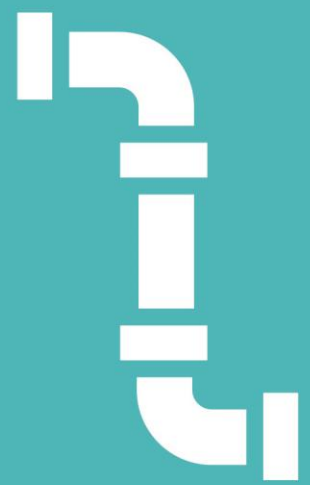




Appendix 14A Environmental Action Plan



Version 0.2
December 2019

1 Contents

2	Our Ambition	4
3	UN Sustainable Development Goals.....	4
4	WWU Impacts	5
5	Long Term Ambition	8
6	Stakeholder Engagement.....	9
7	Opportunities and challenges.....	13
7.1	Challenges.....	13
7.2	Opportunities	13
8	WWU Environmental Impact Reduction Roadmap	14
8.1	Environmental Management System (EMS)	14
8.2	Business Carbon Footprint (BFC)	15
8.2.1	Scope & Boundary.....	16
8.2.2	Our Science Based Targets	16
8.2.3	Shrinkage.....	18
8.2.4	Decarbonisation of heat.....	19
8.2.5	Our GD2 BCF Commitments.....	19
9	Decarbonisation of Heat.....	24
10	Adaptation to Climate Change.....	24
11	Resource Management	25
11.1	Scope and boundaries.....	25
11.2	Waste.....	26
11.3	The Circular Economy	27
11.4	Supply Chain Reporting.....	29
12	Natural Capital	32
12.1	Biodiversity	32
12.2	Air Quality	35
	Natural Capital Roadmap	36
13	Contaminated Land Management	37
14	Integrated business approach to EAP	38
	• People.....	38
	• Results and outcomes	38
15	Option Appraisal and Value for Money.....	39
15.1	Options	39
15.2	Value for Money	40
16	Carbon Impacts Claimed in the Investment Decision Packs.....	42
17	Supplements.....	43



Impacts and Aspects Register (extract)	45
.....	45
Extract of SBTi Carbon Model & Corresponded on Scope 3 inclusions.	46

Legal Notice

This paper forms part of Wales & West Utilities Limited Regulatory Business Plan. Your attention is specifically drawn to the legal notice relating to the whole of the Business Plan, set out on the inside cover of The WWU Business Plan. This is applicable in full to this paper, as though set out in full here.



2 Our Ambition

“Our ambition is to help communities, businesses and the economy thrive by delivering reliable, affordable and sustainable energy long into the future. Our aim is to not simply deliver today, but to lead the way.”

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.

We are passionate about taking responsibility for sustainability in areas that are beyond our direct control by working with our supply chain, partners and other stakeholder groups to make change

Our holistic Environmental Action Plan (EAP) has been designed to address three impact areas.

- Our scope 1, 2 & 3 business carbon footprint; included embodied carbon.
- Our other impacts; including natural capital.
- Our transition to a decarbonised whole energy system. In depth discussion of this area is presented within Chapter 13: ‘Our net zero ready vision for 2035’ and associated appendices.

Our EAP reflects ambitions that we feel are within our reach but will be dependent upon support from regulators and central government to take practical steps to facilitate change.

3 UN Sustainable Development Goals

We understand that sustainable development is about delivering positive outcomes that balance the interests of people, profit and the planet. The goal of sustainability is to ensure the health, wellbeing and prosperity of both current and future generations.

Our company ambitions and values drive sustainable behaviours that seek to reduce adverse effects, whilst maximising positive impacts. Moreover, we have actively chosen to align ourselves with the UN SDGs to demonstrate our approach to sustainable development is comprehensive and aligned with best practice. For details of how we are embedding UN SDGs across our business reference Section A ‘Summary of our plan’ within the main business plan document and associated appendices.

The ambitions set out within our Environmental Action Plan (EAP) will directly contribute to the following SDG goals and corresponding aspirations set out within the ‘Well-being of Future Generations (Wales) Act’ 2015.




4 WWU Impacts

We recognise that delivering a reliable, low cost gas distribution network can have adverse effects on the environment.

To ensure we understand the way in which we influence the natural world, WWU maintains an aspects and impacts register as part of our ISO14001 accredited Environmental Management System (EMS).

The impacts and aspects register documents all identified impacts of our business on the environment and scores them against a likelihood and environmental burden to ascertain the environmental significance. The register is reviewed and challenged by external auditors and internally, by a cross section of employees, at the annual environmental management system review.

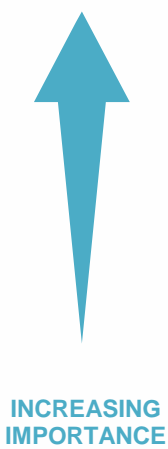
The table below highlights some of our main impacts and effects based upon our impacts and aspects register.



INCREASING IMPORTANCE

Environmental aspects	Direct and (<i>indirect</i>) impacts	Environmental effects
<i>Emissions from shrinkage (leakage)</i>	Release of atmospheric emissions / pollution	Climate change Detriments to human health Detriments to environmental health (land, water and air quality)
<i>Use of virgin aggregate as backfill</i>	Resource consumption <i>Release of atmospheric emissions / pollution</i>	Reduced ability for soil to sequester carbon Depletion of primary resources
<i>Procurement of polyethylene pipe (PE)</i>	Resource consumption <i>Release of atmospheric emissions / pollution</i>	Depletion of natural resources Reduction in landfill capacity / environmental degradation
<i>Use of fuel in vehicles & plant</i>	Resource consumption Release of atmospheric emissions / pollution	Climate change Detriments to human health Detriments to environmental health Nuisance to communities Depletion of primary resources
<i>Production of inert waste (excavated materials)</i>	Loss of resources Land quality (landfill) <i>Release of atmospheric emissions / pollution</i>	Loss of resources Reduction in landfill capacity / environmental degradation
<i>Business travel</i>	Resource consumption Release of atmospheric emissions / pollution	Climate change Detriments to human health





Environmental aspects	Direct and (<i>indirect</i>) impacts	Environmental effects
		Detriments to environmental health Nuisance to communities Depletion of primary resources
<i>Growth and spread of invasive and non-native species on WWU properties</i>	Increased proliferation of invasive non-native species (INNS)	Loss of biodiversity Potential detriments to human health (e.g. Japanese Knotweed)
<i>Impact upon traffic congestion</i>	Release of atmospheric emissions / pollution <i>Resource consumption</i>	Climate change Detriments to human health Detriments to environmental health Nuisance to communities
<i>Contamination associated with former gasworks sites</i>	Release or spread of contamination	Detriments to human health Detriments to environmental health (land, water and air quality)
<i>Use of gas and electricity</i>	Resource consumption Release of atmospheric emissions / pollution	Detriments to human health Detriments to environmental health

Management of the impact areas listed is critical to minimising adverse effects on society and the environment, including health and wellbeing, economic productivity and land utilisation / resource availability. We continually review and seek to understand all the impacts we have on the environment.

We anticipate our main impact areas within GD2 will reflect those identified in GD1, however we will strive to reduce the effects these impacts have on the environment. For example, emissions from shrinkage have a significant impact on climate change, use of virgin aggregate as backfill has a resource consumption and climate change (soil sequestered carbon) impact.

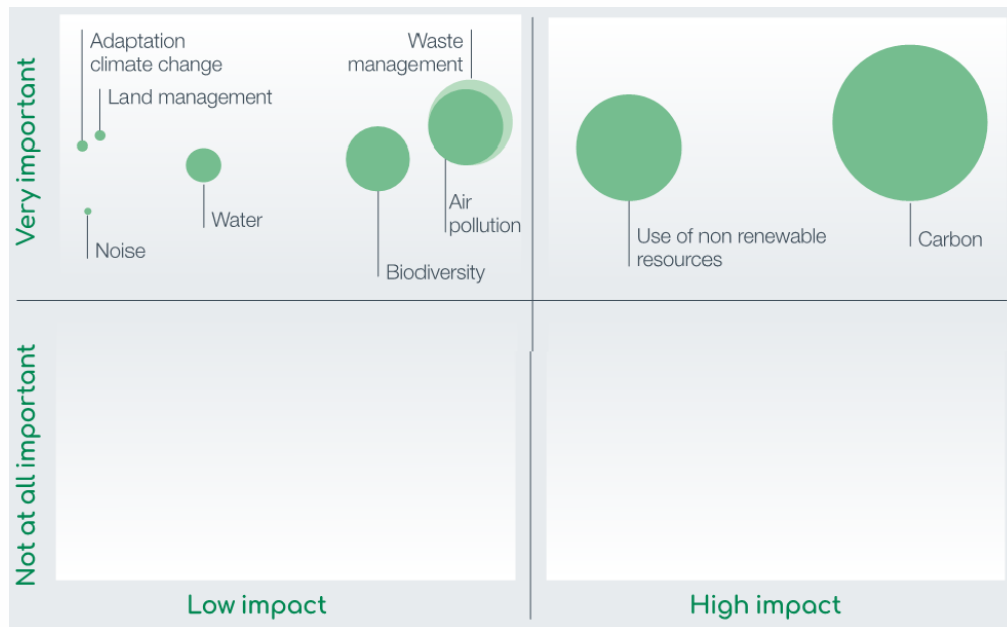
We recognise that in GD2 we could have a significant increase in volumes of excavated spoil and given the sparsity of treatments facilities within the southwest of our network, where a significant amount of works will be undertaken, there is a likelihood that our waste to landfill volumes will increase. Although we could transport the spoil greater distances to achieve a zero spoil to landfill ambition the impact on carbon, air quality and efficiency (cost to consumers) would increase. Therefore, we have reviewed all the potential impact areas, and potential increase in one against the negative effects in others, and with guidance of stakeholder balanced the culminative overall environmental benefit.

Ofgem’s Minimum Requirements has significantly increased the environmental reporting requirements and as such existing baseline data is no detailed enough to be able to robustly forecast future impacts or current impacts in new focus areas. The assessment methodology for our EAP is primarily qualitative. We have assessed our environmental activities in conjunction with our stakeholder views to identify initiatives to take forward.



Appendix 14A – Environmental Action Plan

We have reviewed our main activities and the environmental impacts they have against a stakeholder view of the importance of the impacts, as shown in the following diagram, where the size of the bubble reflects the number of our activities that contribute to our environmental impact. By understanding our impacts and stakeholder expectations we have tailored our EAP to maximise benefits to the environment and customers.



A synthesis report, see Appendix 5F based on the feedback gathered within internal and external engagement involving over 4000 stakeholders, supports the areas on which we have focused EAP as appropriate. We propose within the EAP to give priority to:

- Reducing our carbon footprint;
- Reducing resources we use to deliver services;
- Protecting and enhancing biodiversity (the variety of life found on earth);
- Diverting waste from landfill by increasing recycling and reuse; and
- Reducing air pollution.

Whilst, also, addressing our legal responsibility to protect the environment and license obligations to protect the efficient running of the network by:

- Reducing the risk from our old contaminated gasworks sites to our communities and the environment;
- Adapting our assets (pipes, storage and equipment) to make sure we can cope with the impacts of climate change.

Additionally, we will positively impact upon the following areas, by the works proposed above and will look to further address these areas within GD2.

- Protecting water resources and cutting back on our water usage;
- Reducing noise pollution;

We propose to ensure our activities are supported by a materiality assessment of impacts into the future. The effect of our impacts within GD2 may fluctuate in line with the intensity of activities



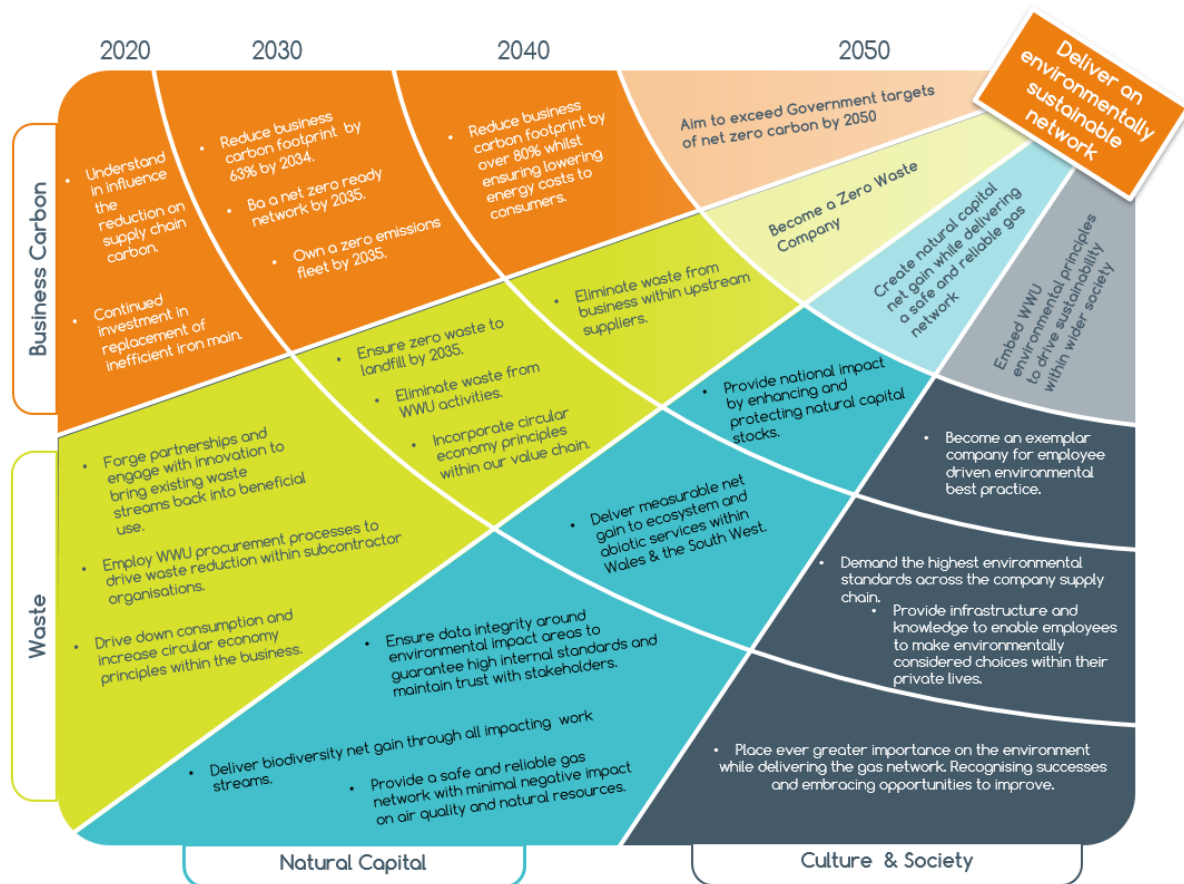
undertaken. However, by implementing the actions outlined within this business plan the normalised data will show a reduction in impacts and effects.

