delivery team. Some of the improvements that our customers and stakeholders can expect in the coming years are: • Strategy launch to promote understanding of our and the National challenges identifying our focus areas over the years • Identification of key collaboration partners • Enhancement of our SME community engagement to increase our reach to more innovators including academia • Drive an engaged external community culture • Appropriate and accessible methods to share project outcomes and key lessons learnt • Drawing from value adding innovation services available in the market • Leveraging grants and external funding to support the programme We will invest in innovation to support the national strategic energy challenges.
Resilience to change	The innovation programme will invest £10m with innovators that can progress knowledge, push boundaries and discover how the energy system can transition to meet Net Zero. Uncertainty and risk are inherent in innovation projects and project plans will be carefully crafted and managed to ensure that each project delivers the objectives to meet their success criteria or to be stopped without delay if deliverables cannot be achieved.
Whole system impacts & fit with wider vision	We will continue to collaborate with both gas and electricity networks to identify and deliver whole system solutions. This work is coordinated through our trade body, the ENA and a comprehensive structure of working groups. Learning is shared and disseminated effectively at a variety of conferences, social media and working groups to deliver value for customers.

Proposal
We will invest £10m in innovation to support the national strategic energy challenges working collaboratively with Ofgem, BEIS and the wider industry.

For more information see Chapter 11: Our innovation strategy

Summary	☐ Output	☑ Commitment
Output / Commitment Title 1.28 Attend gas emergencies in under an hour Attend gas emergencies in under an hour, on average, to keep our customers safe		
Description	A commitment to keep our average response time to gas escapes to under an hour each year during GD2 compared to Licence Obligations of attending 97% of uncontrolled escapes within 1 hour and controlled escapes within 2 hours.	

Cost & Bill Impact	
Cost of delivery	Cost of emergency service is an average £8.4m per annum into GD2
Proposed Funding	Base allowances
Customer bill impact	£5.12 per annum

Customer benefits & value	
CVP Reference	N/A
Summary of customer benefits	Customers will continue to be safeguarded during gas emergencies in their home and communities. This commitment will safeguard life and property It will also keep anxiety and stress to a minimum
Distributional impacts	This applies to all domestic and business customers as well as the general public and the communities in which they live. Attending emergencies in rural communities can take longer and the same applies for peak rush hours in our city centers like Bristol and Cardiff; hence the reason this is an average rather than an absolute target

Stakeholder voice	
Engagement method	Our Emergency Standard is a regulatory requirement so early engagement did not specifically focus on our performance in this area. However, engagement through the Let's Connect Customer Consultation quantitative survey with circa 18,000 responses in 2018 highlighted safety as a key priority for consumers. At our Critical Friends Panel in 2018, attended by informed community representatives, our performance in relation to the emergency standard was discussed and stakeholders said that as our track record was already excellent, they did not support investment to improve our response times. They went on to say that maintaining our performance should remain an investment priority. In January 2019, Impact Research undertook a data mining process of our business as usual customer survey data and used it to complete a CHAID statistical analysis to look at the drivers of customer satisfaction in this area (and several others). This identified that customers were very satisfied with our performance but that satisfaction was even greater when communication about our time of arrival was good.

	Following this, we undertook some further engagement in this area via our quantitative customer research programme, where we specifically sought feedback on the importance that 802 consumers and 203 small businesses placed on us attending gas escapes within an hour. This was further explored in our community regional workshops in the summer of 2019. We reviewed our commitment in this area understanding both our customers' and stakeholders' priority for keeping safe and their appetite for further investment in this area. We tested our commitment through two rounds of acceptability testing and also willingness to pay research on the final commitment, during 2019.
Stakeholder views	Strategic engagement and our day-to-day experiences with gas consumers demonstrates that stakeholders consistently place emergency response as a high priority – as demonstrated by the feedback from customers in our Let's Connect Customer Consultation, where 73% of survey respondents expressed support for attending gas emergencies in under one hour. While our track record clearly shows that we have performed very well in the area of emergency response throughout GD1, stakeholders have challenged us to not become complacent in this area. Our Critical Friends Panel stated that further investment to improve current emergency response targets was not recommended. Instead, we should ensure that we keep performing at the current, high level. Customer Engagement and analysis carried out on our behalf by Impact Research uncovered that emergency response and replacement 'make up 50% of all importance for our customers'. In addition, this also supported the position that emergency response is performing strongly during GD1 and should at least be maintained during GD2 and beyond. Through this process, domestic and small business customers also ranked 'attending gas escapes within 1 hour' as the most important activity from a list of 13 deliverables. In regional workshops, 96% of community stakeholders agreed that a 1-hour average response time to attend emergencies is appropriate. Domestic customers responding to our quantitative survey to determine the relative importance of different commitments cited attending to gas emergencies in under an hour as being the important, while SME's placed it second. In general, the research indicated that vulnerable customers, the under 55's, urban customers, those living in the south west and larger businesses (over 20 employees) are generally willing to pay more for us to deliver this, while some groups notably smaller businesses (under 20 employees), those living in Wales, rural areas, and fuel poverty along

	with older people (55+) are less likely to be prepared to pay more, but do consider this to be important.
Conclusion of views	Based on 6 engagement events involving over 2,200 stakeholders, it is clear that stakeholders place a high value on emergency response. While they already feel that we are performing well in this area, it is important to them that we maintain this level of performance during GD2. Taking this feedback into consideration, we are committing to attend gas emergences in under an hour, on average, to keep our customers safe. We are also seeking to respond to feedback about the importance of communications by reviewing our communication with regards to emergency response with the use of mobile applications during GD2.

Performance

Benchmarking data

Annual Regulatory Reporting

WWU GD1 performance

	Jobs	Total Response Time (hrs:min:sec)	Average response time
Uncontrolled PRE's	49,272	28316:20:43	0:34:29
Controlled PRE's	27,196	21674:02:33	0:47:49
Total PRE's	76,468	49990:23:16	0:39:13

Industry comparison

Other ambition / requirements

Meet our 97% Licence Obligations to attend gas escapes within 1 or 2 hours dependant on the classification.
To continue to reduce the number of gas escapes related to our network through our investment in the network
To continue to reduce the number of gas escapes related to customers pipework and appliances through promoting safe work practices through industry groups and the HSE liaison meetings.

Optioneering

Options considered (including trade-offs innovation)

- Maintain or exceed our current average time of 37 minutes
- Commit to 45 minutes average
- Commit to a under 1-hour average - this is our chosen commitment
- Commit to average of 1hour 15 minutes

Committing to either of the first two options could lead to an increase in costs. In Appendix 9C we look at the risk of losing metering work and this could increase the costs attributed to emergency work. Resourcing the emergency service across the whole of our network

	to meet these timescales is likely to reduce productivity of the engineers. The option to reduce our average time to 1 hour and 15 minutes comes at a risk that we have cut costs too far and therefore under-resourced to respond to peak of work. That could mean that on a really cold day we fail to respond to a large number of 1-hour standard jobs which in turn could put our Licence Obligation of 97% at risk. The 1-hour commitment is therefore in the sweet spot where the response time is acceptable to customers, we can resource the emergency service 24 hours / 365 days and utilize staff on other work to maximise their productivity.
Regional differences	Timescales to respond to gas escapes are related to the volume of work and the location of the escapes. Timescales can be longer in rural areas due to our network sparsity but city centres can also provide challenges due to traffic.

