

Stakeholder Justification Paper – Low carbon gas	
Output/Commitment Title	Expand and improve our low carbon gas entry connections, including biomethane from organic feed stock that would otherwise go to waste.
Detail	Our current 21 biomethane entry connections provide capacity for low carbon gas production which is the equivalent of demand from around 150,000 average domestic properties. Continuing to work with producers, we will increase connections and improve the network to maximise the volume of low carbon gas we can transport in our network.
Targets (more stretching than GD2?)	Builds on GD2 progress but reactive to market demand for new / increased connections and/ or increase capacity for existing connections.
Strategy Document/ Business Plan Section	BP: Supporting Net Zero – BP: Workforce & Supply Chain Resilience Strategy – BP: Protecting our customers and communities
Cost & Bill Impact	
Proposed Funding	Base funding for business-as-usual connections activity NIA or Net Zero UIOLI funding for innovative or enabling investment, such as solutions to provide additional capacity for green gas entry – this is inherently uncertain
Benefits & risks	
Summary of benefits	<p>Benefits: Environmental benefit of using organic waste to fuel homes and businesses, with no changes to the way they use energy.</p> <p>Supports local businesses to produce green gas and reduce their impact on the environment. Additionally, allowing growth at existing sites to maximise their benefits.</p> <p>Direct financial benefits:</p> <p>Societal benefits: Reduced carbon dioxide emissions for natural gas users.</p>
Summary of risks	Local businesses will have less options to dispose of their waste and reduce their carbon emissions. Lack of awareness in Council planning teams of significant role biomethane plants can play in helping achieve net zero targets.
Stakeholder voice - Golden thread	
Engagement method (what and who)	<p>Methods: Citizens Panel, Critical Friends Panel and Business Panel, Local Area Energy Plan (LAEP) consultations, workshops, consumer (domestic, SME) qualitative and quantitative research, customer forums, technical working groups, trials and pilots. Review of published evidence from national, devolved, regional and local stakeholders.</p> <p>Stakeholder: In order to capture a robust 'stakeholder voice' around low carbon gas connections we engaged with customers, charities and consumer bodies to understand the general awareness and acceptance of using biomethane and other low carbon technologies; we played an integral part of the development of LAEPs and engaged throughout the process with local authorities, the consultants working on the plans, and environmental groups. We also considered industry best practice engaging with other utilities, and energy groups, representatives from vulnerability groups and research institutions. We also engaged with our customers about the methods and processes for injecting biomethane into the gas network to improve overall efficiency, capacity and lower emissions.</p> <p>We continue to engage closely with the National Energy System Operator (NESO), Ofgem, Welsh and UK Government and specifically DESNZ and will continue to review published evidence and develop our plans in line with stakeholders' expectations.</p>

Stakeholder Views
(what they said, regional differences and how we responded)

Opinions, views: General Support and Practicality - Many stakeholders, including charities, environmental groups, and local authorities, have shown strong support for increasing biomethane capacity. They view biomethane as a practical and economically viable solution. An environmental group highlighted the success of numerous biomethane plants in Germany as an example to follow.

Environmental and Economic Viability - Stakeholders see biomethane as a valuable resource that can help reduce fossil fuel use and improve energy security by decreasing the need for gas imports. This aligns with broader climate change objectives.

Technical Challenges and Integration - Despite the broad support, some stakeholders have pointed out potential technical challenges related to increasing biomethane capacity. There is a need for precise control mechanisms to ensure that biomethane is integrated into the gas network efficiently and in sync with demand.

Financial and Economic Considerations - Financial support is crucial for making the switch to biomethane economically viable. The Green Gas Support Scheme (GGSS) and the Renewable Transport Fuel Obligation (RTFO) were mentioned as potential sources of financial assistance. Development costs are sensitive to material, labour, and exchange rates, while revenues are influenced by gas prices.

Consumer Costs and Practicality - Representatives from vulnerability groups and charities emphasized the need to adopt a compelling narrative encompassing innovation, environmental benefits, and cost savings to engage consumers and increase demand. They expressed concerns about potential unexpected costs for customers in the short and medium term.

