

Real Time Settlement Methodology (RTSM)

Phase 1 Methodology Development

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07/02/2025

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Agenda

- Executive Summary
- What is Real Time Settlement Methodology (RTSM)
- What challenges the programme is trying to overcome
- Phases of the RTSM programme
- Scope & timelines for Phase 1 of the programme
- Approach to stakeholder engagement
- Appendices

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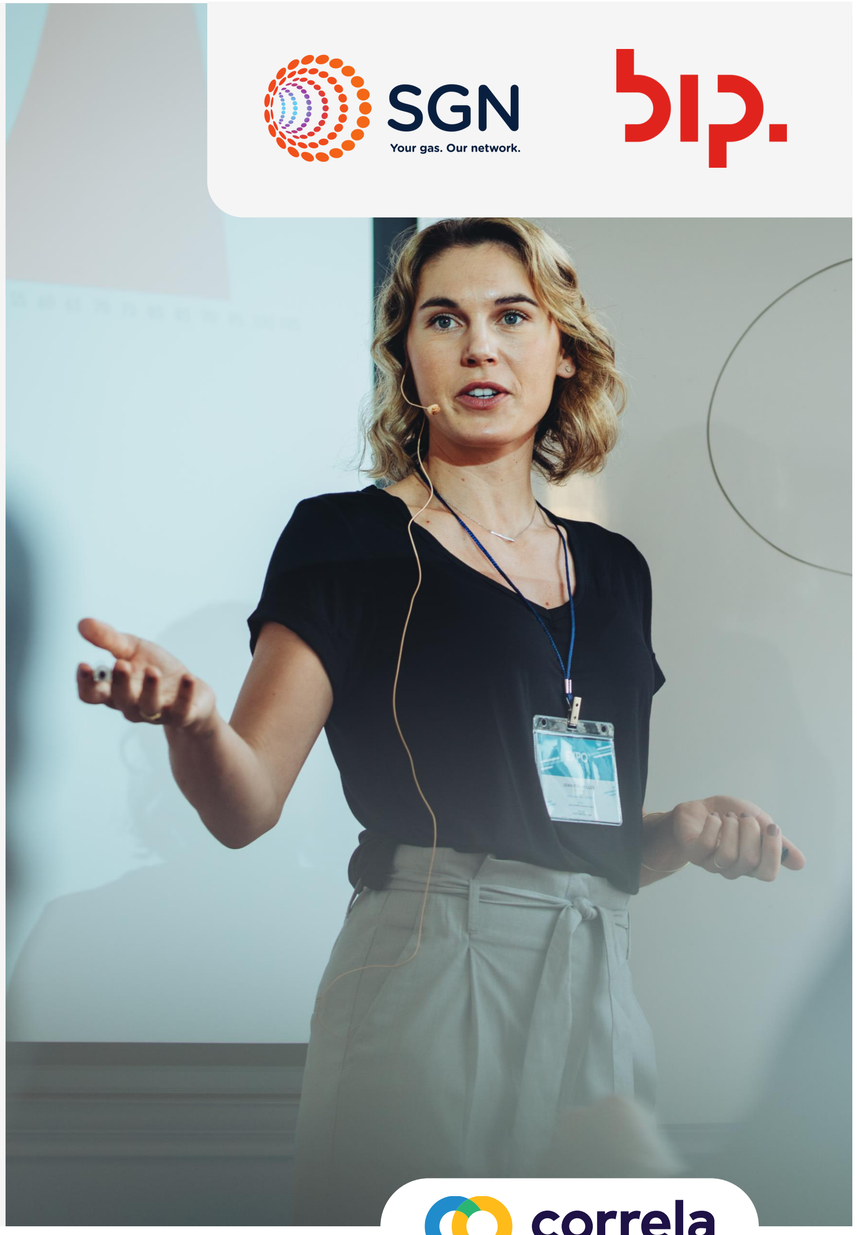