Deliverability & Whole Systems Impact	
Deliverability & viability implications	Our Workforce Resilience chapter details how we plan to ensure we continue to be able to resource the emergency service in GD2 and beyond.
Resilience to change	Our ability to commit to the average of under an hour will be subject to a properly funded emergency service through GD2 regulatory allowances, noting that we are requested support for additional costs arising from the lack of metering work going into GD2.
Whole system impacts & fit with wider vision	The gas emergency service will be required for many years to come but the skills may change as networks utilise hydrogen (blended or full hydrogen) or hybrid heating systems.

Proposal
We commit to an hour average timescale for responding to gas escapes to under 1 hour

For more information see Chapter 6: Customer service

Summary	☐ Output	☑ Commitment
Output / Commitment Title 1.29 Making our workforce inclusive Continue to make our workforce inclusive, ensuring it better reflects the communities we serve.		
Description	Improving workforce diversity demonstrates our commitment to inclusivity, driving a more positive external perception of our business. This, in turn, enables us to recruit more successfully, thus avoiding potential skills gaps –ensuring that we continue to deliver for our customers. Creating an inclusive workforce that reflects our communities means we are also better placed to connect with the people we serve.	

Cost & Bill Impact	
Cost of delivery	N/A
Proposed Funding	N/A
Customer bill impact	N/A

Customer benefits & value	
CVP Reference	N/A
Summary of customer benefits	We currently work hard to attract and recruit the right people for the right roles. Going forward, we want to ensure we are attracting colleagues from more 'harder to reach' groups so that we have access to a broader pool of talent and our colleagues better reflect our customer base. Traditionally a white, male dominated industry, we fully understand that employing colleagues with similar backgrounds and experiences to our customers will only serve to enhance our offering and ability to understand, communicate and connect with them. Promoting inclusivity means that we can recruit from all areas of society to find the best people with the right skills for the job.
Distributional impacts	Improved inclusivity and diversity will benefit both WWU and customers. Inclusivity and diversity will not be perceived as barriers to recruitment and retention of colleagues. This commitment will improve the pool of talent available to us and ensure dynamic progress in recruitment, alongside the most forward-thinking industries. A more diverse workforce, with different strengths, skills, backgrounds, attitudes and experiences is a more resilient workforce as we enter into a challenging and uncertain period for the energy sector.

Stakeholder voice	
Engagement method	A competent and skilled workforce is central to our success as a gas network distributor. Our first step in engaging on this topic and commitment was to commission some research from our sector skills council, Energy & Utility Skills – both jointly as a collective group of GDN's to understand the latest macro data and individually as WWU (April 2019, updated in August) for our geographical area and our own workforce data. We engaged in 8 separate events with over 2,200 customers and stakeholders to gain insight into the levels of importance for a commitment to improve the diversity and inclusivity of the workforce, engaging across a range of stakeholder types and customer segmentations in our geographic region. We did this through qualitative focus groups as well as a research survey (971 universe). We attend CIPD forums to discuss diversity in the workplace, including discussions on the inclusion of 'inactive' workforce, with recruitment specialists and government representatives, to understand the latest thinking on improving workforce diversity. We are also a member of a sector group on Diversity & Inclusion to share best practice across Gas, Electricity, Water and Waste. Through one to one sessions and our bespoke engagement activities, we carried out engagement with expert stakeholders in other utilities and beyond, including with trade union representatives to understand the challenges of recruiting a more diverse and inclusive workforce to an industry which has traditionally struggled to attract a diverse workforce – particularly in operational activities. To understand more about geographical opportunities and challenges, we included discussion with local politicians across our area, as well as discussing with business, industry, consumer vulnerability and other communities of interest representatives at our Critical Friends Panel, to hone and comment on our proposed commitment. We also commissioned a quantitative study to understand relative importance/willingness to pay with 984 stakeholders (772 domestic and 212 SMEs).
Stakeholder views	We are a unique GDN serving very diverse communities across different nations with varied demographics. We recognise that to meet the needs of our varied customer demographics; our colleagues are our key resource. We seek to recruit, retain, develop and improve the resilience of our workforce and enhance its diversity to provide the best possible service to customers in our communities. In anticipation of our new regulatory period and the changing environment of our industry, our experiences with the sector and our

	demographic research with EU Skills, demonstrates that our industry faces a challenge in recruiting a diverse range of employees. At WWU, diversity is about recognising the value of difference, and inclusion is about being fair and making sure we get the best from everyone, regardless of gender, disability, ethnicity, sexual orientation or age. The CEG challenged us in relation to the limited scope of our diversity strategy. Our initial business plan commitment in this area made specific mention of BAME employees but following the CEG's challenge and feedback from other stakeholders around the omission of people with disabilities we have amended the commitment to reflect all aspects of diversity. We have explained this further in our detailed Diversity Strategy. During our regional workshops in 2019 with community representatives, we received support on our action to increase the inclusiveness of our workforce and the diversity that our colleagues represent. Stakeholders welcomed our approach to focus on diversity at a regional level, aiming for a workforce that reflects different communities. This was viewed as an appropriate approach, rather than having fixed targets in place – particularly given the dynamics of the population across our particular network area. Despite acknowledging our efforts in responding to the gender and diversity barriers, our consultation with expert stakeholders in August 2019 highlighted the lack of reference towards other minority groups. There was particular interest in our approach to inclusivity with the LGBTQ community, as well as with disabled individuals. The range of diverse skills these groups of individuals provide can help us address the upcoming skills and workforce shortages in the industry. Stakeholders said we must place more emphasis on them and have a stronger approach to attracting more diverse groups in our business plan (beyond women and BAME which we referenced in our draft commitment). In our business as usual engagement, MPs voiced clear thoughts on the lack of attracting female employees in the industry, as evidenced by their discussion surrounding the gender pay gap, which was of interest given our positive pay gap. The recognised our efforts in using social media to attract apprentices into our workforce, but emphasised the need for us to deploy these platforms, to target women and promote the importance of their role in the industry. Our regional workshops in both 2018 and 2019 with stakeholders provided us with a broad range of solutions that can promote the inclusivity of our industry, but also improve on the work ongoing to support staff wellbeing – an area that hasn't been focused on sufficiently upon in during attraction and recruitment campaigns. They

	encouraged us to invest in and promote flexible working practices and innovative working patterns. If we were to build further upon aspects of well-being, it is something that we should promote through digital and social media as it can stimulate employment opportunities for hard-to-reach individuals and those living in rural areas. Customer acceptability for this commitment averages 57% across all customers, with variance across demographics (Fuel Poor: 41%, Rural: 49%, Urban: 60%, Customers who have had contact with WWU: 70%) and willingness to pay lower at 21%, with expectations expressed at customer qualitative focus groups that his should be business as usual and not at a cost to customers.
Conclusion of views	The diversity rate of the gas industry currently falls way behind the UK industry average. In response to this, we have signed up to the sector-wide 'Inclusion commitment' and have been working to address diversity gaps, both individually as WWU and collaboratively. We are also pro-actively taking steps to widen our approach – making ourselves more inclusive and accessible to other 'harder to reach' audiences, such as parent returners, those with disabilities, and service leavers. Our Diversity Pledge will ensure that we continue our regional approach to improving diversity levels. Considering stakeholder support, we will continue with our honed commitment to increase workforce diversity and inclusivity in GD2.