Collaboration and Public Awareness - There were calls for greater collaboration and public awareness campaigns to educate consumers about the benefits of biomethane. Stakeholders suggested that WWU should work with local authorities, environmental networks, and other organizations to promote biomethane and its benefits.

Strategic and Regional Considerations - Some stakeholders suggested prioritizing biowaste over crop-derived methane due to environmental concerns. There were also discussions about the feasibility and scale of hydrogen production, with some viewing biomethane as a transitional solution while waiting for hydrogen to be mainstreamed.

Innovation and Future Planning - Stakeholders acknowledged the need for more research and engagement to clarify the picture for operators and help determine the most appropriate technologies. There was support for innovation funding to explore clean transportation and other sustainable energy solutions.

Associated facts: Ofgem GD3 Business Plan Guidance states “GDNs should continue collaborating with stakeholders to identify areas for enhancing connection and injection processes, proactively provide information to potential and existing biomethane producers and ensure consistency in biomethane reporting within the AER.” WWU currently has 21 biomethane connections which are significantly reducing the carbon emissions from 150,000 customers. Biomethane production in the UK is primarily driven by anaerobic digestion (AD), which converts organic waste materials into biogas that is further processed into biomethane. The UK currently operates around 660 AD facilities (approx. 22 in Wales and 75 in south west England), just over 100 of which produce biomethane that can be injected into the gas grid. As of 2022, the UK had a biomethane production capacity of about 7,000 cubic meters per hour.

Conflicts: Some stakeholders view biomethane as a transitional solution while waiting for hydrogen to become mainstream. This reflects a strategic debate on whether to prioritise biomethane or hydrogen in the long term. Despite this, there are mixed feelings about the levels of ambition for using hydrogen and biomethane in different regions, with some stakeholders feeling that current targets lack ambition.

Regional differences: The Welsh Government's "Net Zero Wales" plan establishes a legally binding target to reach net zero emissions by 2050 and is the first national government to fund the roll-out of Local Area Energy Plans (LAEPs) to all its local authorities. This is a significant policy move that underscores Wales' commitment to regional and localised energy planning.

Most of WWU's existing biomethane sites are clustered, with the majority being in the south west. This has required innovative solutions to manage the capacity including smart pressure control and compression. However, this provides potential for both WWU and customers producing green gas as existing connections could grow if the capacity becomes available.

Options considered: Recognising the benefits of low carbon gas connections, particularly biomethane, and the broad support across all stakeholder groups to use this technology, the two options below were considered and relate to the networks capability to supply 'green gas'

1. Increase the number of green gas connections into our network to maximise its current capacity.
2. Invest in the gas network to increase its capacity to transport green gas and the number of producers that can connect.

How we responded: Given the stakeholder support to invest in and increase our biomethane capacity we have opted to commit to a higher ambition in GD3. We will invest in innovation and support local producers so that we can increase the networks capability to transport low carbon gas and increase the number of injection points.

This ambition is supported by quantitative research involving 1,252 domestic consumers and 153 business consumers. The research showed that 68% to 74% of domestic consumers were willing to pay up to £8 to £10 more, and 67% to 83% of business consumers were willing to pay 1% to 2% more on their gas bills to support increased ambition.

We tested this commitment further by carrying our separate acceptability testing with 1,401 consumers (84% domestic, 11% business and 5% future bill payers). The findings revealed that 92% of domestic consumers and 97% of business consumers accepted this commitment.

Performance

GD2 Performance, Benchmarking/ Industry comparison

In GD2 we have continued to develop our support for biomethane working directly with producers connected or planning to connect to our network, and through innovation and net zero delivery projects 21 sites connected to our network, of c. 110 across GB, reflects that the South West in particular is a strong focus area for green gas production.

Stakeholder feedback on our connections processes and customer support is positive.

In GD3 we will build on this progress to be ready to meet demands from entry green gas customers as this market evolves.

Deliverability & Whole Systems Impact

Deliverability & viability implications

There is very high confidence in delivery of ongoing biomethane connections activity based on the experience in GD1/GD2 and positive customer and stakeholder feedback on working with WWU.