Executive Summary

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Executive Summary

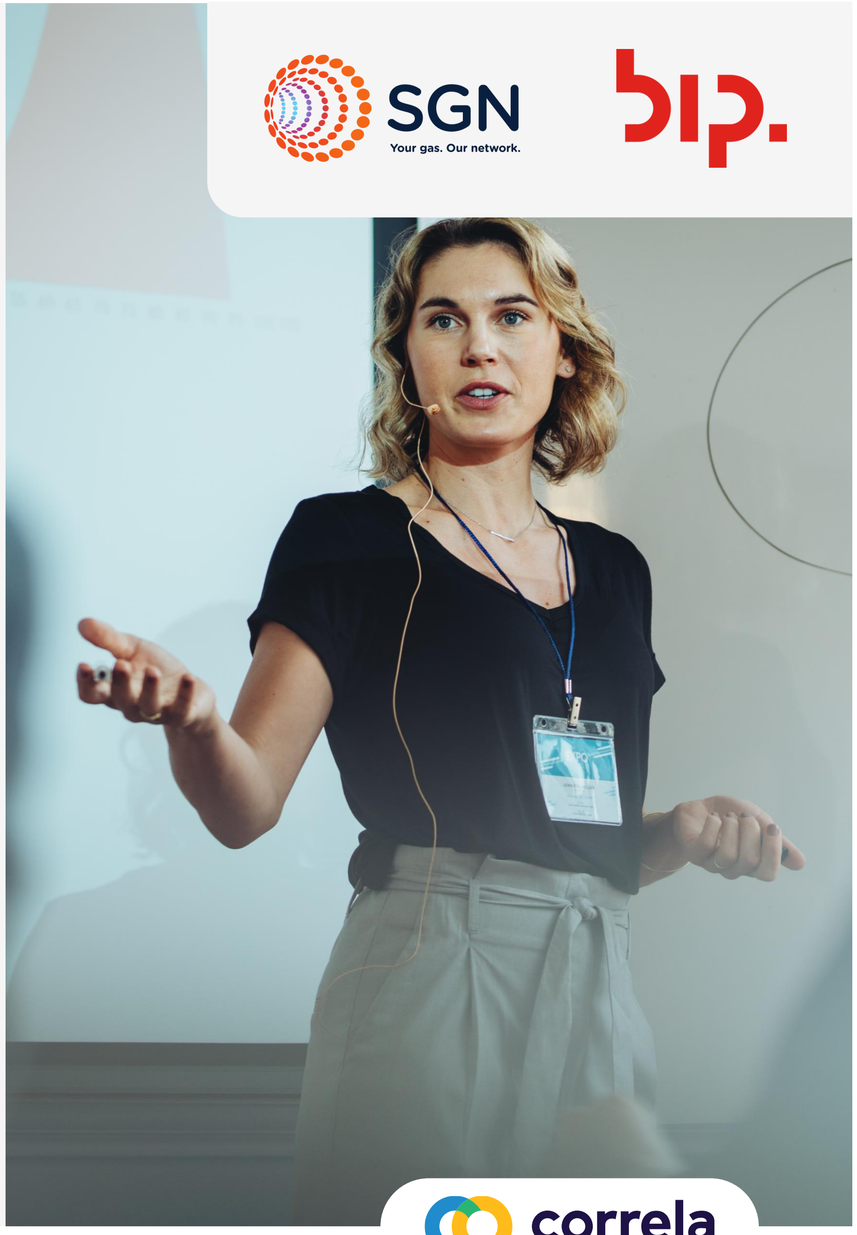
- In February 2024, a programme was established to develop a modelling solution that will facilitate the introduction of a fair and equitable billing and settlement framework able to operate in a multi-gas system with varying CVs.
- The programme is called Real Time Settlement Methodology (RTSM).
- The programme aims to develop an integrated solution for the processes of characterising, settling, and billing gas in a multi-gas energy system



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Executive Summary (continued)

- The current challenges highlight the need for a flexible solution that can respond to changes in gas mix and subsequent CVs.
- The findings of this programme will be applicable and relevant to all gas networks across GB amongst wider energy industry stakeholders.
- Stakeholder engagement with key industry stakeholders is vital to ensure that all eligibility criteria are thoroughly reviewed and endorsed by all relevant parties.