Further details of our aspects and impacts register are appended to the EAP.

5 Long Term Ambition

To create this plan, a cross sectional group from within WWU, from executive members to key stakeholders, was established. Consideration was given to the environmental successes and opportunities for improvement in GD1, national and regional government environmental policies, our long term aspirational goals, and the concerns and priorities of stakeholders.

By understanding our long term ambition we have worked backwards to define the steps we need to take in 2020, GD2 and beyond to achieve them. Our environmental roadmap below details how, over the next four decades we aim to deliver an environmentally sustainable network. The long term goals are stretching and will require us to prioritise the environment to collaborate with a range of external partners and embrace innovative thinking and technologies.



Details of options and associated selection criteria that we considered to reach our long-term goals are presented in the 'Optional Appraisal & Value for Money' section of this EAP.



6 Stakeholder Engagement

Protecting and improving the environment was one of the significant emerging themes in our GD2 engagement. It remains amongst our highest priorities.

During GD2, we have worked with a wide variety of stakeholders including, local authorities (LAS), employees, industry professionals and best practice guidance, consumers and stakeholders, our critical friends panel, our Ofgem customer engagement group (CEG) and customer challenge group (CCG) and our staff. The suggestions for our environmental strategy have all been considered on merit for inclusion within our environmental strategy. The following aspirations have strongly guided the final decisions:

- Focus should be given to areas where it is in our influence to make the greatest reduction in effect and/or the greatest improvement to the environment.
- Strategies should optimise and promote 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 effects on behaviours outside of work.
- Financial investment should be SMART (specific, measurable, assignable, realistic, time related), proportionate and produce a quantifiable long term environmental benefit.
- Short and long-term targets should align with government policy, be inclusive and equitable.

Direct engagement with local authorities (LAs) within our network has been insightful and is ongoing. Our Chief Executive Officer has directly contacted LAs within our network, highlighting our response to the developing Climate Change Emergency. Discussion with specific councils, including Swindon Borough Council and Bristol City Council, highlight the following:

- It was accepted that we may need to remove trees from areas where they represent a significant risk to the integrity of our pipe work but it was felt that we could take this as an opportunity to replace trees within urban areas as part of a community engagement programme. This initiative would allow us to educate communities on the beneficial aspects on native trees, improve air quality and increase canopy cover for shade.
- It was highlighted that we should be looking at local waste management opportunities to reduce logistical effects.
- It was recommended that we look to engage with parish to district councils to ensure our plans to limit effects on biodiversity meet local needs; in line with the biodiversity net gain (BNG) good practice principles¹.
- A desire was expressed to see utility companies working together more efficiently to reduce our effect on the consumers and stakeholders.
- It was suggested that greater engagement with councils over air quality, specifically, air quality management areas (AQMA) WWU should look to avoid exacerbating areas already effected by planning journeys around them wherever possible. Additionally, tackling idling was seen as important to protecting air quality but the councils were pleased to see that we are committed to operating a modern vehicle fleet.

¹ <https://cieem.net/wp-content/uploads/2019/02/Biodiversity-Net-Gain-Principles.pdf> “Principle 3. Be inclusive and equitable Engage stakeholders early, and involve them in designing, implementing, monitoring and evaluating the approach to Net Gain. Achieve Net Gain in partnership with stakeholders where possible and share the benefits fairly among stakeholders.”



- It was felt that we could do more to ensure our remediated former gasworks sites were brought back into beneficial use; for example, by proactively ensuring that they are presented in local planning department redevelopment plans.

We attended a Devon District Council organised Climate Emergency Carbon Footprinting event with a wide range of interested community members and local authority bodies. The event highlighted the importance of having an accurate carbon emissions baseline to ensure informed intervention decisions are made and progress towards Net Zero can be correctly tracked. To that end, East Devon Council is aiming to be Net Zero by 2040 and are looking to understand their carbon footprint as the first step on that journey.

WWU actively engages with other gas distribution networks (GDNs) formally within the Energy Network Association (ENA) – Environment Group. Within the group it has been recognised that we could be more successful in tackling our environmental effects if we work collaboratively towards shared goals; such as supply carbon reduction. We also actively took part in a Northern Gas Networks GD2 environmental business plan stakeholder engagement event to provide support and share insights into shared challenges and opportunities to maximise benefits across industry.

The protection and enhancement of biodiversity is a new focus area for us and as such we have sought to engage with companies pioneering biodiversity net gain (BNG). Beneficial insight into best practice and practical applications was garnered from a Westminster Briefing with contributions from Natural England, Balfour Beatty, Network Rail and LAs. This has helped us understand and define the steps we will need to take to tackle biodiversity loss, using their learning to apply a company specific metric and policies to protect and enhance biodiversity.

Use of virgin spoil and aggregate is a significant environmental impact for us. Although we have reduced our disposal of excavated soil to landfill by 38% in GD1, we want to do more. We have been proactively focused on engaging with possible innovation projects within our network that could provide a benefit to us, consumers and the wider community. During 2019, involvement with Contaminated Land: Applications in Real Environments (CL:AIRE) and the Plymouth University led 'Improving Soils and Secondary Aggregate Re-use - Next steps for the South West' highlighted opportunities to assist with the development of a best practice waste soil re-use facility within the south west of our network.

The CEG and CCG challenged us in our July and October plan over our vision for an environmentally sustainable business and our ambition. Our EAP has continually responded to these challenges and consolidates our long-term vision which has seen a significantly increased in ambition across challenged impact areas.

We have sought to understand and learn from big and small initiatives implemented by other utility companies to our supply chain. This includes how Welsh Water drive down their carbon emission to food wrapper waste stream recycling schemes successfully installed within third party consultancies.

Engagement with our employees on which environmental impacts are important or unimportant to them, as part of WWU, demonstrated that protecting the environment is important within WWU, as presented in the diagram below.



Appendix 14A – Environmental Action Plan



Overwhelmingly, WWU employees identified reducing carbon emissions and air pollution and diverting waste from landfill as a priority. We have ensured that our EAP will address these areas focussing on those that mean the most to WWU and its external stakeholders.

Finally, we continue to invest time with leading sustainability experts with cross sector knowledge on carbon, biodiversity, circular economy and resource management to ensure that our ambitions and targets are stretching, scientifically robust and will deliver tangible environmental benefits for our consumers and stakeholders.

Synthesis reports, Appendix 5F, created by third party experts, triangulating our stakeholder engagement of our environmental ambition are appended to the business plan.

Engagement informing our commitments

Further reduce gas shrinkage 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 – the equivalent of permanently taking 46,000 cars off the road.

Stakeholders have provided unanimous support for our work towards reducing shrinkage, as it impacts both the environment and the safety of our network. The CFP highlighted that 97% of a gas operators' BCF stems from leakage and was very positive about our commitment in this area.

Stakeholders (both domestic and SMEs) expressed positive willingness-to-pay for this commitment before any other, highlighting the high perceived stakeholder value involving environmental repex schemes. CCG feedback and internal stakeholder support for carbon reduction, since October, has



resulted in a pledge to undertake a trial that may provide an innovative solution to reducing re-heat gas consumption

Move 75% of company cars to hybrid or ultralow emission vehicles by 2026, explore green alternatives for our commercial fleet, and achieve a zero emissions fleet by 2035 – supporting biodiversity and improving air quality.

Whilst network leakage is the main contributor to our carbon emissions, stakeholders felt that we should not ignore smaller elements of our carbon footprint. This feedback very much supports our commitment to address company cars and our commercial fleet. Our initial draft commitments in this area did not address our fleet, only our company cars which we were challenged about at a recent Critical Friends Panel (CFP), and subsequent internal stakeholder engagement has overwhelmingly supported reducing our carbon footprint. SMEs have shown a willingness to pay for WWU's move to a green fleet. A Westminster Briefing with contributions from Natural England, Balfour Beatty, Network Rail and Las has given us beneficial insight into the protection and enhancement of biodiversity.

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.

It is evident from our stakeholder engagement since our draft July plan that there is strong support for this commitment. Moreover, the CFP consider 80% recycled waste to be an achievable target. Acceptability testing has revealed that domestic customers are willing to pay for this commitment. Challenge by the CEG and RII02 Challenge Group, and internal stakeholder support since our draft October plan, has supported our increase in ambition around waste management.

Invest £6.8m to assess, manage or reduce the negative impacts of historical gas works at around 70 sites in our communities. We propose a bespoke price control deliverable to support this.

We know that stakeholders want us to be ambitious and reduce the less environmentally friendly aspects of our activities. Our proactive land management programme and the related GD2 commitment to assess, manage or reduce the negative impacts of historical gas works at around 70 sites has received a positive response from local authorities. This ratification is important to us. We have amended our commitment in this area since the draft July plan and following feedback and acceptability testing as we wanted to make it more specific.

During 2020 we will be trialling tools and initiatives, outlined below, within the business to ensure that we are ready to maximise environmental benefits of our EAP strategy from the beginning of GD2. This will not be possible without continued engagement with our internal colleagues, industry experts, supply chain and wider stakeholders (including consumers, non-government organisations (NGOs) and local authorities (LAs)).

In GD2, we will:

Continue to formally engage with our stakeholders, adapting our focus to meet the demands of consumers, government and other interested parties.



7 Opportunities and challenges

7.1 Challenges

A wide range of challenges will face us when delivering a leading environmentally responsible gas network that provides value for money to our customers. Some of the more significant challenges include:

- The increased amount of work taking place in Devon and Cornwall within GD2 will limit the availability of local waste treatment facilities. Fewer local quarries and an increase in open cut techniques associated with the mains replacement work (see Chapter 16 'The distribution network' for more details) will be required. This could lead to an increased business carbon footprint (BCF), and greater volumes of spoil sent to landfill and virgin aggregate consumed, compared with GD1 levels.
- Solutions to deliver environmental improvements are evolving rapidly. New and exciting technology is becoming increasingly commoditised but understanding the long-term benefits that these technologies offer commonly requires extensive and complex analyses to be undertaken. Identifying which solutions will – on balance - deliver the greatest benefit, avoid obsolescence, and protect consumers from unnecessary financial burden, remains a challenge.
- As a gas distribution network, we are committed to promoting and facilitating alternative gas connections to the network. This will provide significant environmental benefit to the consumers and environment; however, we cannot directly increase the volume of gas within the network and will continue to be reliant on national and local government to facilitate the right market conditions.

7.2 Opportunities

Although challenges to delivering the EAP and wider business plan exist, we relish them as an opportunity to drive change and lead progressive, innovative thinking. Some opportunities we are looking to investigate are;

- There is a huge increased government and public understanding of the challenges facing our planet and a need to protect and enhance our environment. This movement is mandating us to tackle our key impact areas and increase our ambition. Emerging themes that we are excited to focus on with the EAP include biodiversity, air quality and a circular economy.
- Within the sphere of the future of energy a growing drive to a decarbonised energy system may see hydrogen cities and vehicles. We will look to support and promote the drive to solve the energy trilemma for the benefit of consumers now and in the future. (see Chapter 13: 'Our net zero ready vision for 2035' and associated appendices).
- Although technological advance represents a challenge they also represent an opportunity to collaborate, innovate and influence stakeholders to deliver meaningful solutions. We will proactively follow developments and embrace technological changes to drive efficiency, safety and environmental improvement.
- Over 23 councils within our network have declared a Climate Change Emergency and over the next few years will be working hard to deliver change with their districts. This provides us with the opportunity to engage on a regional and local level with the LAs and communities to support positive changes that are important to them.
- 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. We will engage with an increasingly diverse stakeholder base to help define our EAP and achieve our sustainability ambitions.