For novel solutions to expand capacity for green gas, such as smarter pressure control and reverse compression, any proposed activity will build on experience gained from pioneering projects in GD2.

Triangulation scorecard

Our engagement scoring methodology leverages the information from the HM Treasury's Magenta Book, Quality in Qualitative Evaluation framework and various weighing methodologies used by networks to assess how much impact each piece of evidence should have on their decision-making process.

Each piece of evidence is given a score between 0-2 against a scoring criteria including *Relevance to topic*, *Level of stakeholder knowledge*, *Quality of engagement*, *Rigour of feedback collection* and *Credibility of analysis and interpretation*.

The table below outlines how the evidence used to produce this document scored against each criteria and its overall score. An average and modal score is then provided, which is associated to a grading system that demonstrates the feedback robustness and quality.

Document Name	Score					Final Score
	Relevance to Topic	Level of Stakeholder Knowledge	Quality of Engagement	Rigour of Feedback Collection	Credibility of Analysis and Interpretation	
06.03.24- SGN Response to GD Annex PUBLIC_Redacted	2	2	2	2	2	10
10_POINT_PLAN_BOOK LET	2	2	2	2	2	10
11920 CR Plus SWIC Explainer Doc A4 64pp v9	2	2	2	2	2	10
2022 Energy Networks Annual Innovation Report	2	2	2	2	2	10
20240605_Draft Technical Report_Denbighshire	2	2	2	2	2	10
20240617_LAEPTechnical_Report_Wrexham	2	2	2	2	2	10
3037 LCT Tracker W4 Report WWU FV	2	2	2	2	2	10
3039 LCT Tracker W5 Report WWU FV2	2	2	2	2	2	10
3564 WWU Customer Business Priorities FV2	2	2	2	2	2	10
3636 WWU Customer Priorities Report_Debrief_v3	2	2	2	2	2	10
Appendix 1 – SSMC Response NGN	2	2	2	2	2	10
Biodiversity Stakeholder Meeting Report 28.06.24	0	2	2	2	2	8
Cadent RIIO-3 SSMC Response Overview Document Final	2	2	2	2	2	10
Cadent RIIO-3 SSMC Response_GD Annex Final	2	2	2	2	2	10
Ceredigion LAEP Draft A	2	2	2	2	2	10
consultation-just-transition-framework	2	2	2	2	2	10
DAR – IM – 220509 – UK HYRES introductory workshop	2	2	2	1	2	9
DAR - IM - 220511 - Future leap - The Future of Hydrogen South West Event - Burgess Salmon offices Bristol	2	2	2	1	2	9
DAR - SR - 220915 - DAR Ofgem Local	2	2	2	1	2	9

Energy Institutions Workshop						
DAR – Welsh Government Hydrogen Trials meeting	2	2	2	1	2	9
Digital.utility.co.uk (2024: The year of the LAEP)	2	2	2	2	2	10
ENA External Stakeholders Insight Report v1.1	2	2	2	2	2	10
ENA Innovation Funding Research – Final Report	2	2	2	2	2	10
ENA Response to Ofgem RIIO-3 Sector Specific Methodology	2	2	2	2	2	10
Entry Gas Connection Charging Consultation 24.06.22 published	2	2	2	2	2	10
Final version WWU - Critical Friends Panel - Feb 2023 - Feedback Report	2	2	2	2	2	10
Gas Strategy Group 280923 Minutes and Actions	2	2	2	2	2	10
HyRES Open event summary report v2 23-01-26	2	2	2	2	2	10
LAEP Technical Report Merthyr Tydfil DRAFT 160524	2	2	2	2	2	10
LAEP_BG_Technical-report_v1.1DRAFT-REVIEW_20240604	2	2	2	2	2	10
LAEP_Flintshire_Technical-report_v1(DRAFT-REVIEW)_20240611	2	2	2	2	2	10
LCT Tracker results for WWU FV	2	2	2	2	2	10
ms1590 WWU PSR Customer Experience Research Presentation vFINAL	1	2	2	2	2	9
National Gas Transmissions NGT Response to Ofgems RIIO-3 Sector Specific Methodology Consultation	2	2	2	2	2	10
Neath Port Talbot LAEP Technical Annex - Client V1	2	2	2	2	2	10
PE21199 Understanding consumers' attitudes to safety measures when using 100_ hydrogen in the home v1.0	2	2	2	2	2	10