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Challenges the programme is trying to overcome

- Under the current Flow Weighted Average CV (FWACV) framework, the daily average CV in each charging area (Local Distribution Zone ("LDZ")) is applied to all customers within that charging area.
- This introduces the possibility of variance in customer bills as some customers will be under-billed if receiving gas with a higher CV than the FWACV and some customers will be over-billed because they receive gas with a lower CV than the FWACV.
- Additionally, GS(M)R and GCoTER cap the value of the daily charging CV and there can be no more than 1MJ/m3 variance above the Lowest Source CV charging zone.

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Challenges the programme is trying to overcome (continued)

- If this method continues to be applied across a gas grid with increased injection of hydrogen and unpropanated biomethane, then unbilled energy will be generated. This unbilled energy ultimately gets charged back to the customers by gas Shippers and Suppliers and is reflected in higher energy bills.

- Furthermore, under the current framework, due to hydrogen and biomethane's lower relative CVs, consumers who live close to an embedded hydrogen or biomethane injection point may be at risk of potentially over-paying for the gas they use. These consumers will have to use a greater volume of gas to meet their energy needs compared to a customer who is being supplied by majority natural gas.

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What is ‘Real Time Settlement Methodology’ (RTSM) ?

- This programme aims to develop and demonstrate an integrated solution for the processes of characterising, settling, and billing gas in a multi-gas energy system ahead of the introduction of green gases such as hydrogen and unpropanated biomethane to support transition to zero carbon gas grid.

- Beginning with market research, existing methodologies used in global networks with varying calorific values will be assessed.

- Using this information as a baseline, a tailored modelling solution will be created to meet UK industry requirements. Afterwards, a comprehensive feasibility study will assess the solution(s) proposed & identify the most optimal modelled solution which will be consolidated into a new flexible settlement and billing approach.

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What is ‘Real Time Settlement Methodology’ (RTSM)? (continued)

- A Front-End Engineering Design will be developed to lay the groundwork for a physical demonstration.
- A roadmap will be produced to outline necessary implementation changes, including design cost and risks. Lastly, the requirements for a 12-month demonstration will be assessed to review any necessary changes, & to inform the project's next phases
- The implementation of a flexible settlement and billing solution which can accurately bill customers across a multi-gas system will help to minimise the risk of customers paying bills that do not accurately reflect the energy they consume.

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RTSM Programme is Split into 5 Phases

Phase 0
4 Months
2024

Engagement

COMPLETE

Phase 1
10 Months
2024

Methodology Development

- Market Research
- Modelling Solutions
- Feasibility Study + Roadmap
- Rollout Strategy for demonstration
- Dissemination

IN PROGRESS

Phase 2
7 Months
2025/2026

Front-End Engineering Design

- Design, Cost and Risks
- Execution strategy
- Comprehensive execution plan

TO START

Phase 3
12 Months
2026/2027

Demonstration

- Test the new RTSM and make any necessary amendments

TO START

Implementation
2030

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Scope of RTSM – Phase 1

- The aim of RTSM programme Phase 1 is to develop the Basis of Design (BoD) of a comprehensive, flexible, and fit-for-purpose modelling solution to enable the settlement and billing of low-carbon gases across a multi-energy grid.
- The project will propose a methodology that will enable the fair and equitable billing of gas consumers in a multi-gas grid and, in turn, facilitate the increased injection of green gasses into the GB gas network for decarbonisation purposes.
- This will include network activities and the existing commercial framework that governs gas billing and settlement including relevant regulation, systems and data requirements.
- The new methodology will likely imply changes to all stakeholders involved in billing and settlement (shippers/suppliers, GNs, IGT, producers, etc.)

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RTSM Phase 1 Overview

Phase 1
10 Months

2024/2025
Started September 2024

- **Phase 1 has been split into 5 work packages:**
- **WP1:** Market research to identify existing solutions.
- **WP2:** Develop the Basis of Design of a fit-for-purpose modelling solution.
- **WP3a:** Feasibility study: economic, technical, regulatory, operational, etc.
- **WP3b:** Roadmap for a seamless integration across the UK.
- **WP4:** Rollout strategy to assess the requirements for a potential demonstration.
- **WP5:** Dissemination.