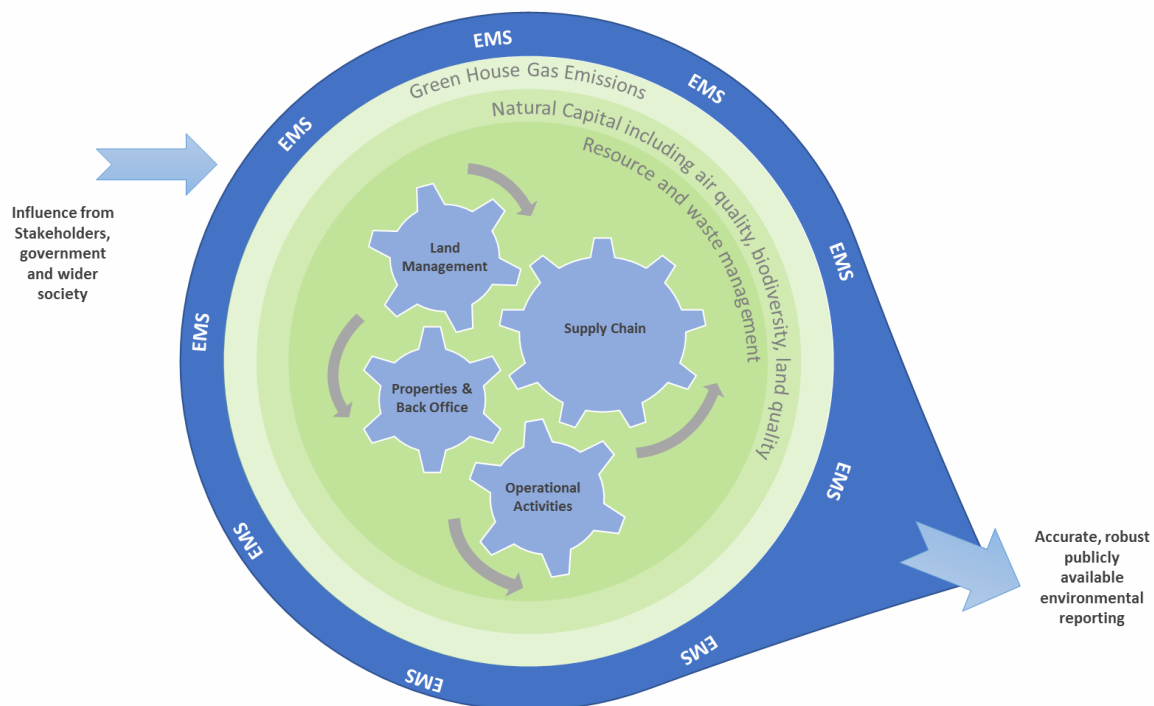
8 WWU Environmental Impact Reduction Roadmap

8.1 Environmental Management System (EMS)

Our EMS provides the framework through which we control, monitor and drive continual improvement of our environmental performance. We are proud of our accredited ISO14001:2015 EMS; achieving and maintaining our independent accreditation with no major non-conformities throughout GD1. In GD2 we commit to:

Retaining our ISO14001 accreditation by making sure that we maintain ongoing compliance with legislation, combined with continual challenge, review and improvement of the EMS and its implementation.

Our environment team will continue to support our colleagues and managers to understand and meet the expectations of government, consumers and our executive team. Being aware of the interconnections of our actions on the environment will be crucial limiting our impact and the EMS will provide the structure that underpins our continual environmental improvement.



In 2020 and subsequently within GD2, we commit to:

Publicly report on the progress of our environmental initiatives outlined within EAP on an annual basis.



8.2 Business Carbon Footprint (BFC)

Today's consumers, shareholders and governments are demanding that businesses take responsibility for their carbon emissions, and work towards a climate positive future². Legislative drivers include:

- **DEFRA Government's 25 Year Environment Plan:** the plan sets out a "comprehensive and long-term approach to protecting and enhancing the natural environment in England for the next generation". It provides an ambitious roadmap to improve the environment over the next 25 years. Additionally, the 25 Year Environment Plan³ states the Government intention to, "seek to embed a 'net environmental gain' principle for development to deliver environmental improvements". The actions outlined in this EAP will contribute towards this goal.
- **UK Net Zero by 2050:** Greenhouse gas emissions in the UK will be cut to almost zero by 2050, under the terms of a new government legislation⁴ to tackle climate change. This target has been set through an amendment to the 2008 Climate Change Act. Accelerating the 80% by 2050 compared to 1990 levels, to 100%.
- **The UK's draft National Energy and Climate Plan (NECP):** proposals for an ambitious economic relationship with the European Union along with a security partnership. Also - shared interest in global action on climate change and the mutual benefits of a broad agreement on climate change cooperation.
- **Strategy and Clean Growth Grand Challenge:** in October 2017, the UK Government published its Clean Growth Strategy (CGS) setting out ambitious policies and proposals, through to 2032 and beyond, to reduce emissions across the economy and promote clean growth.
- **Energy Savings Opportunity Scheme (ESOS):** is an energy assessment and energy saving scheme established by the Energy Savings Opportunity Scheme Regulations 2014 (ESOS Regulations). The aim of ESOS is to increase energy efficiencies to improve business profitability and mitigate climate change. WWU completed the ESOS Phase 1 assessment in 2015 and will be completed Phase 2 by 31st December 2019.
- **Task Force on Climate-related Financial Disclosures (TCFD):** TCFD disclosures are targeted at mainstream investors and are intended to help them assess whether climate risk is appropriately priced in to their valuation of our company. This reporting will be mandatory by 2022.
- **Minimum Energy Efficiency Standards (MEES) for commercial buildings:** requires landlords to ensure that buildings meet the minimum energy performance certificates (EPC) rating of E. These regulations will drive energy efficiency in WWU rented properties.
- **Streamlined Energy and Carbon Reporting (SECR):** New reporting framework for businesses operating in the UK to report energy usage and carbon emissions. Aims to improve and simplify the current business energy policy framework and encourage action to reduce energy consumption and greenhouse gas (GHG) generation.
- **Infrastructure Carbon Review:** The Infrastructure Carbon Review sets out a series of actions for government, clients and suppliers to reduce carbon from the construction and operation of the UK's infrastructure assets, in line with the UK's climate change commitments. The

² Centrica Business Solutions, Distributed Energy Trends; the insight behind sustainable business grown. 2019

³ Her Majesty's Government (2018) A Green Future: Our 25 Year Plan to Improve the Environment [Online] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/693158/25-year-environment-plan.pdf

⁴ Climate Change Act 2008 [online] <https://www.legislation.gov.uk/ukpga/2008/27/introduction>



recommendations have the potential to reduce up to 24 million tonnes of carbon and save the UK £1.46 billion a year by 2050.

8.2.1 Scope & Boundary

The purpose of this section of our EAP is to clearly define the scope and boundaries of our ambitious plan to reduce our BCF.

A science-based target is set to reduce GHG emissions in line with the latest climate change science predictions. This is necessary to meet the goals set out by the Paris Agreement, to limit global warming to well below 2°C above pre-industrial levels and to pursue efforts to limit warming to 1.5°C.

In developing our approach to our carbon reduction ambition, we approached the Science Based Target Initiative (SBTi) to understand the development timeline for a sector based approach (intensity); although a model for gas distributions is under construction it will not be available until quarter 2 of 2020. Therefore, we have adopted an ‘absolute contraction’ approach to defining our ambition; this is a percent reduction in absolute emissions required by a given scenario to all companies equally.

In line with best practice, we will be defining two science based target ambitions: one long term target in 2050, and one short term target for 2034 - the latter will be within 15 years of the baseline. Within the December EAP submission the baseline will be set to 2018/2019 base year data to provide an indicative medium term ambition. However, we proposed to review the baseline in 2020 following independent specialist contractor review and verification of our BCF.

When defining our science based target ambitions for scope 1 and 2 emissions we have chosen to include shrinkage (own use gas, leakage from the network and interference gas) within the scope 1 reporting. Although we do not include shrinkage within our scope 1 and 2 reporting in the Ofgem Regulatory Reporting Pack (RRP) environmental tables, we feel that including shrinkage provides a more transparent and fairer reflection of our impact when publicly reporting our progress. We define embodied carbon (referred to as embedded by Ofgem⁵) as the GHGs emitted during the manufacture, transport and construction of a product, together with its end of life emissions - In Life Cycle Assessment terms this is referred to as “cradle to grave”.

Within the EAP we have defined projects to target BCF reduction as:

- the mains replacement project
- land management projects
- capital delivery projects

We will define, record and reduce the BCF, including embodied carbon, on an increasing selection of these projects within GD2. Our ambition will be to understand the carbon impact of all our projects by 2026.

We will report our Scope 3 emission in line with UK best practice. Additionally, we anticipate, as directed by the Science Based Target Initiative (SBTi) that our scope three will include the use of transported gas under ‘use of sold product’; correspondence with SBTi confirming this approach attached.

8.2.2 Our Science Based Targets

Our overarching, long and shorter term ambitions for Scope 1 and 2 are:

⁵ Ofgem RIIO-GD2 Business Plan Guidance, Appendix 2: Environmental Action Plan. 3 June 2019.



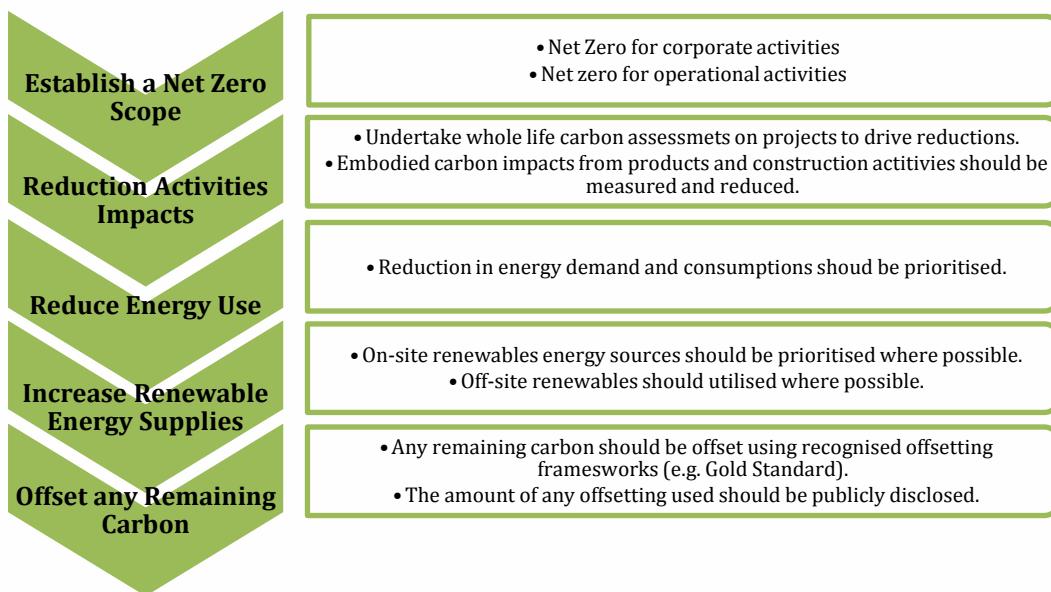
to be a Net Zero Carbon company by 2050

and deliver:

63% reduction in GHG emissions by 2034 against a 2019 baseline (1.5°C)

This represents an increase in ambition from the October submission in response to CCG feedback and stakeholder mandate. This new ambition is aligned to our net zero ready vision for 2035 and associated funding requirements. Should funding be unavailable our short term SBT ambition will revert to reducing our GHG emissions by 37.5% by 2034 (2°C).

Our road map to delivering our science based targets within our corporate BCF mirrors that provided by the UK Green Building Council (UKGBC) net zero hierarchy, below.



Applied examples include:

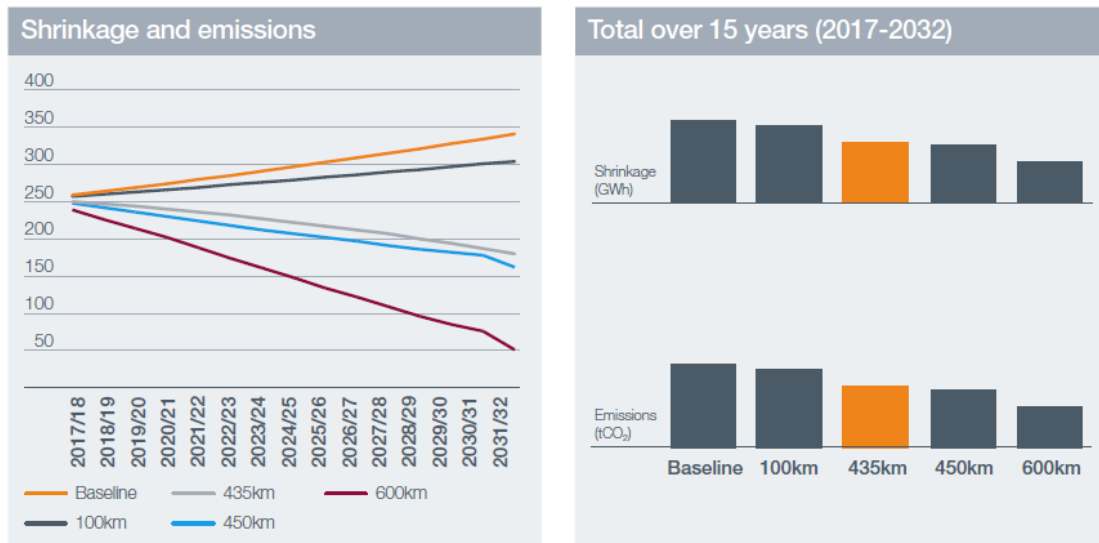
- **Gas & electricity consumption.** Through building management system reviews we will continually look to improve the efficiency of our systems. We will work hard to change behaviours to ensure energy efficiency habits are embodied within the workforce. We will look to purchase renewable energy guarantees of origin (REGO) certified, green energy supplies where the cost to our consumers is not prohibitive.
- **Vehicle emissions.** We will look to invest in alternative fuelled vehicles and anticipate that during the 2020s the technology for electric vans will support the operational needs of our fleet. We also expect to realise greater use of electric tooling over traditional fuel powered tools.
- **Fugitive Emissions (including Shrinkage).**
Air conditioning. We will continue to maintain audited air-conditioning units on our offices and depots, whilst looking more closely at emerging technologies. We will research and develop business cases for investing more environmentally friendly solutions for air conditioning units such as hydrofluoroolefins (HFOs), which are expected to be more energy efficient as well as less harmful to the atmosphere.



8.2.3 Shrinkage

Shrinkage, which makes up 97% of our scope 1 and 2 BCF, is made up of own use gas, leakage from the network and interference gas. We have two main contributors to managing and reducing leakage; mains/service replacement and pressure management.