Performance	
Benchmarking data	Annual gender pay gap reporting, to be increased to include diversity and inclusivity in GD2.
WWU GD1 performance	
Industry comparison	Inclusivity and diversity reporting in the energy industry is poor; gender reporting itself being a relatively recent adoption in the later years of GD1. While the number of BAME employees in the UK continues to increase (currently 15%), numbers in the gas industry are 8%.
Other ambition / requirements	We want to be an inclusive and diverse business, to increase innovative and dynamic thinking and decision making, to make sure we keep up with other industries and don't lose out on talent recruitment and retention opportunities. Committing to providing decent work, economic growth and inclusion is a key theme in our sustainability ambitions.

Optioneering	
Options considered (including trade-offs innovation)	Our commitment in our July business plan was: Continue to attract more women and Black, Asian and Minority Ethnic (BAME) employees – to ensure our workforce better reflects the communities we serve. Following stakeholder feedback, we refined this to: Continue to make our workforce inclusive and make sure our workforce better reflects the communities we serve.

	This was to make sure that we incorporate all forms of diversity in our commitment.
Regional differences	This commitment was not viewed differently in different regions. Diversity and inclusion takes its own perspective in different areas.

Deliverability & Whole Systems Impact	
Deliverability & viability implications	Our ability to deliver against this commitment will be dependent on the workforce and skills being available in our region. We work hard to promote our skills needs with diverse communities and groups
Resilience to change	This is a commitment specifically designed to ensure workforce resilience faced with any political, social, technological changes, including those within the energy industry.
Whole system impacts & fit with wider vision	Committing to providing decent work, economic growth and inclusion is a key theme in our sustainability ambitions. Creating a diverse and inclusive workforce means we will have a resilient workforce consisting of people who possess all the skills required to support the energy transition.

Proposal
Our proposal is to continue to make our workforce inclusive and make sure our workforce better reflects the communities we serve.

For more information see Chapter 19: Workforce resilience

Summary	☐ Output	☑ Commitment
Output / Commitment Title 1.30 Our Workforce Resilience Strategy Deliver a Workforce Resilience Strategy to maintain and evolve the skills of our people to meet our customer needs now and in the future; including ongoing investment in high-quality Apprenticeships to Levels 3 and 4		
Description	Faced with external uncertainty, technological changes and an increased expectation that the energy industry will make greener choices for the future, we must invest in the skills of our colleagues to ensure our resilience. With a culture rooted in our shared values, our people are at the heart of our business. A longer-term view of resource requirements linked to our approach to attract, recruit and retain good people forms our strategy with an ongoing focus on recruiting and supporting high quality apprenticeships.	

Cost & Bill Impact	
Cost of delivery	N/A
Proposed Funding	N/A
Customer bill impact	N/A

Customer benefits & value	
CVP Reference	N/A
Summary of customer benefits	Customers currently receive excellent customer service as corroborated by our CSAT scores which have increased significantly in GD1. We are being proactive by updating and broadening our workforce resilience strategy to ensure we are prepared for a shift in our workforce demographics. It is essential that we make sure that as we lose considerable numbers of colleagues to retirement, we do not create a knowledge and skills gap.
Distributional impacts	Our renewed commitment to step up our apprentice recruitment, alongside rigorous harvesting of vital industry knowledge, will reassure customers and colleagues that we are resilient and prepared for the future. Providing good quality apprenticeships will improve the pool of talent that we have to recruit from and will limit the amount of churn that we experience. However, faced with key challenges regarding vacancy profiles in the gas distribution industry, our focus on upskilling our current workforce will be crucial. Opportunities for colleague development will be enhanced as we adopt a more future-looking attitude to upskilling. Colleagues will face increasingly diverse prospects as our business flexes in response to future energy requirements. We will also need to work alongside and influence others to support our delivery of effective cyber security and other key areas going forward.

Stakeholder voice	
Engagement method	A competent and skilled workforce is central to our success as a gas network distributor. Our first step in engaging on this topic and commitment was to commission some research from our sector skills council, Energy & Utility Skills – both jointly as a collective group of GDN's to understand the latest macro data and individually as WWU (April 2019, updated in August) for our geographical area and our own workforce data. To both evidence and hone our workforce resilience commitment, we engaged with expert stakeholders, including from Trade Unions (both WWU representatives and regional and national officers from the GMB and UNISON) and others both within and outside of the industry, including at a collaborative gas network workshop (37 participants). We also sought the views of community representatives (52 delegates) at our Regional Community Workshops in north and south Wales and the Cornwall/Devon border on workforce resilience and their regional challenges, including stimulating rural employment, promoting workplace equality and staff wellbeing. We tested our draft commitment, which was honed through the engagement process and tested our final commitment for acceptability with a broad demographic of our customers through qualitative focus groups, and through a customer research survey exercise with nearly 1,000 people. We then tested our commitment for acceptability with our expert representatives on our Critical Friends Panel in September 2019. This was followed up with a willingness to pay study using a sample of 772 domestic and 212 SME customers.
Stakeholder views	Whilst there are external uncertainties, rapid changes in technology within and beyond our industry, and the future energy scenarios, we recognise that it is vital to continue investing in the skills and resilience of our workforce – a key business resource. In preparation for GD2 and beyond, we reviewed national and localised census and workforce data to create a detailed resource plan from 2021 to 2036 – this models the impacts of workloads, colleague retirements, staff turnover and other external factors which results in a draft recruitment needs analysis. Then we updated and broadened our workforce resilience strategy working alongside our colleagues and key expert stakeholders to tackle future workforce challenges, mainly being an ageing workforce and the prominent skills gap (diversity and inclusion are reflected in a separate commitment). We have made significant investments in upskilling our workforce by recruiting 185 apprentices since 2005 and creating bespoke development programmes in the reflection of our multi-generational

	workforce. We will commit to continuing our focus on retaining skilled colleagues and investing in attracting new colleagues to meet the challenges of GD2 and beyond. We decided to address these challenges in a commitment to maintain our Investors in People accreditation during GD2. Our engagements with customers and stakeholders led to unanimous support of our workforce resilience strategy but also raised points on challenges we can expect in the future. Expert stakeholders positively reflected on how we modelled the challenges that retirement, staff turnover, and attracting the right skills will have on the sector throughout GD2 and beyond. They were pleased that we strongly addressed the need for apprenticeships, up-skilling and multi-skilling of colleagues to meet the workload demand. The challenges of skills gaps were highlighted at the collaborative gas networks Future of Gas Workshop, which reaffirmed that our focus is in the right place. Trade unions were also pleased to see that we have reflected on the prominent issue of pay gaps (both gender and ethnic gaps) that affects many industries and drives staff turnover. They were also encouraged at the long-term planning put into workforce planning and the subsequent investment in skills. A report by Energy & Utilities Skills (April 2019) on WWU's workforce preparedness for future challenges evidenced that our workforce differs significantly from other GDN workforce profiles. We are currently employing a higher proportion of 25-39 year olds and a lower proportion of 45-59 year olds. Also, only 17% of our workforce is aged over 55 years old, lower than the industry average of 20%. These findings indicate that we are moving in the right direction, despite the challenges we face. The report also highlighted the key challenge of 44% of vacancies in the industry classified as skills shortages, which is nearly double the national average of 23%. This indicated to us that we should not rely too heavily on the external labour market to deliver a skilled workforce, but instead we should continue focusing our efforts on internal upskilling or take action to promote opportunities and influence younger generations across our community to develop necessary skills. Similar feedback was given to us by our Critical Friends Panel and customers in our Innovation deep-dive session- both stating that the skills shortage with gas engineers and electricians, especially in anticipation of future hybrid heating systems, could be immense. Expert stakeholders from Western Power Distribution and Careers Wales also recommended a stronger commitment to apprentices would be of interest to customers and potential recruits. In light of this feedback, we joined two commitments to one that includes a stronger commitment to continuing apprenticeships, as in their previous form acceptability (with customers through our 971-universe research study) was low at 53% and 57% respectively. The subsequent willingness to pay research showed that while customers (domestic and SME's) are willing to pay more overall.