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Who is Delivering Phase 1

Programme Lead

SGN Your gas. Our network.

Programme Sponsors

SGN Your gas. Our network.

WALES&WEST UTILITIES

Northern Gas Networks

Regulator

ofgem

Programme Supporters

Cadent Your Gas Network

national gas

xoserve

NESO National Energy System Operator

Suppliers Delivering Phase 1

correla®

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RTSN Phase 1 Delivery Method

Phase 1 Work Packages	2024			2025							
	October	November	December	January	February	March	April	May	June	July	August
WP1: Market Research	BIP										
WP2: Modelling Solution			Correla								
WP3: Feasibility Study & Roadmap							BIP				
WP4: Rollout								Correla			
WP5: Dissemination											
Stakeholder Engagement Meetings											

BIP | Correla | Joint Activities | Contingency | Feedback & approval of deliverables



Approach to Stakeholder Engagement

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Stakeholder Engagement

- Throughout the duration of this project phase, key members of the UK gas industry who will be affected by the modelled solution and any subsequent process changes, will be engaged with to tailor the solution to meet their required needs.

- The outputs of this Project will help to enable increased uptake of green gasses across the UK's gas grid and will contribute towards a successful energy transition e.g., blending of up to 20% hydrogen into the grid and increased injection of unpropanated biomethane which will take the UK closer to its Net Zero targets.



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Stakeholder Engagement

(continued)

- The findings will inform key industry stakeholders on what steps need to be taken to implement the necessary changes to the current billing and settlement framework to make it meet the needs of the evolving industry in the face of a changing energy landscape.



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Purpose of these slides

This details the approach to engagement with industry stakeholders.
In particular, it covers the strategic approach to stakeholder engagement and how RTSM Phase 1 will engage with Stakeholders and use stakeholder insight to validate and test the RTSM methodology.

The next set of slides will cover:

- Our engagement strategy and how we work with stakeholders
- How we disseminate information relating to Phase 1 of the project
- Capturing insight from Stakeholders, their challenges and feedback
- Terms of Reference for the stakeholder engagement meetings
- Stakeholder Groups

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Engagement Strategy

- Collective and strategic approach to deliver purposeful, timely and inclusive engagement to ensure that stakeholders have a voice and a clear role in the process.
- Specifically, the areas of focus are:
  - Active engagement and meaningful stakeholder input to project
  - Our approach to providing access to Stakeholders to engage
  - Our approach to ensuring clear and consistent visibility of material and reporting of Phase 1 of the project
  - How we undertake knowledge share and transparency of project goals, progress and outcomes



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Engagement Strategy (continued)

- Underpinning the strategic approach to stakeholder engagement, RTSM project are dedicated to the principle of collaboration and that every contact with our stakeholders counts. Stakeholder engagement will identify issues that may be present or not yet identified and often not yet experienced as it relates to future energy systems & processes.

- Engagement will seek feedback across a diverse array of stakeholder groups. To enable ongoing interaction, continuous progression and ensure that the project is progressed in line with industry challenges and stakeholder feedback.



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Project Updates & Knowledge Dissemination

Stakeholders will be consulted and informed through a variety of key engagement mediums