The mains replacement programme has been efficiently reducing leakage from the network since the early 2000s by removing more leak prone metal pipework and replacing it with PE pipe. The figures below illustrate the environmental benefits of the mains replacement programmes of varying lengths, compared to the baseline of ‘do nothing’.



Our GD2 plan will replace on average 437km of mains and 18,600 metallic services per annum. This will deliver a shrinkage reduction of 10% in GD2.

In addition to replacement we will proactively manage system pressures to minimise leakage. This is becoming more of a complex challenge as we balance the network to enable green gas injection. It is also difficult to keep pressures to their current levels due to insertion of mains reducing network capacity and therefore requiring higher source pressures. We plan to invest circa £200,000 per annum in maintaining our intelligent pressure control systems. See Chapter 16 for further details.

We are committed to trial metering, monitoring and targeting of our own use (pre heat) at one of our AGIs to reduce consumption. Utilising detailed on-site information supported by existing NIC funded project data we aim to make a significant improvement to the efficiency of preheating across the network.

During the 2020s, we will further focus on other smaller contributors to leakage looking for more solutions to venting and above ground installation (AGI) leakage. Our innovation submission includes £300,000 to focus on six business areas including finding solutions to reduce emissions not related to mains and services' thereby improving our network efficiency (see Chapter 11; Our innovation strategy for further details).



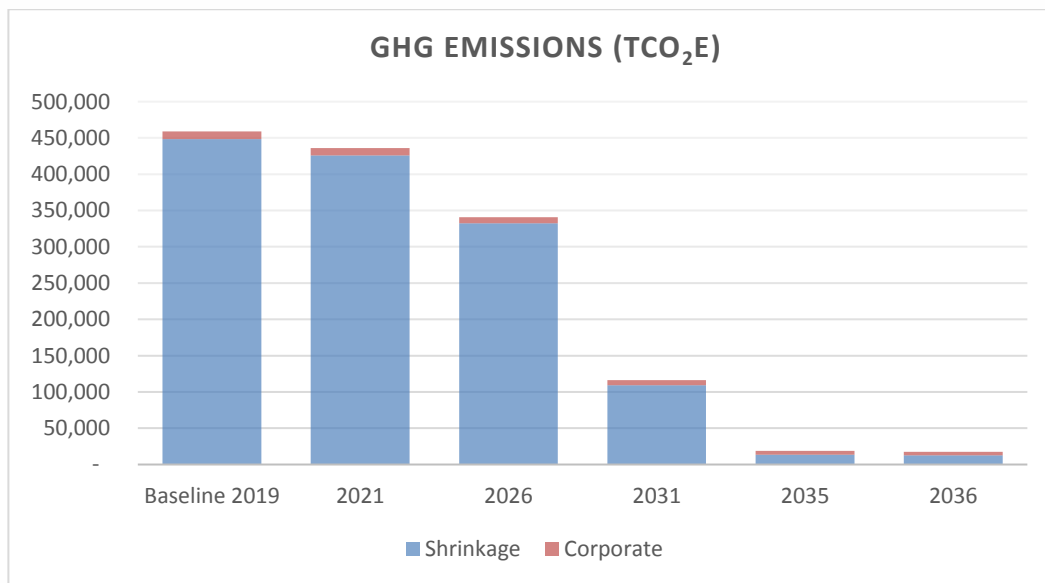
8.2.4 Decarbonisation of heat

To meet our SBT ambition will also need extensive decarbonisation of the whole energy network, heavily supported by government bodies and consumers. Details on how this may be accomplished is presented in Chapter 13: ‘Our net zero ready vision for 2035’ and associated appendices.

However, our ambition is to be:

A net zero ready network by 2035

will see a significant reduction in our scope 1 and 2 BCF. The graph below shows the forecast shift as we move towards full decarbonisation to meet our net zero vision.



These projections are based on: assumed completion of the mains replacement programme by 2032; increased work to reduce emissions from above ground installations; and an increase in the proportion of green gas (including hydrogen) that is transported by our network based on an early view of our Regional FES project results. No additional network investment will be required in GD2, above the planned mains replacement works (see Chapter 16). However, as we approach transformation in GD3 we will need to undertake specific work associated with rolling out pure hydrogen (over and above the work we have undertaken for mains replacement).

8.2.5 Our GD2 BCF Commitments

During 2020 we will

- Undertake a review of our BCF, covering Scope 1 – 3, with the support of external third-party experts to ensure our reporting is in line with industry best practice.
- Collate robust baseline data for Scope 3 emissions and specified internal projects and products.
- Develop simple tools to collate BCF data for internal and external use, including calculating embodied carbon for specified internal projects.
- Begin implementation of Scope 3 and embodied carbon monitoring processes to test tools and assumptions.
- Develop internal procedures and policies to ensure carbon reduction is integrated across the business and promoted throughout our value chain.



Within GD2 we will:

- Publicly report on our BCF within an annual environmental report detailing our progress against targets. Our BCF will be verified by a third-party expert to ensure it is accurate and robust. The report will include **details on more than 80% of suppliers (by value) that meet an updated procurement standard on carbon within identified projects.**

Scope 1 & 2

- Continue to invest in the mains replacement programme, to reduce leakage to atmosphere, as discussed above. We are committed to:

Reduce gas loss to atmosphere (shrinkage) by 10% by 2026

- Our over-arching fleet ambition is to have a

Zero emissions fleet by 2035

To meet this ambition, we will begin with the following initiatives primarily aimed at changing behaviours and beginning the transition to ULEVs whilst searching for cost efficient alternatives to our existing fleet. We will also look to take advantages of opportunities “green” the fleet from the work undertaken within to achieve our net zero ready network by 2035 (Chapter 13).

We will promote the uptake of ULEV and electric vehicles within our company by installing fast electric charging points in offices and depots and adapting our company car policy so that:

At least 75% of company cars are hybrid or ULEV by 2026

This incentivisation to transition to environmentally friendly company cars is aiming to providing “stepping stones” to influence behaviours towards zero emission vehicles. Additionally, by providing options for the length of lease of a company to between 1 and 4 years we aim to allow employees to make the best decisions for now with options to take early advantage the best available environmentally performing vehicles as soon as they become available

Tackle non-operational travel by challenging behaviours, utilising existing technology, such as teleconferencing, and encouraging car sharing opportunities to

Reduce our carbon emissions associated with our non-operational travel by 5% by 2026

Continue to upgrade the commercial fleet from Euro V to Euro VI compliant vehicles and installing telematics that will allow us to track carbon emissions from individual vehicles, assess idling times and challenge driving behaviours. This initiative could provide significant fuel savings with additional air quality and staff safety benefits.

Investigate and collaborate with third parties and distribution networks to understand potential for alternative fuelled fleet vehicles and tools.

- Practically reduce our building energy use, ensuring environmental efficiencies with all new properties are considered and installed, forging green energy contracts (REGO certified), and collating sufficiently detailed reporting to allow our energy to use to be interrogated and improved over time.



Scope 3 and Embedded (embodied) Carbon

- In GD2, we will

publicly report on and establish approaches to reduce our Scope 3 and embodied carbon footprints

Activities and initiatives that support our commitment include:

- Determining our Scope 3 (starting with a streamlined assesment using the GHG Protocol S3 Evaluator tool) BCF in line with industry best practice; allowing us to identify hotspots and to focus our carbon reduction efforts.
- Committing to set key performance indicators (KPI) for internal BCF on projects (including Scope 3 and embodied carbon) for our:
 - land management programme;
 - mains replacement programme; and
 - selected capital projects (based upon effect and contractor ability to increase in proportion over time).
- Increasing the typical weighting of minimum environmental standard of procurement questions over time to encourage SMEs to embrace the principles of carbon reporting and reduction without placing an undue burden. We feel strongly that continuing to commission locally available SMEs is important to a sustainable economy and supporting them to incorporate these principles provides the best opportunity to drive wider societal change. For example:

Example questions	2020-2021	2021-2026	2026 onwards
Does your company calculate its business carbon footprint (Scope 1 &2)?	Introduction to carbon foot printing, detailing future expectations. Increase weighting.	Increase weighting over time. Pass/Fail for "projects".	Pass/Fail
Is your company currently accredited to a {Scope 1 & 2} or similar BCF system? such as ISO 14064-1.	Introduction to carbon foot printing, detailing future expectations.	Increase weighting over time.	High weighting
Does your company calculate its business carbon footprint (scope 3)?	Introduction to carbon foot printing, detailing future expectations. Increase weighting.	Increase weighting over time. Pass/Fail for "projects".	Pass/Fail for projects and GHG intense goods and services
Is your company currently accredited to a {Scope 3} or similar BCF system?	Introduction to carbon foot printing, detailing future expectations.	Increase weighting over time.	High weighting
Please attach a document detailing how you actively reduce your <ul style="list-style-type: none"> • Scope 1 & 2 • Scope 3 (including embodied carbon) 	Introduction to carbon foot printing, detailing future expectations. Increase weighting.	Increase weighting over time. Pass/Fail for "projects".	Pass/Fail for projects and GHG intense goods and services



Can your company provide WWU an annual/project specific report on the carbon expenditure associated with delivering the procurement event goods/services?	Introduction to carbon foot printing, detailing future expectations.	Pass/Fail for “projects” Increase weighing over time; focus on GHG intense goods and services.	Pass/Fail for projects and GHG intense goods and services
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- Vary the weighting of business and product carbon questions within tender events to place greater onus on those which have a greater carbon impact.
- Develop and trial an employee scheme to install telematics (as noted above) within a set number of private vehicles on a yearly basis to drive carbon reduction and safety within communities.
- Collaborate with other utility companies to drive change in behaviours within common suppliers to drive best practice.
- During any one year, business requirements result in our employees taking air and rail travel. Therefore, we will:

Offset 100% of our rail and air travel carbon footprint

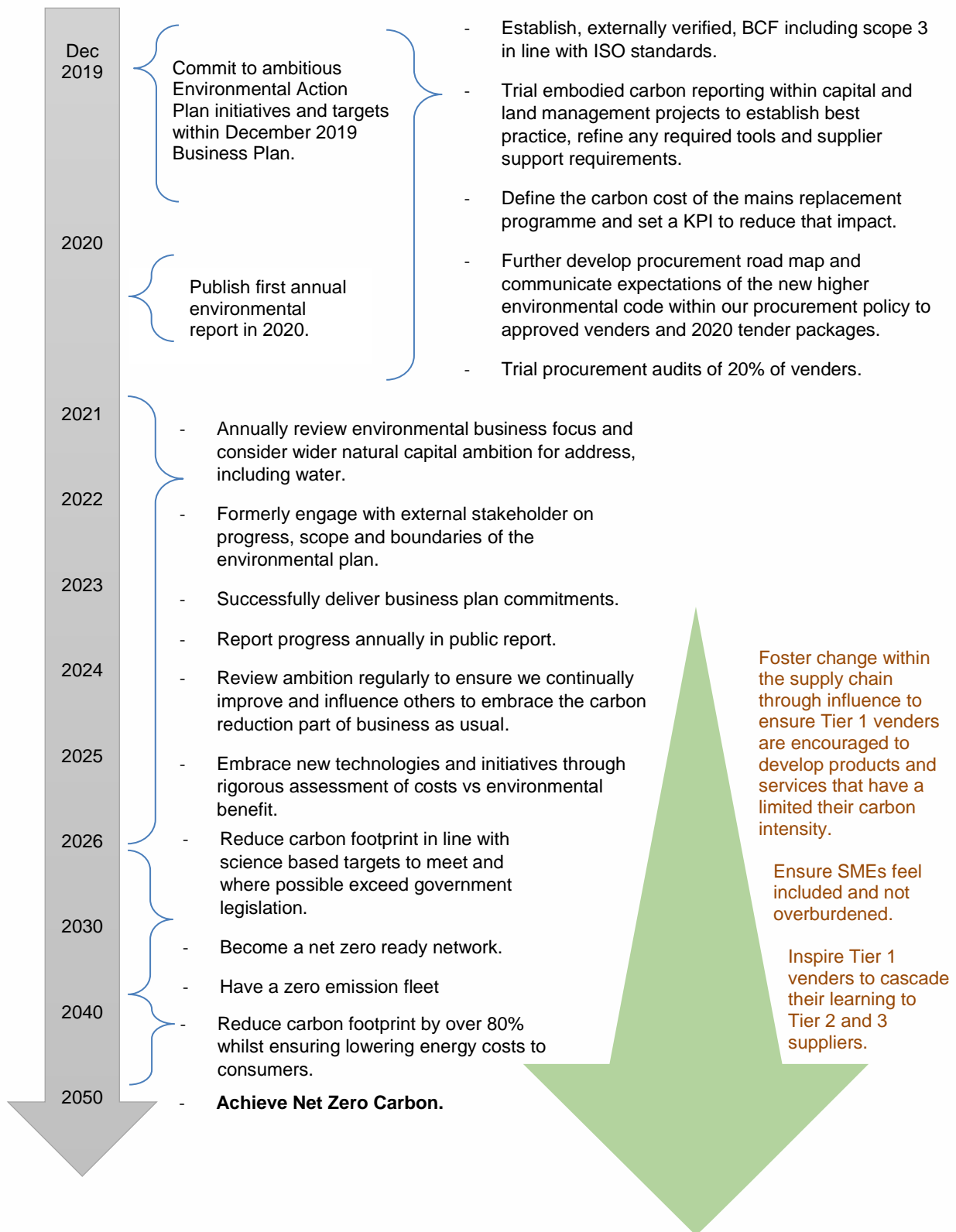
Over GD1, this has equated to offsetting up to 144 tCO₂e a year. We will invest in verifiable carbon schemes, such as ‘Gold Standard’⁶, prioritising UK organisations where possible. This will see environmental benefits including providing wildlife habitats and supporting biodiversity and supporting UN SDGs globally.