	(based on a sample of 984), there are differences when segmented e.g. in terms of business customers - larger businesses (over 20 employees) are generally prepared to pay more, but this is not the case for smaller businesses, those in the private sector and in Wales. In relation to domestic customers, notably those living in vulnerable situations, younger and older people and people living in the south west are likely to be willing to pay more. In contrast, people living in fuel poverty, rural areas and Wales are less likely to be prepared to pay more.
Conclusion of views	Stakeholder and customer feedback has been clear that although we are preparing for workforce challenges that lie ahead of us in preparation for GD2, there are evident obstacles within, and beyond the industry. We are therefore committing to delivering a workforce resilience strategy in GD2 that will maintain and evolve the skills of our people to meet our customer needs now and in the future; including the ongoing investments in high-quality apprenticeships to level 3 and 4. We also have an 'in-flight' plan to work with major gas users, green gas producers and other emerging energy technologies to assess future skills needs for GD2 and beyond.

Performance	
Benchmarking data	N/A
WWU GD1 performance	N/A
Industry comparison	Sector-wide we know there is a significant challenge around skills shortages – with 44% of vacancies currently classified as skills shortages, which is nearly double the national average of 23%. Faced with this industry-wide challenge, it is even more pressing that we do our best to recruit externally; advocating increasing numbers of youngsters within our communities to consider STEM subjects and focusing even more on upskilling the talent that we already have.
Other ambition / requirements	As part of our alignment with the SDGs, we are reinforcing our commitment to quality education, upskilling and progressive job opportunities.

Optioneering	
Options considered (including trade-offs innovation)	Our commitments in the July plan were: - Maintain a workforce resilience strategy that develops and maintains the relevant capabilities required in an ever-changing business environment - Maintain our Investors in People (IIP) Accreditation Following stakeholder feedback, we refined this to: - Deliver a workforce resilience strategy to maintain and evolve the skills of our people to meet our customer needs now and in the future; including the ongoing investment in high-quality apprenticeships to levels 3 and 4

	We will use proven techniques and introduce digital solutions to deliver innovative training methods, keep our business modern and inspire future generations to consider key roles in energy.
Regional differences	Our recruitment experiences during GD1 has demonstrated that we have differences in our ability to attract applicants in areas such as North Wales, Swindon and Cornwall, so we know that our approaches to the delivery of the commitment will need to vary. We already have experience of this using social media and more localised targeted approaches.

Deliverability & Whole Systems Impact	
Deliverability & viability implications	We have a track record of delivering high quality apprentice programmes and also upskilling colleagues. We will build on our performance to date in delivering this commitment into GD2
Resilience to change	This commitment is solely focused on resilience to change and clearly demonstrates our commitment to monitor and respond to social, political and technological changes within and outside of the energy industry.
Whole system impacts & fit with wider vision	Committing to a resilient workforce shows that we are preparing for any changes that take place in the energy industry going forward. We are making sure that we harvest knowledge as we lose colleagues to retirement, we do our best to attract a good calibre of employee with the specialist skills we require, and we provide high quality apprenticeships that will encourage future leaders of our industry to join us. We also recognise there may be new skills required in the future to support a whole systems approach, we will be responsive to this change

Proposal
Our commitment is to deliver a workforce resilience strategy to maintain and evolve the skills of our people to meet our customer needs now and in the future; including the ongoing investment in high quality apprenticeships to levels 3 and 4.

For more information see Chapter 19: Workforce resilience

Summary	☐ Output	☑ Commitment
Output / Commitment Title		
1.31 Keep network charges down		
Keep network charges down to the lowest practical level, maintaining the GD1 household bill of £133 a year into GD2		
Description	Our commitment is to keep the 5-year average GD2 customer bill to the same level (in 18/19 prices) as the 8-year customer bill	

Cost & Bill Impact	
Cost of delivery	N/A
Proposed Funding	The proposed funding is the WWU business plan totex costs and other funding that makes up the WWU requested business plan allowances.
Customer bill impact	Average of £133 per annum for domestic customers over the RIIO 2 period

Customer benefits & value	
CVP Reference	N/A
Summary of customer benefits	The benefits to the customer are linked to having Outputs and Commitments funded at an appropriate level. This level of bill also ensures a financially stable network that can raise debt at levels that would be lower than if there are financeability issues.
Distributional impacts	Methodology for calculating customer bills is approved by Ofgem and is cost reflective for all network users. As use of network evolves we will keep the methodology under review to ensure customer bills are fair and appropriate for all network users

Stakeholder voice	
Engagement method	We sought to understand customer priorities on bill price from our initial customer quantitative research study (circa 1,000 people). This was also discussed in qualitative customer focus groups. We also held deep-dive customer focus groups on risk and value. During 2018 we also sought the views of our Critical Friends Panel on value for money as well as with national expert stakeholders (in 2018/19 – 78 people) by survey and a face to face independently facilitated workshop, as part of collaborative gas network engagement on value for money and affordability. In a recent customer deep dive focus group around the subject of value, customers expressed their views about financial risk and the areas where costs are increasing, including the mains replacement programme and cyber security. We commissioned initial quantitative (sample 971) acceptability research on this commitment. This was followed up with a further study quantitative study involving 772 domestic and 212 SME customers and this considered the relative importance of our commitments.

	We sought to understand the views of customers living in vulnerable situations though a combination of methods including telephone interviews, focus groups and one to one interviews (175), supplemented with feedback from our regional workshops engaging 81 stakeholders across seven venues. In addition, through our three rounds of quantitative customer research we engaged with 1163 customers who self-identified as vulnerable.
Stakeholder views	There is consistent support among our stakeholders for keeping charges as low as possible, with value for money emerging as a key theme during our engagement, mentioned by one in five people at the Joint Gas Network stakeholder survey conducted by Accent. For customers to better understand the cost of gas, the network cost and the make-up of their charges, some suggested that they would like to see this explicitly marked on their bills. Whilst raised at several engagement events, there was a specific discussion regarding this at the 'deep dive workshop' on monetised risk with domestic customers stating they would like to see an itemised gas bill. This is an issue outside of our control but one that we will raise with Ofgem. Customers at the monetised risk deep dive felt that we are 'working hard' for 20% of the bill with services far more wide-ranging than they understood. It was suggested that we should better promote ourselves in order to get credit for our achievements. At one of the innovation deep-dives, respondents seemed more interested in the non-financial impact on themselves and others rather than in cost savings for the business. Regional stakeholders were very much of the view that we deliver good value for money for the services we provide. When asked to vote on this the average score across all the workshops was 8.6 out of 10, in 2019. A number of stakeholders were not actually aware of all of the services that we deliver, or how much of the gas bill is related to those services. At the end of the workshops when stakeholders were asked to reflect on value for money, there was overwhelming endorsement that current charges represent excellent value for money. Customers also considered financial returns to our owners and debt costs. The overall view of customers who attended qualitative focus groups was that our forecast bill levels appeared to be fair. Comments included: - "I'd like to see if they keep to their efficiency plans." - You can't complain, it's still fair in terms of the rest [of the GDNs]." - "We're not being overcharged compared to the rest of the UK." - "We understand what they are spending the money on, and it's necessary."