Powys LAEP Draft A	2	2	2	2	2	10
RCT LAEP Technical Report DRAFT 280524	2	2	2	2	2	10
Report - CCC - Delivering a reliable decarbonised	2	2	2	2	2	10
RP-FGS-Monmouthshire Technical Report-070624-DRAFT-ISSUED	2	2	2	2	2	10
RP-FGS-Torfaen Technical Report-240520-DRAFT-ISSUED-v2	2	2	2	2	2	10
Safeguarding the switch to domestic hydrogen WWU report 1.0	2	2	2	2	2	10
Stakeholder workshop - Actions Responsibilities P2 - PRESENTATION PACK - CCR_bilingual	2	2	2	2	2	10
Stakeholder Workshop - Baseline and setting p_Lewis Garvey	2	2	2	2	2	10
Swansea LAEP Technical Annex - V2 - Client Copy1 - WWU Feedback	2	2	2	2	2	10
Technical Report Cardiff DRAFT 2024_05_24	2	2	2	2	2	10
Technical_Report - Gwynedd draft issue 07.06.24	2	2	2	2	2	10
Technical_Report_Angley_draft issue 14.6.24	2	2	2	2	2	10
Technical_Report_Caerphilly_v.1(d)	2	2	2	2	2	10
Technical_Report_Vale of Glamorgan_2024_05_24	2	2	2	2	2	10
UK-Hydrogen-Strategy_web	2	2	2	2	2	10
UKRI-141123-EnablingNetZeroPlanUKIndustrialClusterDecarbonisation	2	2	2	2	2	10
VCMA Year 1 Showcase Stakeholder Workshop - Feedback Report	1	2	2	2	2	9
WGP Hydrogen Strategy v2.0 (Summary and Technical Reports) FINAL	2	2	2	2	2	10
Workshop 2 Summary - Futureproofing the networks	2	0	2	2	2	8
Workshop 7 Summary - Working with the regulator and Government	2	0	2	2	2	8

WWU - Critical Friends Panel - Feb 2024 - Feedback Report v5	2	2	2	2	2	10
WWU Biodiversity Stakeholder Workshop Feedback Report	0	2	2	2	2	8
WWU Business Panel_full report with appendix	1	2	2	2	2	9
WWU Citizen Panel Full Report_V1	2	2	2	2	2	10
WWU Citizens Panel report Decarbonisation of home heat March 2022 FINAL	2	2	2	2	2	10
WWU Customer Satisfaction_full report	1	2	2	2	2	9
WWU GD3 Business Planning Workshop Feedback Report	2	2	2	2	2	10
WWU LAEP Stakeholder Workshop Feedback Report	2	2	2	2	2	10
WWU qual priorities report FINAL	2	2	2	2	2	10
WWU Report Cardiff November 2022 LW Comments	2	2	2	2	2	10
WWU Safety Stakeholder Workshop Feedback Report	0	2	2	2	2	8
WWU SSMC response – 6 th March	2	2	2	2	2	10
WWU Sustainability Strategy Workshop - Feedback Report	2	2	2	2	2	10
WWU Vulnerability Panel Report_V3_060923	2	2	2	2	2	10
WWU_EVP_Insights_Report_Aug22_v1	1	2	2	2	2	9
Average Score of Sources						9.73
Mode						10

Score	Grade	Description
0-3	Poor	Feedback should not be used for triangulation as it does not meet the minimum quality standards.
4-6	Average	Feedback could be used for triangulation but possible lacks robustness.
7-8	Good	Feedback meets the standards necessary for credible triangulation.
9-10	Excellent	Feedback meets the best standards of rigour and quality.