- Continuing to gradually transition our key business technology services to the Microsoft Azure Cloud (which has been carbon neutral since 2012). Worldwide, data centres draw more than 1% of the world’s electricity consumption.
- Incentivise the contracted workforce to improve efficient use of Polyethylene (PE) pipe, to reduce our consumption of PE and our BCF (see waste section).

⁶ Gold Standard [online] <https://www.goldstandard.org/take-action/offset-your-emissions>



Carbon and Climate Change Roadmap



9 Decarbonisation of Heat

In GD1, we proactively facilitated 19 biomethane connections and voluntarily reported on a range of standards associated with responding to connections enquiries.

We also connected more than 31 ‘flexible generator’ gas fired power stations supporting renewable energy creation and future-proofed our network by investing to enable the supply of greener gas. GD2 we will continue to proactively facilitate the connection of green gas to the network by:

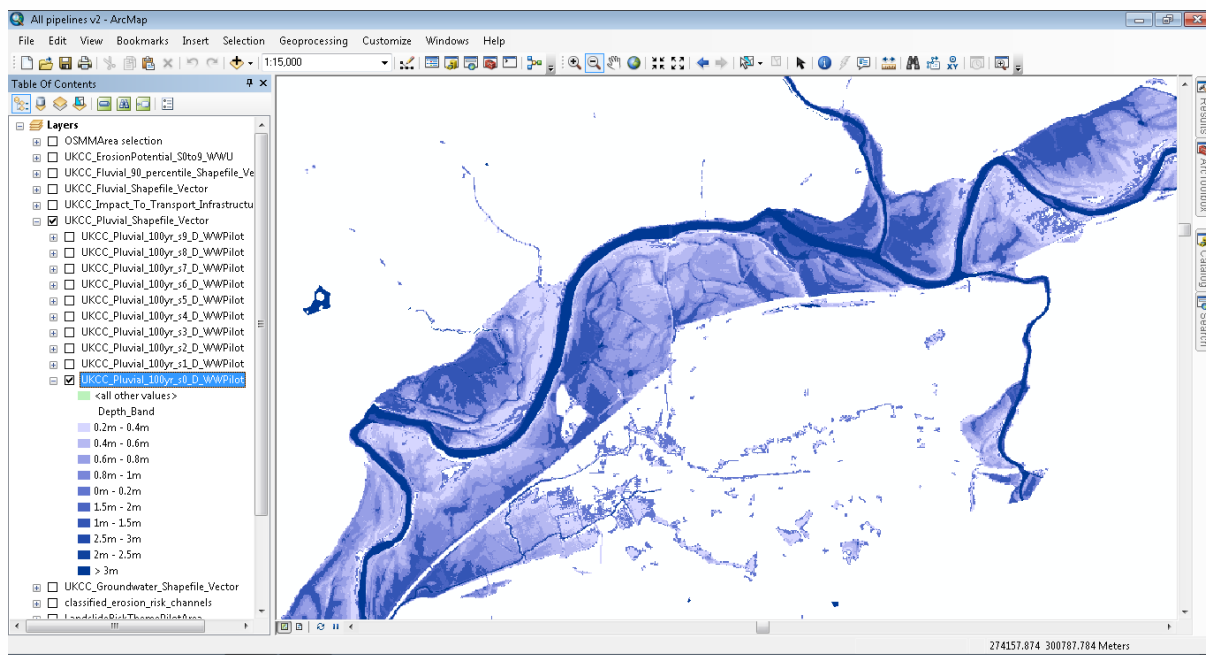
- Challenging and reducing the cost to connect green gas to the network, i.e. using available intelligent management platforms (Optinet innovation project).
- Investigating and collaborating with external parties on opportunities to establish CMG fuelling stations within the network.
- Proactively facilitating future hydrogen cities within our network.

See Chapter 13: ‘Our net zero ready vision for 2035’ and associated appendices for more details of our plan.

10 Adaptation to Climate Change

We recognise the pivotal role we play in delivering a safe and secure supply of gas to our consumers. The risk from climate change has the potential to impact upon the resilience of our network, and those with whom we hold interdependencies.

In GD1 we worked very closely with Landmark and Ambiantal to develop a suite of innovative climate change impact mapping, relevant to a wide range of sectors; an example output is presented below.



The dataset can be used to identify assets at risk in the near and long-term future; it can also be used to plan appropriate and timely investment to proactively adapt, in advance of adverse change, at the lowest cost.



In GD2 we plan to:

Test asset investments against up to date government issued climate change scenarios

Hold climate change risk assessments for key operational sites

We will utilise up-to-date government issued climate change projections, currently UKCP18, to assess the risk to the network that climate change represents. We will work with other GDNs and the Energy Network Association (ENA) to deliver, to government, a GDN holistic UK and network specific assessment of risks and management solutions.

11 Resource Management

UK waste statistics⁷, published by DEFRA in March 2019, show that:

- In 2016 Construction, demolition & excavations and commercial & industrial economic activities made up 80% of the total waste generated in the UK.
- Commercial & industrial economic activities saw an increase in waste generation of 7.8% within the UK between 2014 and 2016.
- Construction, demolition & excavation activities saw an increase in waste generation by 4.5% within the UK between 2014 and 2016.
- In 2016, the second largest tonnages of waste (58.7) million tonnes was 'Soils', representing 26% of all waste generated in the UK.

An expectation exists, from our consumers and employees, that industry must proactively manage its waste. Waste management is at the heart of our EMS and we are committed to continually improve in this context.

In GD2 we plan to improve our approach to sustainable resource management by reducing our consumption of materials, and minimising waste generation and disposal. We will also embed circular economy principles within the business and across our supply chain.

11.1 Scope and boundaries

The purpose of the following section is to clearly define the scope and boundaries of our ambitious plan to reduce our resource consumption and waste generation.

Waste has specific legal definitions depending upon the waste streams being referred to. Within our business plan we refer to waste as materials and substances that have no future beneficial use. For example,

Excavated and other arisings that would not be considered as waste are those generated either from within the boundary of a development or other source (e.g. a donor site), that meet or have been proven to:

- be clean and naturally occurring material that will be reused on the site of origin, within twelve months; or
- meet relevant waste exemption criteria; or

⁷ DEFRA UK Waste Statistics [online]

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/784263/UK_Statistics_on_Waste_statistical_notice_March_2019_rev_FINAL.pdf



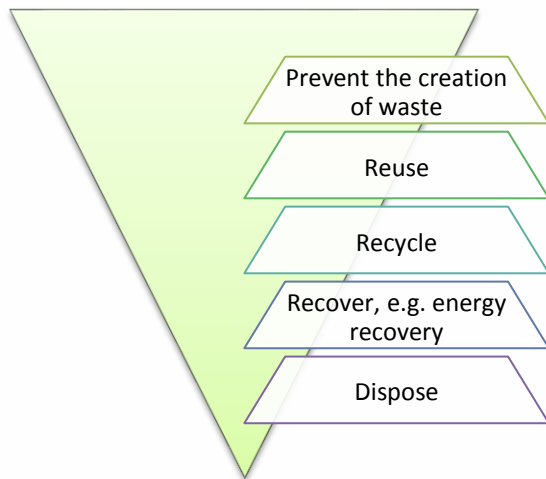
fall within the scope of and meet the following CL:AIRE Definition of Waste: Development Industry Code of Practice (DoW CoP)⁸ criteria where it is proven that:

- material that is suitable for use;
- reuse of excavated material is a certainty;
- only the required volume of material will be used; and
- the material will not harm the environment or human health.

Waste streams that are sent to energy from waste plants are not considered to be landfilled and therefore will be reported within reuse and recycling categories. Within our annual reports we will provide details of those wastes that can be defined as recovery with energy generation.

11.2 Waste

Article 4 of the revised EU Waste Framework Directive⁹ sets out five steps for dealing with waste, ranked according to environmental impact - the 'waste hierarchy'. The waste hierarchy is a fundamental principle that underpins our approach to waste management and we will continue to use it to drive environmental betterment within GD2.



Initially focusing on reducing consumption and the generation of waste, and diverting waste from landfill through reuse, recycling and recovery we will achieve our overarching long-term ambition to be a:

to be a zero waste company by 2050

To meet this ambition, we have considered our medium term ambition, which includes positive goals, such as:

Zero waste to landfill by 2035, and elimination of waste from upstream suppliers by 2049

Within GD2, we aim to

Send a maximum of 20% waste to landfill by 2026

thereby

Delivering a minimum of 80% waste reused and recycled by 2026

We are committed to publicly reporting our progress within our annual environmental report. The report will detail the wastes sent to reused, recycled and landfilled as a percentage of the total materials. To ensure we report reliable, accurate data we will undertake a review of all our waste streams during 2020 to understand the weight of waste to be disposed of (particularly where current processes utilise disposal in bulk containers).

Activities and initiatives that will contribute to the above targets will include:

⁸ CL:AIRE Definition of Waste: Development Industry Code of Practice (DoW CoP) [online]

<https://www.clare.co.uk/projects-and-initiatives/dow-cop/28-framework-and-guidance/111-dow-cop-main-document>

⁹ Article 4 of the revised EU Waste Framework Directive [online]

<https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32008L0098>



- **Spoil.** During GD2 we forecast an increase in open cut excavations, increasing the spoil volumes. We will continue to apply the waste hierarchy to manage the spoil seeking opportunities to minimise, reuse, recycle and finally disposal. Based upon the assumption that waste treatment facilities will become available within the southwest of England we will commit to:

Send less than 20% of total excavated spoil to landfill by 2026.

- **Virgin aggregate.** Greater excavations may require greater use of virgin aggregate where LAs prohibit use of recycled / secondary within roadways. We will work with LAs, industry partners (such as the Mineral Products Association) and other stakeholders to increase use of recycled aggregate where quality products can be assured.

Increase use of recycled aggregate to greater than 20% by 2026

Reducing the consumption of virgin aggregate will provide a wider environmental benefit by minimising natural capital impacts and limiting the emission of sequestered carbon from soils.

- **Reduce office consumption.** By committing to operating within the highest tiers of the waste hierarchy, we will work harder to reduce our consumption in addition to investing in better disposal practices. As a response to challenges from the CEG and CCG and support from stakeholder engagement we have increased our ambition. Therefore, we will:

Reduce office waste by over 25% 2026
Reduce paper consumption by 75% by 2026
Eliminate single use plastics by 2022

The paper and plastic targets will exclude essential customer correspondence and plastics required to deliver a safe and reliable gas network. However, we will seek to collaborate and innovate within these complex areas to determine alternatives to current practices.

- **PE Pipe.** PE pipe and fittings contributes significantly to our Scope 3 BCF. All waste PE pipe is collected from depots to be recycled by manufacturers into new PE pipe. However, we have ambitions to:

Limit polyethylene gas pipe waste to 5% by weight by 2026

Continuing to use techniques such as re-banding and service pipe bags we will improve our efficient use of PE pipe, reduce our carbon footprint, and minimise primary material consumption.

- **Hazardous Waste** – Hazardous waste continues to be systematically removed from our business, however, we still produce hazardous wastes during essential operational activities; such as oil contaminated materials, foam kits and polyform activators, anaerobic mains sealants and discarded used needles. Our aim within GD2 will be to focus on potential innovations to identify alternative processes or tools/materials to reduce our hazardous waste.

11.3 The Circular Economy

The circular economy is an alternative to a traditional linear economy (make, use, dispose) in which resources are kept in use for as long as possible, extracting the maximum value from them whilst in use, and recovering and regenerating products and materials at the end of their first functional life. Circular economy principles form part of our successful asset management strategy in that we manage our assets for long life using replacing parts to avoid wholesale replacement.



During GD2, we are committed to:

Embedding circular economy principles within the business, and measure the success of associated outcomes

To embed these principles within the business we will review and update our procurement policy, strengthening circular economy themes within it. Including:

- setting clear performance requirements
- encourage collaboration and innovation
- establish a minimum design life for different assets, and consider end of life costs within design action

In addition, we will:

- demand robust business cases, taking a whole life cost approach
- Refurbish rather than demolish, where appropriate undertaking pre-refurbishment/demolition audits.
- Increase the minimum environmental standard procurement questions for our supply chain, to include consideration of circular economy principles. These could include:

Designers & Engineers	Material Suppliers	Contractors
<ul style="list-style-type: none"> - Include circular economy in design specifications. - Engage with suppliers and manufacturers at the outset. - Design for ease of maintenance and upgrade. - Design for deconstruction. 	<ul style="list-style-type: none"> - Define end-of-life options. - Utilise take-back schemes. - Collaborate and innovate for all product life stages - Minimise waste and packaging during manufacture - Design for remanufacture - Use recycled or reclaimed materials where possible - Consider providing Environmental Performance Declarations (EPDs). 	<ul style="list-style-type: none"> - Consider a pre-refurbishment/pre-demolition audit. - Use suppliers offering circular economy benefits. - Ensure use of the waste hierarchy to maximise reuse. - Where possible procure reused or recycled materials. - Collate accurate and robust baseline data.

We will also increase the typical weighting of minimum environmental standards of procurement questions over time, to encourage SMEs to embrace the circular economy principles without placing an undue burden on our delivery partners. We feel strongly that continuing to commission locally available SMEs is important to a sustainable economy and supporting them incorporate these principles provides the best opportunity to drive wider societal change. For example:

Example questions	2020-2021	2021-2026	2026 onwards
Do you have a policy with respect to sustainability, sustainable resource management, and waste minimisation?	Introduction detailing future expectations. Increase weighting.	Increase weighting over time. Pass/Fail for "projects".	Pass/Fail
What quality/durability standards will you provide?		Increase weighting over time.	High weighting
What is your minimum guarantee and availability of spare parts?		Increase weighting over time.	High weighting



Appendix 14A – Environmental Action Plan

Example questions	2020-2021	2021-2026	2026 onwards
What criteria are applied to ensure resource efficiency during manufacture/development and use of a good/service?		Increase weighting over time.	High weighting
Do you have a policy to minimise packaging waste and subsequent reuse/recycling?		Increase weighting over time.	
Do you utilise recycled materials in the manufacture/development of your goods/service?		Increase weighting over time.	High weighting
Do you consider modular design principles within the design of your goods/service?		Increase weighting over time.	High weighting
What end of life support can you provide for your goods/service?		Increase weighting over time.	High weighting

We will vary the weighting of circular economy principle questions within tender events to place a greater onus on those which have a greater effect on the environment.