	- "I think they've justified their price increase and they've justified their costs." In September 2019, the cost of bills was discussed by our Critical Friends Panel who confirmed the importance of keeping network charges to the lowest practical level. Some members felt that a commitment in this area could be a problem for us in the future, given the amount of uncertainty that exists, particularly concerning Government policy. The Panel explored the relationship between the investment plan and bill impacts for GD2; specifically, what investments would look like if bills were lowered and the effect this could have on customer outcomes. It should also be assessed how concrete the components of the GD2 bill are as the outlook assumes 'stable prices'. Given the efficiency gains in GD1 and those proposed for GD2, funding could be allocated to priority initiatives requiring more investment. When asked whether targeting lower costs should be prioritised over higher investment, the Panel informed us that they believed customers, including vulnerable people, would accept paying a 30p increase as this was 'barely noticeable' and ensuring a safe and reliable network and reducing emissions, would matter more to them. The acceptability testing of our initial plan revealed an overall acceptance of the commitment of 65% (one of the highest results), with 69% saying it is very relevant to them as customers. Our vulnerable customer testing reinforced the importance of this commitment, in which 36% of the vulnerable customers (and a third of carers) placed it in their top 3 most important commitments, making it the number one priority among commitments relating to value for money. Further acceptability testing in August, including informing participants about the regulation in place and how we make a profit, showed a higher acceptance. Stakeholders generally thought that we were doing a lot for the minimal portion that we took from the customer bill. When comparing our consumer bills to those of other GDNs, stakeholders felt they would accept a slight increase to the bill if it was in line with the market and justified in terms of the work done. The CEG challenged us to better justify what is best for customers, with clearer links to fuel poverty and to our vulnerability strategy, and to the future of energy. In response we have developed a 'Consumer Value Proposition' which demonstrates the additional value that is delivered to different groups of customers. This was reviewed by the CEG. Our acceptability research showed overall acceptance for our customer bill. The quantitative research reported in November 2019 showed that maintaining the average bill at £133 a year is a top priority for customers (second highest among domestic customers to

	maintaining emergency attendance at under an hour and in the top 5 for SMEs).
Conclusion of views	Based on 10 engagement events, including 3,427 stakeholders, there is overall support for maintaining our performance levels and keeping network charges as low as practical – at the same cost as in GD1.

Performance

Benchmarking data

We have checked the published charges for all of the other gas networks.
During GD1 our average charge has been £133 for a domestic customer. This is one of the lowest of all of the GDNs, based on a comparison of charges that we have referenced and which uses the information that is published by the GDNs. The network charges that Ofgem publishes in its annual report, by contrast, are based on "an estimate" that uses a 12,000kWh average quantity of gas in order to ensure comparability with the retail bill publications. This analysis does not, however, show a true comparison of the charges for our individual networks as recognised by Ofgem, which is why we use the GDN published data.

We also analyse the overall cost to the consumer of heating by gas or by other means. The evidence on plenty of independent websites shows that gas is one of the lowest cost options to heating your home.

WWU GD1 performance

	13/14	14/15	15/16	16/17	17/18	18/19	Average
Ave domestic bills	£154	£141	£137	£136	£125	£121	£136

The average bill across the whole of GD2 is £133. For further information please refer to Appendix 8A.

Industry comparison

During GD1 our average charge has been £133 for a domestic customer. This is one of the lowest of all of the GDNs, based on a comparison of charges that we have referenced and which uses the information that is published by the GDNs.

Other ambition / requirements

We will keep our charging methodology under review. We will also hold the national transmission system operator to account to ensure its charges to us (which we pass on) are fair. In addition, any outperformance in GD2 will be shared with customers at a rate set by Ofgem during the price control planning process, equally any overspend to meet our commitments will also be shared.

Optioneering	
Options considered (including trade-offs innovation)	We have considered a number of totex options for each of the business plan areas and received feedback on the different levels of outputs required. This is well documented in throughout this document. We have also reviewed independent market information to support the business plan assumptions for key finance parameters such as debt funding and base return. All of proposals are supported with external evidence
Regional differences	The key difference for WWU is probably around the embedded cost of debt. This is covered within our finance annexes that accompany Chapter 22 of our Business plan

Deliverability & Whole Systems Impact	
Deliverability & viability implications	The level of revenue submitted within the WWU plan makes it financeable and sustainable with the ability to deliver on our commitments. Lower revenues and cost allowances will put at risk our plan and customer commitments.
Resilience to change	We have a track record of delivering value for money services whilst ensuring financeability of the network. Lower revenues and cost allowances will put at risk our plan and customer commitments. Should policy change we have proposed a number of uncertainty mechanisms to support such events
Whole system impacts & fit with wider vision	We will continue to work collaboratively to provide decision makers such as BEIS and Ofgem with objective “whole system” and full cost impacts of different heating options for customers.

Proposal
Based on the stakeholder feedback, we are committing to keep network charges down to the lowest practical level and maintain the GD1 household bill of £133 a year into GD2.

For more information see Chapter 8: Customer Bills

Summary	☐ Output	☑ Commitment
Output / Commitment Title		
1.32 Targeting an efficiency challenge of 0.5% per annum		
Continue to improve efficiency levels, targeting an efficiency challenge of 0.5% per annum – to make sure that customers get best value for money, saving a further £18m over GD2.		
Description	Proposal to save 0.5% efficiency per annum compounded amounting for circa £18m over 5 years.	

Cost & Bill Impact	
Cost of delivery	This will be part of the innovation base cost of £0.4m per annum.
Proposed Funding	This is included in base totex, as a negative cost (saving) £18m saving over 5 years
Customer bill impact	This will save 60p off the annual customer bill.

Customer benefits & value	
CVP Reference	Appendix 2A - Delivering value for money 2: Cost Efficiency Savings CVP
Summary of customer benefits	Customer bill savings year on year delivered through innovation.
Distributional impacts	This bill savings will apply equally to all customers