We will collaborate with other utility organisations to drive change in behaviours within common suppliers to drive best practice.

11.4 Supply Chain Reporting

In 2020, we will update our procurement policy to achieve a higher environmental code. In the revised policy, we will establish higher environmental reporting standards for our supply chain and cascade those practices to our suppliers. We will focus primarily on carbon reduction and resource management, as described previously.

We will liaise with our supply chain to influence and drive improvements. For example, during 2020 we will establish reliable metrics to provide clear and reliable data to create a baseline for supply chain performances and reporting. This will be reported in 2020 and (thereon) annually within our publicly available environmental report.

It is our ambition that:

more than 80% of suppliers (by value) will meet the environmental standards set out within our procurement policy by 2026



Appendix 14A – Environmental Action Plan

Additionally, we will report on the percentage of all suppliers which exceed the higher environmental code. The number of suppliers included within our annual report will be increase incrementally across GD2, as tender events are completed.

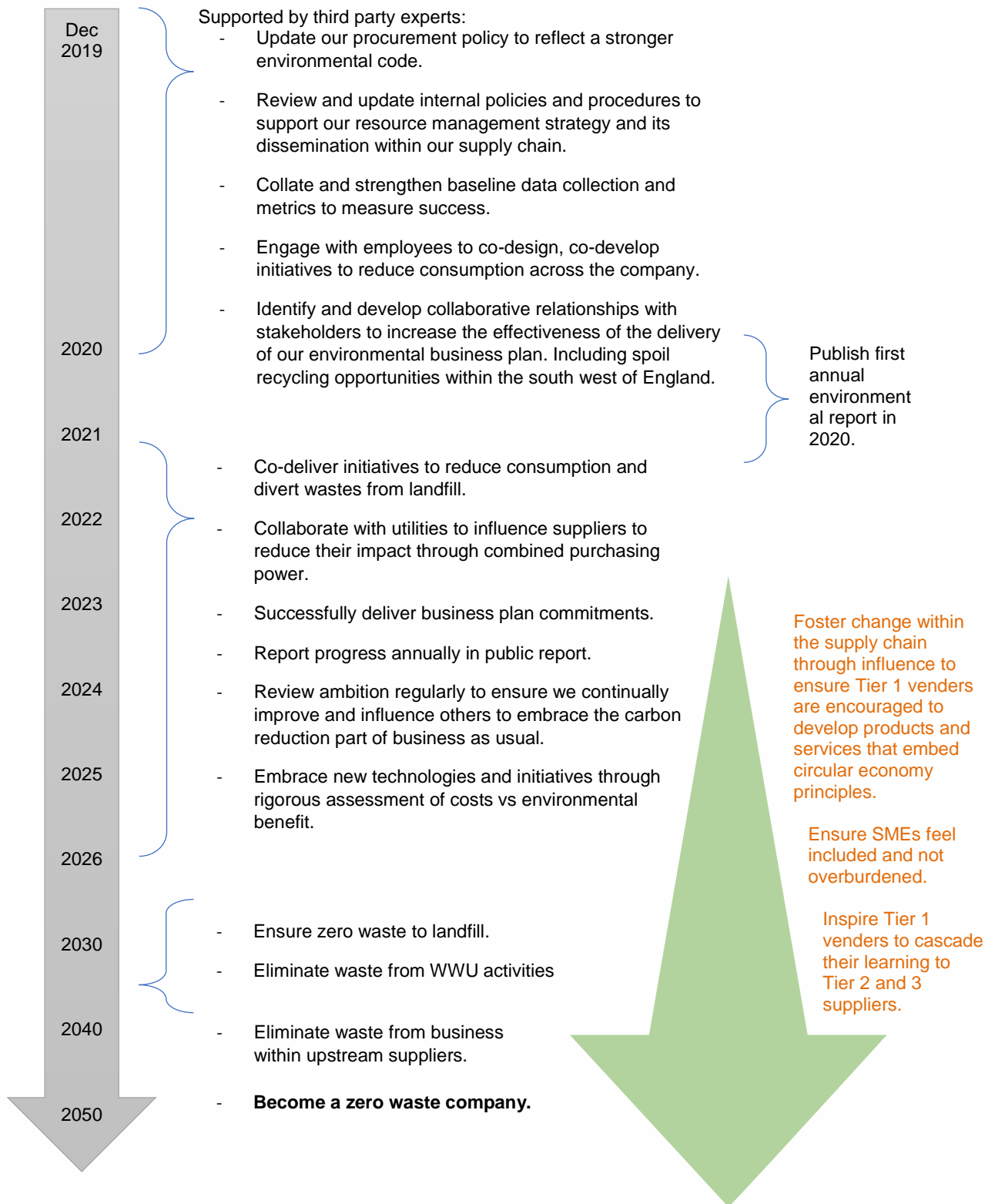
In addition, to ensure robust and reliable data is provided, we are committed to undertaking environmentally focused procurement audits of suppliers, focussing on the top 80% by value.

We commit to:

auditing a minimum of five of our main contractors (by value) annually.



Resource Management Roadmap



12 Natural Capital

As a responsible business we must protect and enhance the natural environment. It is essential that we operate in a sustainable manner to promote and enhance our natural environment now and into the future.

Our GD2 plan focusses on the areas which we understand have the biggest impact and which are of greatest importance to our stakeholders. Within the EAP we will focus on biodiversity, air quality and soil (for example, the use of virgin aggregate), with protection of groundwater being addressed in the land management programme. However, we will challenge our understanding of our impact by completing materiality assessments in line with the Natural Capital Protocol¹⁰, or similar during GD2 to ensure we continue to meet the needs of our consumers and employees.

Our long term ambition is to achieve:

natural capital net gain by 2050

12.1 Biodiversity

Biodiversity is valuable in its own right but it is also essential to the success of our ecosystem services on which we depend; for example, flood management, crop pollination and erosion control. The importance of protecting biodiversity is being reinforced by the recent surge in policy and accompanying legislative drivers:

- **DEFRA 25 Year Environment Plan:** the government's 25-year plan and associated consultation has highlighted its intention to mandate biodiversity net gain (BNG). It is anticipated that biodiversity net gain will become necessary for all developments when granting planning permission. Biodiversity net gain is an approach which aims to leave the natural environment in a measurably better state than beforehand.
- **The Environmental (Wales) Act 2016 (The Environmental (Wales) Act) and Natural Environment and Rural Communities Act 2006 (The NERC Act):** place a responsibility on us, as a statutory undertaker, to conserve biodiversity in the exercising of our function. In addition, The Environment (Wales) Act 2016 includes a requirement for public authorities to publish a plan setting out how they propose to comply with the biodiversity duty to maintain and enhance biodiversity and promote resilience of ecosystems. We will be reporting on our actions directly to Welsh Government on a 3-yearly basis.
- **The Future Generations (Wales) Act 2015:** seeks to improving ecosystem resilience is a duty under the Environment (Wales) Act as well as a well-being goal. The National Indicators measuring progress towards this goal include those looking at air pollution, greenhouse gas emissions, areas of healthy ecosystems and status of biological diversity (healthy populations of habitat and wildlife).

During GD1 our focus on biodiversity has centred around impact and effect reduction, enhancement where possible and achieving acceptable performance standards. Our long-term ambition is to:

Achieve biodiversity net gain across all our activities by 2039

with interim ambitions to help us meet this target of

¹⁰ Natural Capital Coalition, Natural Capital Protocol [online] <https://naturalcapitalcoalition.org/>



Achieving no net loss on designated projects within GD2 and Achieving biodiversity net gain on our projects from 2026

To achieve our long-term ambition, we are committed to making a measurable net gain contribution. Engagement with companies, such as Network Rail, has highlighted a potential need to trial the use of existing tools (such as the Defra Metric) to ensure it is accurate and robust when applied to projects and activities outside of a typical development scenario. During 2020 we will begin trialling appropriate processes and metrics to ensure we can deliver a reliable and accurate measure of our impact. In addition, during 2020 we will be defining what a project means to WWU and our stakeholders and how this definition can provide the greatest impact at an appropriate cost to consumers.

We will:

Develop a robust and accurate reporting tool for measuring biodiversity value

Fundamental best practice principles will be applied to our approach to BNG, including applying the mitigation hierarchy¹¹;



- Avoiding the loss of biodiversity that cannot be offset by gains elsewhere.
- Being inclusive and equitable. Forging partnerships and engaging stakeholders.
- Address risk. Being realistic about loss and gain.
- Make a measurable contribution.
- Achieve the best outcomes for biodiversity. Looking to solutions that are robust, utilise credible evidence and local knowledge.
- Being additional. Aspiring to achieve outcomes that exceed what would naturally occur.
- Creating a net gain legacy. We will achieve long term benefits by securing long term management, account for external factors and engage with stakeholders.
- Optimise sustainability. Prioritise biodiversity net gain and, where possible, optimise wider environmental benefits for a sustainable society and economy.
- Being transparent. Communicate our successes and failures in a transparent and timely manner.

In GD2, we also commit to

Understand, monitor and promote biodiversity within our long-term land assets

and

Develop and monitor a tool to robustly quantify our contribution to ecosystem services from these assets

We have over 10 long term land assets; including our head office and depots but initially excluding operational sites due to gas health and safety requirements. In 2019 and 2020 we will be utilising specialist ecological consultants to understand the potential to increase biodiversity at these sites and provide ecological refuges within urban and rural area. Initial data on a sample of the sites indicated that our holdings may typically have 0.06-0.27 biodiversity units (Defra Metric 2.0) and 0-0.9 ecosystem services score (Natural England's Ecometric).

¹¹ Biodiversity Net Gain: Good practice principles for development © CIEEM, CIRIA, IEMA, 2016



We will look to implement suggestions into GD2 to deliver long term tangible enhancement to biodiversity and ecosystem services which will be reported annual within our public environmental report. Although, these metrics show limited current benefit we see value in protecting and enhancing their cumulative contribution. This will include our Bristol pilot project where a depot development will be undertaken in a designated Site of Nature Conservation Interest (SNCI). This project allows us to make a measurable contribution to Bristol City Council’s Biodiversity Action Plan. To maximise the associated benefit, operational safety, and the potential for sites to be brought back into wider beneficial use, will also be taken into consideration as part of the assessment process.

During 2020 we will establish a reliable process of measuring the impacts on biodiversity that our operations create. Our approach will incorporate the above-listed biodiversity principles, and integrate them into each stage of delivery; for example:

- Opportunity stage – using existing high level environmental constraint data to identify the presence of high value biodiversity.
- Project design assessment – use our development BNG metric to understand the value of biodiversity affected by the project.
- Engagement – engage with stakeholders, including LAs, wildlife groups, ecologists to determine the most effective application of the mitigation hierarchy.
- Project delivery – re-assess the BNG metric and project plan considering any project variances.
- Report – report on the success of any works undertaken and provide information to help inform future management plans.

We will initially be focussing on those projects where we will have the greatest impact and expanding to cover a greater proportion of our projects through GD2 and beyond. Our commitment is to:

Develop and apply our biodiversity metric monitoring tool to designated projects

Within GD2 we will aim to achieve no net loss on designated projects with the ambition of achieving BNG on all project from 2026. The projects will span operational areas including new connections, capital projects, pipelines, mains replacement and land management. Initially focusing on project where the greatest impact is anticipated we will increase the assessments to all projects over time.

To ensure the integrity of the network we are sometimes required to remove trees which represent a risk to the pipeline and (therefore) the communities in which we work. We recognise that this has a negative impact on biodiversity within our network. As such we are committed addressing this impact by collaborating with stakeholders within Wales and the South West to support afforestation across the network in long term managed schemes. We are committed to:

Planting 5 trees for every tree we cut down

We will encourage our employees to use their volunteer time to support this initiative. Our staff will take pride and gain personal satisfaction in helping deliver our environmental principles, the outcomes from which they can then take and share within their own communities.

During engagement with LAs on the business plan it was suggested that we may be able to initiate schemes, in collaboration with councils, to engage with school children to plant trees within their urban environment. We think is an excellent opportunity to increase biodiversity, engage children (and by extension their communities) in the scientific benefits of nature i.e. improvements in air quality, carbon sequestering, health and quality of life. We will actively seek opportunities to roll out this initiative within GD2, aiming to deliver at least one tree planting / education visit each a year. The cost of implementing this initiative and associated engagement initiatives has been addressed by our



consumer value proposition (CVP). The CVP has shown that for each £1 spent on this initiative a consumer benefit of £11 will be achieved, see Appendix 2C17.

12.2 Air Quality

Air quality has been rising up the public agenda in recent years. Statistics published within mainstream media¹² suggest that air pollution cuts the average lifespan of people around the globe by almost two years. Air pollution is not only a major risk to human health; it also has significant effects on the environment. It has damaging effects on both plants and animal communities, so by tackling air quality we will also help the wider preservation of biodiversity.

Air quality forms part of the Defra 25 Year Environment Plan and increasing legislative drivers add weight to public concerns. For example;

- **The Clean Air Strategy (CAS) 2019** – advocates a robust evidence base, supported by up-to-date science, as essential to tackling the impacts on human health and the environment whilst securing clean growth.

In GD2, we are committed to:

Understanding our impact our business has on air quality and making significant steps to minimise it.

To achieve this target, we will be utilising specialist support to produce a robust evidence base to drive improved process and decision making in GD2. We will report our progress within our publicly available annual report and develop challenging targets to ensure continual improvements.