Stakeholder voice	
Engagement method	We gained insight from our Let's Connect Customer Consultation campaign in 2018 to understand our broad customer demographics and characteristics that were honed by our quantitative research with nearly 1000 customers, showing us the main four customer personas prevalent in our area, together with further information on their priorities. We looked at poverty statistics in our operational areas, noting the relative position of Wales in GVA terms as the lowest ranking out of the 13 ranked UK areas and countries. Areas of Cornwall also containing significant poverty indicators. We further engaged with regional community representatives to understand other important regional factors that would help us hone and support the challenging efficiency target we have set. In addition, we held educated customer panel focus groups on innovation, to understand customers' opinions of our innovation ambition, which will play a significant role in our ability to meet our efficiency targets. We understand that this is a complex area and can be difficult for many to understand, but not withstanding that, it is still important to gain customer insight, so we held an educated customer focus group to explore the subject in more detail. We included the commitment in two phases of acceptability testing, as well as in one to one in-home interviews with people in vulnerable

	situations – who did feed back to us that this was an immensely complex area that many felt unable to comment on.
Stakeholder views	It is important for us to listen to our customers' needs and keep charges as low as possible, while also ensuring that we stay financially sustainable. This is particularly important as energy bills rise and the number of families in fuel poverty is higher than before. It is our responsibility to ensure that we are as efficient as possible in order to keep our component of the customers' bills as low as possible. We aim to remain amongst the most efficient networks in the UK. The commitment we set out challenges us to deliver efficiency level across the business. The specific targets were derived by combining economic model forecasts with efficiency benchmarks from the market and across the industry. The complexity of the subject matter limited the amount of stakeholder feedback we received on it. However, a combination of a quantitative survey and qualitative feedback provided an overall positive view of our ambition and welcomed the challenge we set ourselves for GD2. Through a series of regional stakeholder workshops, we were given an average score of 8.6 out of 10 for our efforts in delivering value for money, while one workshop scored it 10 out of 10. Our stakeholders told us to, at least, maintain our efficiency in order to not change their perception of the value we provide them. Customers from our innovation deep-dive workshops were content with our innovation focus to enhance efficiency and deliver positive returns on investment. However, they indicated more interest in the non-financial effects of cost-efficiency on them than on the business, considering that they expect bills to go up anyway in the long-term post GD2. The business plan overall acceptability testing with stakeholders, as well as our Financial Risk deep dive sessions were supportive of our ambitious efficiency target stating that it is good to challenge ourselves. The feedback added that the challenge is appreciated despite future uncertainties (economic and factors) that are outside of our control. Nevertheless, stakeholders positively rated the acceptability of the commitment with 60%, overall being a positive score. The Financial Risk report concludes that stakeholders want us to continue talking about efficiency levels and work towards the ambitious targets we have set. Our second phase of quantitative testing of the commitment showed that support is stronger from SME's than domestic customers. The CEG has consistently challenged our 0.5% efficiency proposal. Their view is that this lacks ambition, which in line with the feedback we also received from the RIIO2 Challenge Group. While we understand that the 0.5% per annum efficiency target (compounded) may seem low, it is well above the current UK economy average forecast of 0.3% per annum (Bank of England TFP); as such it creates a very stretching target of over 2.5% per annum by 2026. This is also combined with the cost already taken out of the business to date and

	our leading position on efficiency within the industry. Our willingness to pay research showed overall acceptance of our 0.5% efficiency proposals. This remains an open challenge from the CEG.
Conclusion of views	Stakeholders were appreciative of the rigour we took in developing our targets, including working with economists to model an appropriate efficiency target of 0.5% per annum benchmarked against Bank of England's efficiency forecast of 0.3% per annum. As a result of widespread engagement across a broad range of customers and stakeholders, we can conclude that there is wide support for us to continue improving efficiency levels by targeting an efficiency challenge of 0.5% per annum albeit this is not supported by our CEG.

Performance	
Benchmarking data	The proposal for 0.5% comes from our external reports showing the current UK economy forecasts and historic cost performance. Bank of England Total factor productivity growth has been used as a base future forecast of 0.3% per annum and we have added an additional ambitious 0.2% to this to result in the £0.5% current challenge.
WWU GD1 performance	N/A
Industry comparison	We have engaged with independent external consultants to complete a joint report with the other GDNs, and established evidence using a UK economy forecast that is suitable for the Gas industry. Please see appendix 9H Productivity growth joint GDN consultant report.
Other ambition / requirements	We will continue to look for innovation, cost savings and efficiency opportunities throughout GD2 which will be shared with customers through lower bills based on an incentive rate decided by Ofgem through the price control process in 2020, equally cost increases will also be shared with customers under the same mechanism.

Optioneering	
Options considered (including trade-offs innovation)	We considered not offering an efficiency rate up front because customers will continue to benefit from a base totex which has gradually been reducing during GD1 and hence there is a lower starting point for GD2. However, we recognise there is a UK wide productivity forecast which equally applies to Gas Distribution as it does to other industries We also considered putting forward a cost efficiency target that was higher than the current 0.5% assumption. There is a risk we would not be able to achieve this given the current economy forecasts and the uncertainty still arising from Brexit. As of mid-November 2019, the bank of England is looking to not increase any UK total factor productivity forecasts.
Regional differences	N/A

Deliverability & Whole Systems Impact	
Deliverability & viability implications	Our ability to deliver these cost savings is dependent upon innovation being identified, trialed and implemented in a timely way during GD2
Resilience to change	N/A
Whole system impacts & fit with wider vision	N/A

Proposal
Our proposal is to continue to improve efficiency levels, targeting an efficiency challenge of 0.5% per annum throughout GD2.

For more information see Chapter 9: Cost efficiency

Summary	☐ Output	☑ Commitment
Output / Commitment Title 1.33 Investment to support future energy scenarios Ensure that the investments we make today will support future energy scenarios and therefore represent a 'no regrets' energy solution		
Description	This commitment is relevant to general investment that is required in RIIO-2 outside of any increased ambition to develop a net zero ready network by 2035	

Cost & Bill Impact	
Cost of delivery	£0.5m per year
Proposed Funding	Funded through base totex allowances
Customer bill impact	20p per year

Customer benefits & value	
CVP Reference	N/A
Summary of customer benefits	This commitment is to mitigate investment in assets which would become stranded under any credible future scenario.
Distributional impacts	Reducing risk of stranded investment has benefits for all customers; both current and future consumers.

Stakeholder voice	
Engagement method	We engaged with over 2,400 stakeholders through 15 engagement events using a range of methods appropriate to each stakeholder group, taking into account previous knowledge, interest and convenience of the method for the stakeholder group. Due to the nature of this topic, it was considered important that the engagement methods included scope to explore the subject in-depth and so qualitative deep dive focus groups are a strong feature of this engagement. Our early broad engagement with a total of 81 Government and industry stakeholders along with voluntary sector representatives across 7 regional workshops in Wales and the south west of England sought a regional perspective on stakeholder priorities, while a special meeting of a small group of 'critical friends' focused on high level priorities. Further research and analysis brought together existing studies, qualitative insight gathered from focus groups and quantitative data from circa 1000 customers (802 domestic and 200 SME's) - telephone interviews were used for hard-to reach groups who may not have on-line access. The research sought to identify different types of customers and whether there were differences in their priorities – this was established through responses to 27 attitudinal statements and demographic questions. We commissioned separate research to explore the priorities of customers living in vulnerable situations through direct one to one in-depth interviews in home (20),

	3 focus groups of 8, 31 online surveys completed by case workers and a telephone survey of 100 customers. Once the broad priorities were established, we undertook targeted engagement to refine the priority into a commitment. This included focus groups on the future of energy, monetised risk, innovation and financial risk with 67 attendees overall. We also engaged with 14 future bill payers (university students) on the energy trilemma. A key feature of our engagement in this area was our gas networks collaborative workshop in 2019, undertaken jointly to avoid stakeholder fatigue with 37 attendees. In 2018, a joint survey was commissioned revealing that a considerable proportion of stakeholders wanted to engage collectively with the networks on the decarbonisation of heat. This was combined with our general engagement with academics such as Bath University and the Supergen Energy Hub/UKERC, Government officials and elected representatives. Our commitment was refined and subsequently 16 critical friends were engaged again at a workshop and quantitative customer research across two phases (971 at phase 1 and 984 at phase 2, respectively) was conducted on the acceptability of the commitment, with phase 2 looking at this commitment as part of the commitment linked to bill charges. Qualitative acceptability testing was also conducted with 40 customers living in vulnerable situations in home and 16 carers mainly in paired in home situations.
Stakeholder views	At a special critical friends meeting, investing for a greener future was identified as the high-level priority area, this was on the basis that customer bills do not increase too much as a result. In support of this viewpoint, public, private and voluntary sector stakeholders particularly in Llandudno and Swansea raised concerns about whether pipes being replaced would be fit for purpose for emerging technologies of the future. Our quantitative research identified that repex work is the biggest area of focus and early replacement is supported to de-risk the network, providing significant safety, reliability and environmental benefits. This research was further broken down into broad domestic customer segments with 2 groups - the ‘environmentally engaged’ and ‘environmentally considerate’ making up 54% of the sample population. The environmentally engaged are generally extremely concerned about the environment and take positive steps to reduce the energy they use (and their carbon footprint). They actively recycle and are prepared to make lifestyle compromises to benefit the environment. They believe a difference can be made if everyone does their bit. The ‘environmentally considerate’ tend to have more time on their hands and are less likely to be under pressure to do as many things as possible. They have concerns about the environment and make small changes to their lifestyles and in their homes to focus on what is important to them; reducing their carbon footprint. Our targeted engagement such as the future of energy workshop highlighted that while reducing carbon is important, affordability is

	key and this is more prevalent in Cardiff than Bristol. Future bill payers at Cardiff University cited sustainability as most important, so long as this did not adversely impact on affordability. In relation to hydrogen, the concept of decarbonising energy was considered a move in the right direction, providing it was trialled first, but there are questions to be answered around safety, and any long- term impacts. A key take-out from the innovation workshop was that while there are many benefits that can be achieved now with existing technologies, preparing for the future is important too. From a business perspective, it was felt that we need to play a role in decarbonisation in order to evolve and survive as a business. Additional collaborative engagement with expert stakeholders highlighted that they want future proofed assets and decision making with the longer-term goal in mind. Some stakeholders were concerned that insufficient action to decarbonise might be taken now because of the focus being too much on the longer term, and it was highlighted that there is a delicate balance between a low regrets approach and the need to take action now to avoid the delivery timescale becoming unnecessarily tight, but equally not over investing and being left with a stranded asset based on a flawed technology or one that becomes redundant in the longer term. Sustainable energy future has been a central topic of meetings held with academics, Government officials and elected members with confirmation that they would like to be informed of high-profile projects. Indeed, more detailed discussions have taken place around hydrogen with some elected members lending support to new trials taking place within their constituencies. In terms of conflicts, the purpose of a no regrets energy solution is to ensure that our actions are cost effective now and over a range of future energy scenarios (FES), thus not involving hard energy trade-offs e.g. during the monetised risk deep dive session, stakeholders prioritised safety and want money to be spent to ensure safety for now and into the future - replacing gas pipes to make them ready to receive new gases (futureproofing) also contributes to safety and reliability (win, win, win). Our commitment derived from stakeholder feedback and business considerations has been tested for acceptability with stakeholders and had an overall acceptability rate of 62%. See our commitment synthesis report for a full summary of our engagement activities.
Conclusion of views	Based on extensive engagement across a wide range of stakeholders, we're seen as playing a key role in creating a sustainable energy future and stakeholders are encouraging us to incorporate measures to achieve this into our planning. On that basis we believe that this commitment to ensure that the investments we make today will support future energy scenarios, therefore representing a 'no regrets' energy solution is the right thing to do.

Performance	
Benchmarking data	There is no benchmarking data available although the CBAs produced for the GD2 plan could be compared across GDNs
WWU GD1 performance	Our investment plan in GD1has been necessary and justified. There has been no investment that will be stranded in the short, medium or long term
Industry comparison	There is no industry comparison available
Other ambition / requirements	Our vision has a long-term future for gas and requires a reliable gas network. Our investment plan for GD2 pays back within the 2030s making the risk of asset stranding incredibly low

Optioneering	
Options considered (including trade-offs innovation)	1. Consider for the central case only. This central case would exclude changes and investment that are discussed in Chapter 13 – our net zero vision, and for which funding is proposed under our net zero uncertainty mechanism – we felt that this was inappropriate given the extent of discussions that are taking place around decarbonisation options 2. Limit investment in GD2 or use shorter asset lives in our cost modelling – we felt this was inappropriate as it could lead to less efficient investment decisions overall and higher costs in GD3 3. Assess against the National Grid Future Energy Scenarios (FES). We felt this was a reasonable approach on the basis that the FES cover a broad envelope of future energy supplies and demand and are recognised across all sectors as points of reference For more information on our GD2 asset investment decisions please refer to the CBAs and Engineering Justification Documents which are attached to our business plan
Regional differences	We recognise that different decarbonisation strategies are likely to be implemented in different regions based on e.g. rural / urban and levels of industry. In our network we anticipate the use of pure hydrogen to support industry in South Wales which will then be adopted in cities along the M4 corridor. We anticipate an element of blended hydrogen in North Wales which will be available from hydrogen clusters in the North West of England. In other regions we anticipate use of biomethane and synthesis gas along with increased numbers of hybrid heating systems. By assessing our plans against all 4 FES scenarios we will have a robust assessment against all of these different regional approaches.

Deliverability & Whole Systems Impact	
Deliverability & viability implications	The deliverability risks for each of the key areas of investment are contained in the CBAs which are attached to our business plan
Resilience to change	FES scenarios are updated annually so our investment approach can be repeated within the RIIO-2 period as new investment needs are recognised
Whole system impacts & fit with wider vision	The FES scenarios are based on whole system decarbonisation strategies so this process inherently supports whole system thinking.

Proposal
We will ensure that the investments we make today will support future energy scenarios and therefore represent a 'no regrets' energy solution by considering the implications of all 4 FES scenarios on our customers use of the network both to inject and export gas from the system.

For more information see Chapter 13: Our net zero ready vision for 2035

Summary	☐ Output	☑ Commitment
Output / Commitment Title 1.34 Continue to invest in innovation Continue to invest in innovation, working with around 500 external organisations during GD2 (compared to 350 in GD1) and sourcing over 50% of our ideas from outside our business.		
Description	To identify solutions to our challenges and problems we work with wide-ranging stakeholders and engage them through events and workshops. We want to make connections with more leading innovators as we believe third party involvement is a key enabler of innovation to meet the challenges described in the national innovation strategy.	

Cost & Bill Impact	
Cost of delivery	£13.3m total in GD2
Proposed Funding	Incentive payments through the Network Innovation Allowance (NIA).
Customer bill impact	Costs per annum to customers will be £1.06.

Customer benefits & value	
CVP Reference	N/A
Summary of customer benefits	This investment alongside 'business as usual (BAU)' innovation will target the return of more than £18m to customers while also delivering societal and environmental benefits.
Distributional impacts	Some feedback suggests that our partnership target may be overly ambitious and in response we acknowledge a need to deepen relationships with key collaboration partners to nurture an engaged external community culture. The innovation delivery team will manage this campaign.