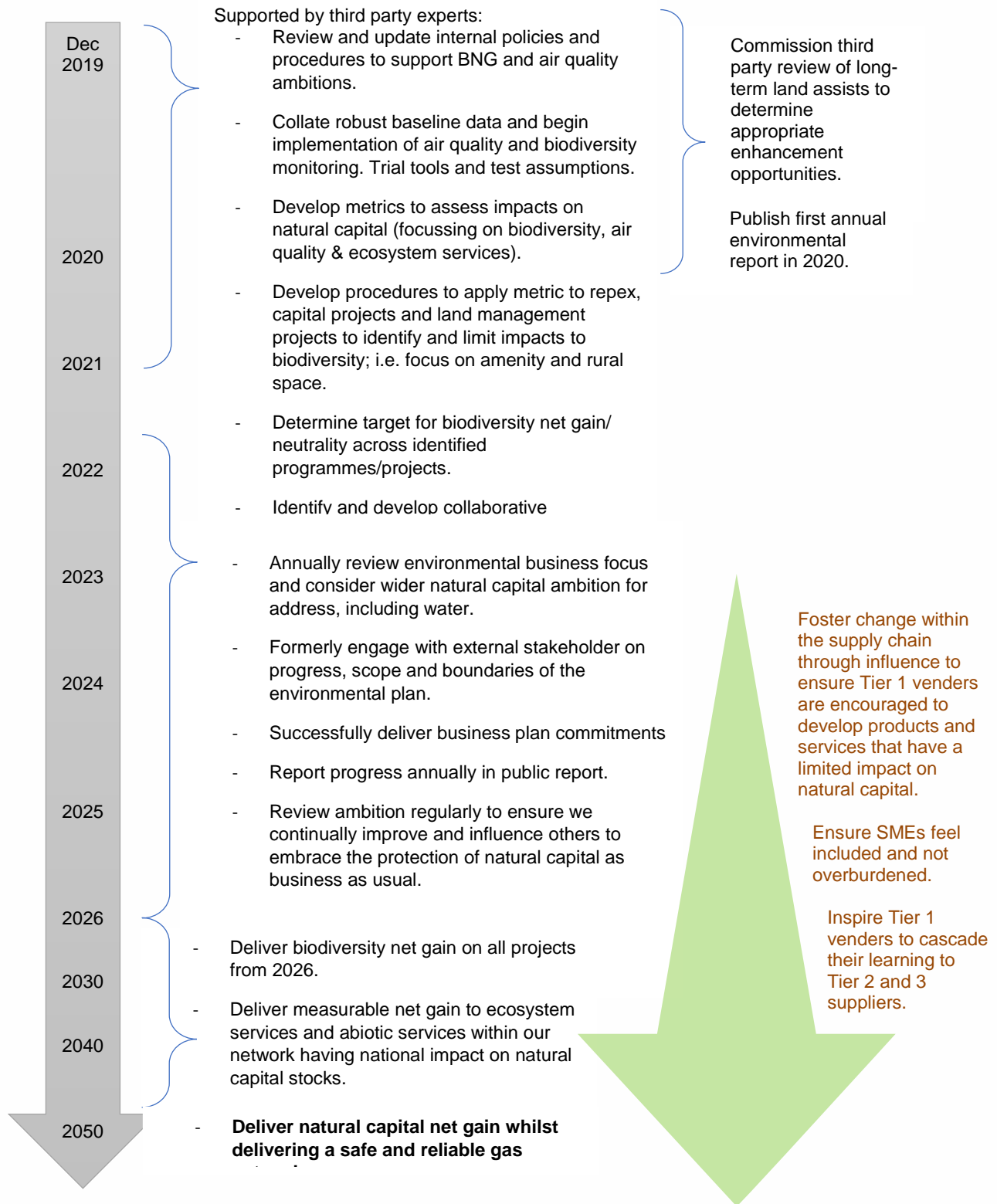
Furthermore, we will start several initiatives within 2020 to drive wider positive change:

- People, especially the elderly and those with health conditions like asthma and heart disease are more at risk from poor air quality. Young children are at risk of life-long health effects like asthma because of exposure to air pollution. We will plan all street works with due regard to vulnerable customers, and hence limit the impact we have on local air quality.
- Our commitments to improve our vehicle fleet, increase uptake of electric and ULEV company cars, and install car telematics, will benefit the communities we work within.
- Our biodiversity pledge to plant trees in both urban and rural areas and our commitment to meet no net loss for biodiversity on projects will both benefit air quality as our actions will encourage particles, odours and pollutant gases such as nitrogen oxides, ammonia and sulphur dioxide to settle on the leaves of trees. We will aim to select trees which naturally absorb these toxic chemicals effectively filtering these chemicals from the air.
- During engagement, with Swindon Borough Council, about our environmental business plan, it was suggested that we could engage with them to understand where air quality management areas (AQMA) are located. Using this information, we will look to adapt our logistic procedures to avoid using these locations where practical, to reduce our contributions to local emissions. We will adopt this initiative in 2020, and measure and report on success annually.

¹² Guardian [online] <https://www.theguardian.com/environment/2018/nov/20/air-pollution-cuts-global-average-lifespan-by-nearly-two-years-study> and <https://aqli.epic.uchicago.edu/reports/>



Natural Capital Roadmap



13 Contaminated Land Management

We own a land management portfolio of 167 former gas production sites. The historical use of these sites has led to poor land asset health.

We have a duty of care under Part IIA of the Environmental Protection Act (1990) to ensure our assets do not pose a significant risk of significant harm to human health, controlled waters (surface and groundwater bodies) and the environment. Failure to appropriately manage our land assets could result in the irreparable damage of human health, controlled waters and the environment, the outlay of significant financial costs and regulatory enforcement.

Our long term ambition is to reduce the contaminated land risks posed by our portfolio to a minimum. To divest ourselves of contaminated land sites, where appropriate, to bring them back to beneficial use and reduce future consumer investment requirements.

The condition of these assets is monitored and maintained as part of a rolling annual land management programme. The programme allows the effective management of all the sites, primarily focusing on their changing risk status; understanding and reducing the possibility of harm through effective interventions and remediation, as required.

Detailed analysis of our approach and options considered to managing our contaminated land risk is presented in the Land Management Engineering Justification Paper Appendix 15B7.

Stakeholder engagement with local authorities and our critical friends panel has been in favour of our continuation to proactively manage our contaminated land portfolio. In GD2, we commit to

Delivering 85 land management outputs

We will achieve this through proactive, cost effective, robust risk management techniques developed over GD1. Taking opportunities to innovate and collaborate with stakeholder and communities. The anticipated outputs will be:

Output Description	2021/22	2022/23	2023/24	2025/26	2026/27
Routine Monitoring & Maintenance	23	15	10	24	5
Statutory Land Remediation	-	2	3	-	-
Statutory Land Remediation (Gas Holder Demolition Aligned)	-	1	-	2	-
Non Statutory Land Remediation	-	-	-	-	-

Our, award winning, land management programme will benefit local communities and the environment long into the future. Examples of this from GD1 include taking opportunities to liaise closely with stakeholders invested in and influenced by our programme. At our stakeholder engagement events, representatives from central government and LA have praised our proactive approach to our contaminated land portfolio management as excellent, professional, thoughtful and a positive proactive approach.

Maggie Charnley, Defra

“It’s inspiring to see a company grasping the challenge of climate adaptation so firmly, leading the sector in applying new techniques. By taking a proactive approach, and building climate forecasting into Detailed Quantitative Risk Assessment, Wales & West Utilities are making sure that the actions



taken now will withstand the more extreme weather events of the future, as demonstrated in Briton Ferry.”

Hugh James, Mayor of Neath Port Talbot

“It is really satisfying to see the benefits that Wales & West Utilities are bringing to Briton Ferry- not only including the work they are carrying out in the area, but also the money they have raised to benefit local children. It will really make a difference to teaching and learning at the school.”

The land management programme will also seek opportunities to promote BNG and reduce embodied carbon within the projects (as described previously). We will be challenging our supply chain by building the protection of natural capital and reduction of carbon into tenders and then setting KPIs across project lifecycles.

During engagement with a LA about our environmental business plan it was noted that some of our remediated sites could be of beneficial use to the communities in which they are located. As such we are committed to ensuring that all sites that are suitable for development are referred to local planning departments for inclusion within their strategic development planning.

14 Integrated business approach to EAP

To successfully integrate the business and behavioural changes outlined within our ambitious EAP we will focus on the following key areas:

- **People**

Employees, collaboration with stakeholders and specialist technical support will be key to providing the right structures to enable the transition of our EAP initiatives to business as usual. Clear roles, responsibilities and relationships will need to be established to create appropriate expectations and foster good working relationships.

Employees from all over the business will be called upon to co-design, co-produce and co-deliver strategies; ensuring that the delivery teams feel a sense of ownership, involvement and enthusiasm. Sponsorship of initiative from senior managers and members of the company executive will provide credibility and support for initiative driving environmental improvement. Examples might include:

- Creating cross directorate group to meet and drive environmental change across the business
- Creation of environmental forums, suggestions email and “environmental champions” to allow all staff to make suggestions offer support, request support for work or community initiatives.
- Understanding and promoting employees taking positions of responsibility within their communities and supporting them to achieve aligned environmental goals.

Integrate with communities – i.e. LA and NGOs. Stakeholders (proactive stakeholder engagement commitment to continual engagement throughout GD2 through a stakeholder engagement plan for a cross section of consumers and stakeholders).

- **Results and outcomes**

Our annual report and internal communications will provide updates and feedback on the environmental benefits that are being achieved. this will allow employees to take greater pride in their work and influence them to translate that change in behaviour into their communities and drive wider environmental improvement.

We will look to reward good environmental performance – for example, offering opportunities to take part in the tree planting initiative within communities.



15 Option Appraisal and Value for Money

15.1 Options

A wide range of environment 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.

Examples of ideas not carried forward into the environmental strategy as targets include:

Convert 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 now. 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.

Increase biomethane/green gas connections by a set value – during GD1 we are proud to have connected 19 biomethane connections and participated in studies considering alternative green gas. Going forward into GD2 we cannot dictate third party appetite into green gas solutions, but we can encourage it by making our networks accessible.

Reduce the impact of all operations on natural capital (biodiversity and air quality) by 30% by altering processes and biodiversity offsetting – we understand that we have responsibility to protect and enhance natural capital and have challenging long term goals to do so. In GD2 we will take opportunities to reduce our impact but to ensure we maximise any long-term benefit we need to establish robust and reliable metrics. With a sound, scientific approach to these complex issues we can ensure value for money for our consumers.

Offsetting our entire business carbon footprint – offsetting our carbon footprint was considered as an option. However, we discounted this for a number of options:

- We feel offsetting should be used when all other carbon reduction options have been explored.
- We calculated the costs associated with this option, see table below;

Options	Spend Per year (£M)	Estimated Total GD2 Spend (£M)	Average Cost to Consumers /yr of GD2
All Carbon Emissions	6.46	32.31	2.59
Scope 1&2 Emissions	0.17	0.83	0.07
Scope 3 Emissions	0.07	0.37	0.03
Shrinkage	6.22	31.11	2.49

* Based on 2018/19 prices and 2018/19 RRP carbon reporting (Table 7.6)



We believe that the cost to consumers is too great and provided no betterment associated with business practices. However, the exercise highlighted that we will continue to need to fly and use trains for business travel and that whilst we will try and reduce this transport use offsetting the carbon emissions represents a good option for unavoidable travel.

Mains replacement programme – As discussed above in section 7.4 and Chapter 16 (The distribution network) we considered, with support of our stakeholder engagement, several mains replacement options within our optimisation tool AIM. We developed a number of workload scenarios, with associated outputs and cost benefit analysis compared to a do-nothing scenario. The mains replacement option we have offered within the business plan and considered options are detailed in Engineering Justification Paper 15Bj and CBAs 15A, 15Aq and 15Ar.

Decarbonisation of heat – As discussed in Section 13 (Our net zero vision for 2035) we have considered future energy scenarios and considered areas such as our stakeholder feedback, regional variances, risk. Our

Details of the estimated environmental benefit of the business plan in GD2 and beyond, including baseline data (on available impact areas) is presented in the Business Plan Data Tables 5.16 and 5.10.

15.2 Value for Money

Our EAP will look to maximise the environmental benefit of any investment made by consumers. We will look to align our business decisions with our sustainability ambition where possible and drive efficient and effective procurement procedures to drive down costs and innovative thinking. The majority of the EAP costs have been formulated to provide the minimum spend to meet mandated requirements. Other large investments are fully costed and option appraised (i.e. Land management, repex, decarbonisation of heat).

Delivering a sustainable gas distribution network without burdening consumers with excessive costs has been a key consideration to the formation of our EAP. We believe making the best business decisions should go hand in hand with making great decisions for the environment.

The table below provides a summary of the budgeted costs to deliver the EAP, excluding costs associated with the decarbonisation of heat and mains replacement programme (see relevant sections of the business plan).

Deliverables	Total Cost in GD2 (£M)	Estimated spend per year (2018/19 prices) (£M)					Average Cost to Consumers /yr of GD2
		21/22	22/23	23/24	24/25	25/26	
EAP	£2.65	0.57	0.52	0.52	0.52	0.52	21p
<i>Minimum Requirements</i>	£2.29	0.49	0.45	0.45	0.45	0.45	18p
<i>Special Initiatives</i>	£0.35	0.08	0.07	0.07	0.07	0.07	3p
Land Management	£6.86	1.03	2.18	2.60	0.84	0.21	54p

Note: See chapter 13: Our net zero ready visions for 2035 for details on Greening the gas.

Delivery of the minimum EAP requirements, mandated in Ofgem guidance, comprise the majority of the EAP cost with approximately 40% comprising increase full time employees. Special initiatives, over and above the minimum requirements including tree planting and community projects will see £11 of social benefit for every £1 spent, see Appendix 2C17.



Appendix 14A – Environmental Action Plan

Other initiatives, such as eliminating single use plastic have costed to drive value for money. By looking at the replacement of drinking water for teams with re-usable bottles we anticipate a cost saving which we will use to fund other elements of delivering the commitment, such as replacing plastic items with a more durable solution such as office cutlery

Details on the cost and justification and options, considered and modelled, for the continuation of our award-winning, proactive, land management programme is presented in Appendix 15B7: Land management engineering justification paper.

The mains replacement financial options and associated value for money offered to our consumers are detailed in the following Appendix: Engineering Justification Paper 15B4 and CBAs 15A4.



16 Carbon Impacts Claimed in the Investment Decision Packs

We believe that making the correct business decision results with the right environmental decision for our consumers. Within our business plan we have considered carbon impacts, but no significant investments have been designed solely to reduce our carbon emissions. Stakeholder engagement within industry has demonstrated to us that a successful business model can deliver low cost and low carbon.

The table below, summaries the carbon savings we estimate to achieve during GD2 and beyond from our asset plans, whilst delivering an efficient, low cost, safe and reliable gas network.

CBA	ref	Carbon saving during GD2 (tCO₂e)	Carbon Saving to 2070 (tCO₂e)
General pipelines	15A1.3	2	280
LTS Pipeline Replacement HN039	15A1.4	48	618
Offtake preheating	15A2.1	-	-
PRI preheating	15A2.2	7,533	20,855,480,531
Offtake filters	15A2.3	623	269,545
PRI filters	15A2.4	5,530	9,787,121
Offtake pressure control	15A2.5	-	52,251
PRI pressure control	15A2.6	37,829	25,882,675
Odourant	15A2.7	1	710
Metering	15A2.8	-	-
District Governor	15A3.1	3,008	88,662
I&C Governor	15A3.2	51	1,423
Service Governor	15A3.3	611	15,162
Tier 1 mains	15A4.1	291,009	37,669,226
Tier 2 mains	15A4.2	31,548	3,884,016
Tier 3 mains	15A4.3	6,410	829,254
Steel mains	15A4.4	37,708	5,025,777
Risers	15A5.1	2,061	42,559
Services	15A6.1	34,944	759,787
		458,928	20,939,795,692

Detailed assessment of the engineering justification and associated cost benefit analysis is presenting in Engineering Justification Paper 15B and CBAs 15A



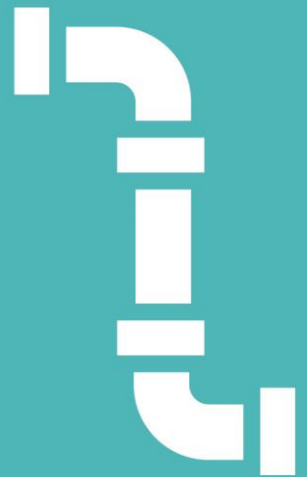
17 Supplements

1. Impacts and Aspects Register (extract)
2. SBTi Extract Corresponded – Scope 3 inclusions.





Supplements



Impacts and Aspects Register (extract)

ASPECT	IMPACT AREAS	Life Cycle Stage	Inherent Environmental Significance score	Current likelihood score	Environmental burden (current controls) score	Current Environmental Risk score	Burden on Environmental element(s)
Use of fuel in vehicles & plant	Air pollution from exhaust emissions + depletion of non-renewable resource	Use	25	5	3	15	Energy or fuel use. Emissions
Use of water for pressure testing & other construction activities	Depletion of renewable resource	Use	9	1	4	4	Environment legislation
	Disposal site/receptor	End of Life Treatment					
Use of aggregate as backfill	Depletion of non-renewable resource	Use	25	5	4	20	Depletion of non-renewable resource. Impact on local environment (aggregate sources).
		Use					
Production of inert waste (excavation materials)	Filling of landfill site	Use	25	5	3	15	Waste produced and transport-related emissions.
Business travel (Ofgem reportable)	Fuel Use, vehicle maintenance.	Use	20	5	3	15	Fuel use. Emissions produced
Production of PE pipe	Depletion of non-renewable resource	Use	20	5	4	20	Operational emissions. Depletion of oil resource.
Production of hazardous waste including asbestos	Filling of landfill site and/or impact of incineration.	Use	9	3	3	9	Environment legislation
Production of general waste	Filling of landfill site	Use	9	2	2	4	Waste produced
Production of noise from plant	Nuisance to local residents	Use	12	3	3	9	Environment legislation
Potential for accidental spillage from handling & storage of chemicals, lubricating oils & oils, pesticides and herbicides for example.	Contamination of ground	Use	9	2	3	6	Environment legislation Unplanned incident
	Contamination of surface water	Use	15	2	3	6	Environment legislation
	Contamination of ground water	Use	9	2	3	6	Environment legislation

The likelihood score must be based on the table below

Score	Descriptor	Description
1	Rare	May occur in exceptional circumstances
2	Low	Is unlikely to occur – once per year
3	Moderate	Will possibly occur once per month
4	Likely	Will occur once per week
5	Continuously	Occurs each day

The environmental burden score must be based on the tables below

A score must be documented against each column – legislation, unplanned incident, operational emissions, waste produced & energy water or fuel use.

Burden on environment					
Score	Legislation	Unplanned Incident	Emissions to air	Waste produced	Energy or fuel use
1	Aspect not covered by legislation	Minor spillage to ground or release of gas – no impact on environment	No emission to air	No waste produced	No energy, water or fuel use
2	Aspect not covered by legislation	Release of liquid less than 5 litres or less than 100 kg solid to ground, which is contained on a WWU site.	Less than 0.5 tonne per annum	Less than 10 tonnes to landfill per annum	Less than 200MWhr of energy or 1,000 m ³ of water or 1,000 litres of fuel used per annum
3	Aspect covered by legislation, consent to discharge or authorisation and no breach of law or conditions in consents or authorisation within last 3 years	Release of over 5 litres of liquid or over 100 kg solid to ground. Release of over 0.5 tonnes of gas or 1 litre of odourant. Any breach of WWU's environmental procedures. Flipping, noise, odour or nuisance complaint.	More than 0.5 tonne & less than 100 tonnes per annum of natural gas, carbon dioxide, NOx or 2,000 tonnes of CO ₂ e per annum of a greenhouse gas	Less than 100 tonnes to landfill per annum	Over 20MWhr & less than 200MWhr of energy or over 1,000 but less than 5,000m ³ of water or 10,000 litres of fuel used per annum
4	Aspect covered by current or future legislation, consent to discharge or authorisation and no breach of law or conditions in consents or authorisation within last 12 months	Release of over 5 but less than 1,000 litres of liquid or over 100 kg but less than 20 tonnes solid to ground. Release of over 20 but less than 200 tonnes of gas or 10 litres of odourant. Minor damage to environmentally sensitive site, listed building, archaeological site or protected tree, plants or animal. Pollution or damage incident, which will not lead to prosecution, enforcement notice.	Over 100 but less than 30,000 tonnes per annum of natural gas, carbon dioxide, NOx or over 2,000 but less than 500,000 tonnes of CO ₂ e per annum of a greenhouse gas	Over 100 but less than 1,000 tonnes to landfill per annum	Over 200MWhr but less than 1,000 MWhr of energy or over 5,000 but less than 20,000 m ³ of water or over 10,000 but less than 1.0million litres of fuel used per annum
5	Aspect covered by legislation, consent to discharge or authorisation and there has been a breach of law or conditions in consents or authorisation within last 12 months	Release of over 1,000 litres of liquid or over 20 tonnes solid to ground. Release of over 200 tonnes of gas or over 10 litres of odourant. Major damage to environmentally sensitive site, listed building, archaeological site or protected tree, plants or animal. Pollution or damage incident, which may lead to prosecution, enforcement notice.	Over 30,000 tonnes per annum of natural gas, carbon dioxide, NOx or over 500,000 tonnes of CO ₂ e per annum of a greenhouse gas	Over 1,000 tonnes to landfill per annum	Over 1,000 MWhr of energy or over 20,000 metre cubed of water or over 1.0 million litres of fuel used per annum



Extract of SBTi Carbon Model & Corresponded on Scope 3 inclusions.



SCIENCE
BASED
TARGETS

Science-based Target Setting Tool

Version: Version 1.1

Support: info@sciencebasedtargets.org

Section 1. Input data

Target setting method	Absolute Contraction Approach	
SDA scenario		
SDA sector		
Base year	2019	Dropdown
Target year	2034	Dropdown
Projected output measure		
Base year output		
Fixed market share		
Scope 1 emissions	419,108	tCO ₂ e
Scope 2 emissions	1,182	tCO ₂ e

Section 3. Absolute Contraction Approach

Well below 2 degree scenario (WB2C)

[Review all target modelling data](#)

	Base year (2019)	Target year (2034)	% Reduction
Scope 1 emissions (tCO ₂ e)	419,108	261,943	37.5%
Scope 2 emissions (tCO ₂ e)	1,182	739	37.5%
Scope 1+2 emissions (tCO ₂ e)	420,290	262,681	37.5%

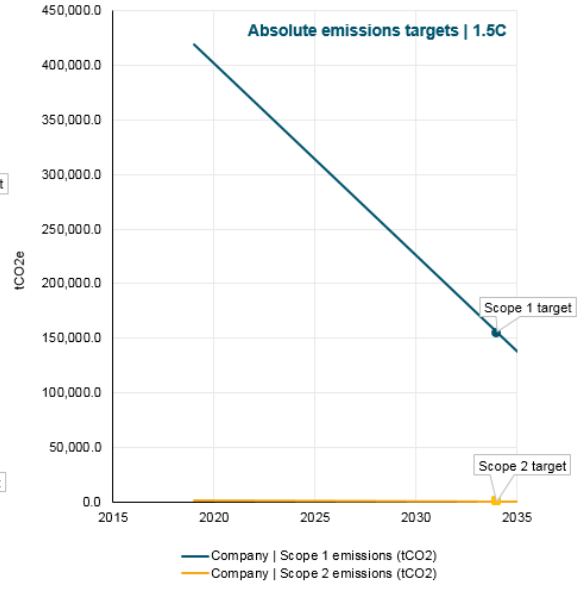
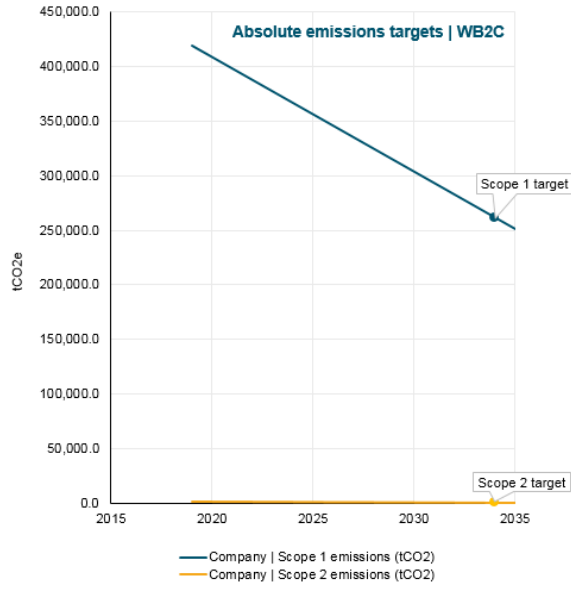
1.5 degree scenario (1.5C)

[Review all target modelling data](#)

	Base year (2019)	Target year (2034)	% Reduction
Scope 1 emissions (tCO ₂ e)	419,108	155,070	63.0%
Scope 2 emissions (tCO ₂ e)	1,182	437	63.0%
Scope 1+2 emissions (tCO ₂ e)	420,290	155,507	63.0%



Appendix 14A – Environmental Action Plan



SBTi Email




Thu 03/10/2019 15:22

Tapson, James <James.Tapson@wsp.com>

FW: SBT queries - gas distribution network

To Sarah Gillard

Cc Epsom, Robbie

 You replied to this message on 03/10/2019 15:25.

Dear James

Here are the answers to your questions:

1. CDP is currently working on the sector guidance for oil and gas. We are expecting it to be ready in Q2 of next year.
2. Oil and Gas companies may set science-based targets that are aligned with version 4 of the [SBTi criteria](#). This means that both S1+2 and S3 emissions would need to meet the well-below 2C pathway. Criteria C19.2 highlights that companies that sell, transmit, or distribute natural gas or other fossil fuel products shall set absolute or intensity percentage-based emission reduction scope 3 targets for the use of sold products consistent with well below 2°C thresholds established using the absolute contraction approach (2.5% linear annual reductions over the target period).
3. Yes, they are still required to set targets around the use of sold products – even if they do not own or sell the gas. This is primarily due to the fact that these companies are operating key oil and gas infrastructure and hence are not exempt from ambitious decarbonisation action.

Kind regards,

The Science Based Targets initiative

De: Tapson, James <James.Tapson@wsp.com>

Enviado el: lunes, 15 de julio de 2019 08:13 a. m.

Para: info@sciencebasedtargets.org

CC: Epsom, Robbie <Robbie.Epsom@wsp.com>

Asunto: SBT queries - gas distribution network

Hello,

We are currently working with a gas distribution network client in the UK who are wanting to follow SBTi guidance in setting an SBT we and have a few queries on the best approach given their situation that we were hoping you could answer.

1. Is there currently oil & gas sector guidance being drafted and, if so when will it be published?
2. Given that the no sector specific guidance has been published yet – what would be the recommended approach for a gas distribution to follow?
3. Given that the gas distribution network does not own the gas and does not sell it to the end customers (they are simply a conduit). Are they still required to set a scope 3 reduction target for ‘Use of Sold Products’ for the gas that is sold by the energy generator?

Many thanks,

James