Stakeholder voice	
Engagement method	We engaged with over 20,000 stakeholders and customers through more than 10 engagement activities using a range of methods appropriate to the stakeholder group, taking into account previous knowledge, interest and convenience of the method for the stakeholder group. The Let's Connect survey responses (over 18,000) which looked at broad investment priorities were analysed using chaid analysis. Chaid analysis was used to understand more about what drives people to 'think something is important' - in this case those people that assign a higher level of importance to investment to develop new and innovative technologies to meet energy needs. We also engaged with 60 stakeholders representing vulnerable customers, local government/statutory sector and industry at our regional workshops.

	To gain more in-depth insight into stakeholder views on innovation, we commissioned two 'deep dive' independently facilitated focus groups on the subject engaging with 18 people in Bristol and Cardiff. Our strategic and targeted engagement included joint gas network collaborative engagement with 37 expert industry stakeholders in a workshop format on the future of gas. This collaborative research meant that we were able to avoid stakeholder fatigue that may have occurred if each GDN had engaged separately. To supplement this, we engaged with a further 9 innovation expert stakeholders through a survey with scope for qualitative responses and also separately engaged with industry stakeholders through meetings in Caldicot and Bristol. Based on feedback, the commitment was developed and then tested for acceptability through quantitative customer research across two phases (971 at phase 1). At phase 2, 18 cognitive and 2 in-depth interviews in Bristol city centre were conducted initially to test understanding of information, usability, ability to rate the commitments and length of completion. This resulted in some small script changes prior to the main quantitative survey which gathered responses from 772 domestic (including 85 'hard to reach' customers) and 212 SME's. Qualitative acceptability testing was also conducted with 40 customers living in vulnerable situations in home and 16 carers mainly in paired in-home situations.
Stakeholder views	The headline results of our Let's Connect campaign analysis found that investment in new and innovative technology was one of 3 broad areas perceived by our customers as highest priorities. Chaid analysis of this customer feedback found that older customers (predominantly female) are more likely to value in innovation as important, if they perceive us to be value for money. Customers who think investing in innovation is important also think raising safety awareness, investing in gas flow (reliability) and supporting vulnerable customers is important. This was reiterated at the innovation 'deep dive' focus groups where innovative projects linked to making safety improvements were generally prioritised. Working with external partners is also considered important by stakeholders and feedback from our regional workshops highlighted working with local authorities in addition to relevant organisations including community energy groups to realise targets. During the strategic and targeted engagement stage, industry stakeholders recognised the importance of collaborative working particularly in the areas of innovation and large-scale decarbonisation challenges. The majority of the innovation expert stakeholders engaged agreed with our innovation ambition and over half felt that working with around 500 organisations was appropriate. Others felt this was overly ambitious and suggested a focus on quality rather than quantity of engagement – this is something to be mindful of going forward. That said, the majority 7 out of 9 agreed with us increasing collaboration

	One potential conflict identified by stakeholders attending the collaborative gas networks workshop is that while collaboration is seen as beneficial, this may not be compatible with competition – some suggested a stronger incentive to allow networks to work together on achieving shared goals more effectively. The CEG challenged our innovation portfolio which was originally heavily focused on technical engineering and lacked consideration of customer service and vulnerability innovation. In response to this challenge we have reviewed our focus and widened our business as usual and innovation portfolio, while also responding to Ofgem's guidance to invest innovation to support those living in vulnerable circumstances. Our quantitative acceptability testing found the commitment to be acceptable to 52% of respondents, with larger SME's (over 20 employees), people living in the south west and urban areas and people aged under 55 in particular prepared to pay more. In general, domestic customers are less willing to pay more compared to other commitments.
Conclusion of views	Stakeholders value innovation and collaborative working particularly to bring improvements in areas such as safety, reliability and decarbonisation and this is reflected in our commitment to continue to invest in innovation, working with around 500 external organisations during GD2 (compared to 350 in GD1) and sourcing over 50% of our ideas from outside our business.

Performance

Benchmarking data

Annual report to Ofgem (table 7.10 Regulatory Reporting) that reports NIA investment by project title.

£,000s	13/14	14/15	15/16	16/17	17/18	18/19	Average
NIA investment (in 18/19 prices)	461	1754	1058	1891	1823	1352	1390

WWU GD1 performance

- In the first 6 regulatory years since 2013 we have delivered more than 250 innovation projects representing a total investment of £19.8m with just £8m coming from NIA.
- This investment has delivered around £10 million of cost saving and avoidance as well as bring imrpovements in customer service, sustainability, reliability and safety.
- Our implementation rates are at 24% (compared with 17% industry wide).
- We have sector leading levels of collaboration at 67% in contrast to the sector average of just 23%.
- Our innovation relationships are strong through developed networks via the EIC and Welsh Government to connect with SME's.

	• Our developed benefit tracking processes provide visibility of innovation roll out and utilisation across the business.
Industry comparison	We have and will continue to play a full and active part in developing an industry-wide benefit measurement framework under the leadership of the ENA. Whilst direct comparison data is not available, our innovation portfolio has resulted in 16 industry awards during GD1, examples are: • Best Gas Network Improvement • R & D program of the year • Gamechanger award • Best collaborative project • Best social impact award
Other ambition / requirements	Our GD1 delivery has been enabled by the development key processes to manage projects effectively and to give them the best chance of success.

Optioneering	
Options considered (including trade-offs innovation)	Two options were considered when developing our innovation portfolio. These options were: • Option 1 Self-funding innovation programme - Only completing innovation that is self-funding. These projects would only be focussed on reducing or avoiding costs. • Option 2 A blend of incentive funded and self-funding innovation – in addition to focussing on reducing or avoiding cost the portfolio will consider completely new concepts and direction, research, pilot programmes and demonstrations. Our innovation strategic ambition reflects option 2. This decision was made from the feedback received from customers and stakeholders to reduce costs and use incentivised funding to deliver large and higher risk projects that bring societal and environmental benefits.
Regional differences	The Welsh Government open innovation programme has been a benefit to create new networks with SME's. We will look to develop new regional networks in GD2 to improve supply chain engagement.

Deliverability & Whole Systems Impact	
Deliverability & viability implications	Our delivery plan is supported by our governance and processes and the innovation delivery team. Some of the improvements that our customers and stakeholders can expect in the coming years are: • Strategy launch to promote understanding of our and the National challenges identifying our focus areas over the years • Identification of key collaboration partners • Enhancement of our SME community engagement to increase our reach to more innovators including academia • Drive an engaged external community culture • Appropriate and accessible methods to share project outcomes and key lessons learnt • Drawing from value adding innovation services available in the market • Leveraging grants and external funding to support the programme

	We aspire to deliver continual year on year growth by embedding successful innovation to deliver more than £18m efficiencies.
Resilience to change	The innovation programme will invest over £13m with innovators that can progress knowledge, push boundaries and discover how the energy system can transition to meet Net Zero. Uncertainty and risk are inherent in innovation projects and project plans will be carefully crafted and managed to ensure that each project delivers the objectives to meet their success criteria or to be stopped without delay if deliverables cannot be achieved.
Whole system impacts & fit with wider vision	We will continue to collaborate with both gas and electricity networks to identify and deliver whole system solutions. This work is coordinated through our trade body, the ENA and a comprehensive structure of working groups. Learning is shared and disseminated effectively at a variety of conferences, social media and working groups to deliver value for customers.

Proposal
We will invest £13.3m in innovation, working with around 500 external organisations during GD2 (compared to 350 in GD1) and sourcing over 50% of our ideas from outside our business.

For more information see Chapter 11: Our innovation strategy