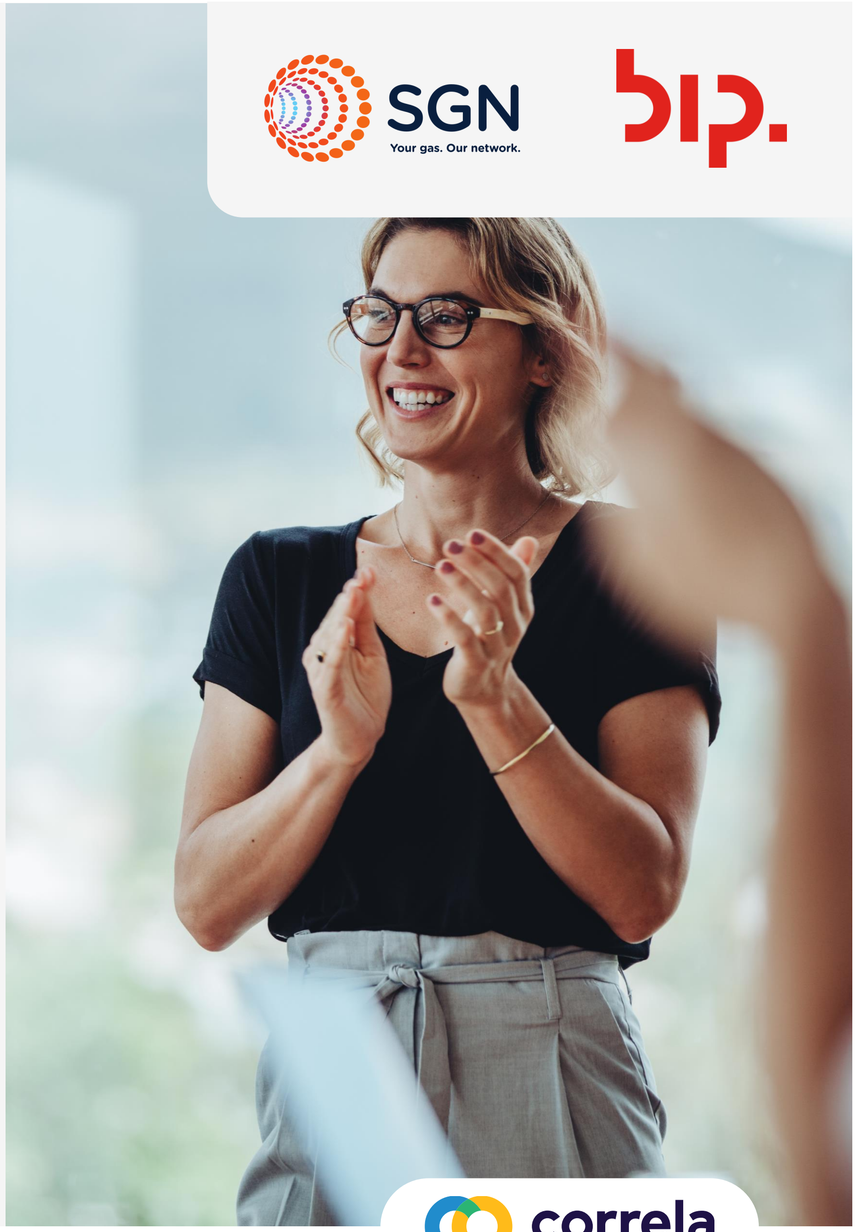
- Email Distribution
- Attendance at Existing Workgroups/ Meetings



- Website Updates
- Collaboration

Next Steps

- We will be attending the following workgroups to provide updates & identify stakeholders who are interested in receiving updates:
    - Transmission workgroup
    - Distribution workgroup
    - Mod 0849 workgroup
    - ICoSS
    - Shipper Constituency meeting
- All material will be published on Xoserve.com and sgn.co.uk
- If you, or a colleague, who do not attend the above workgroups but would like to be notified of any material presented, please email rtsm@correla.com and ask to be added to our distribution list



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Appendices

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Phase 1 Work Packages – in more detail

- **Work Package 1:**
  Identify and understand the applicability and replicability of global multi-gas Calorific Value (CV) modelling solutions to the UK's system by undertaking a comprehensive market research study which will identify and assess critical factors that influence the UK's billing and settlement framework.

- **Work Package 2:**
  Development of a fit-for-purpose modelling solution that meets the requirements of UK gas consumers and existing industrial stakeholders and effectively addresses the challenges with billing and settlement in a multi-gas system. A Basis of Design will outline the required amendments in market structures and connection frameworks, the basic architecture of proposed new systems and the integration with existing systems.

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Phase 1 Work Packages – in more detail (continued)

- **Work Package 3:**
  Conduct a comprehensive feasibility study that evaluates the viability of each proposed solution by assessing all factors critical to its success e.g., regulatory, technical, economic, scheduling, and operational aspects and facilitate the development of a comprehensive roadmap to inform the strategic implementation of the proposed solution across the UK considering all key aspects.

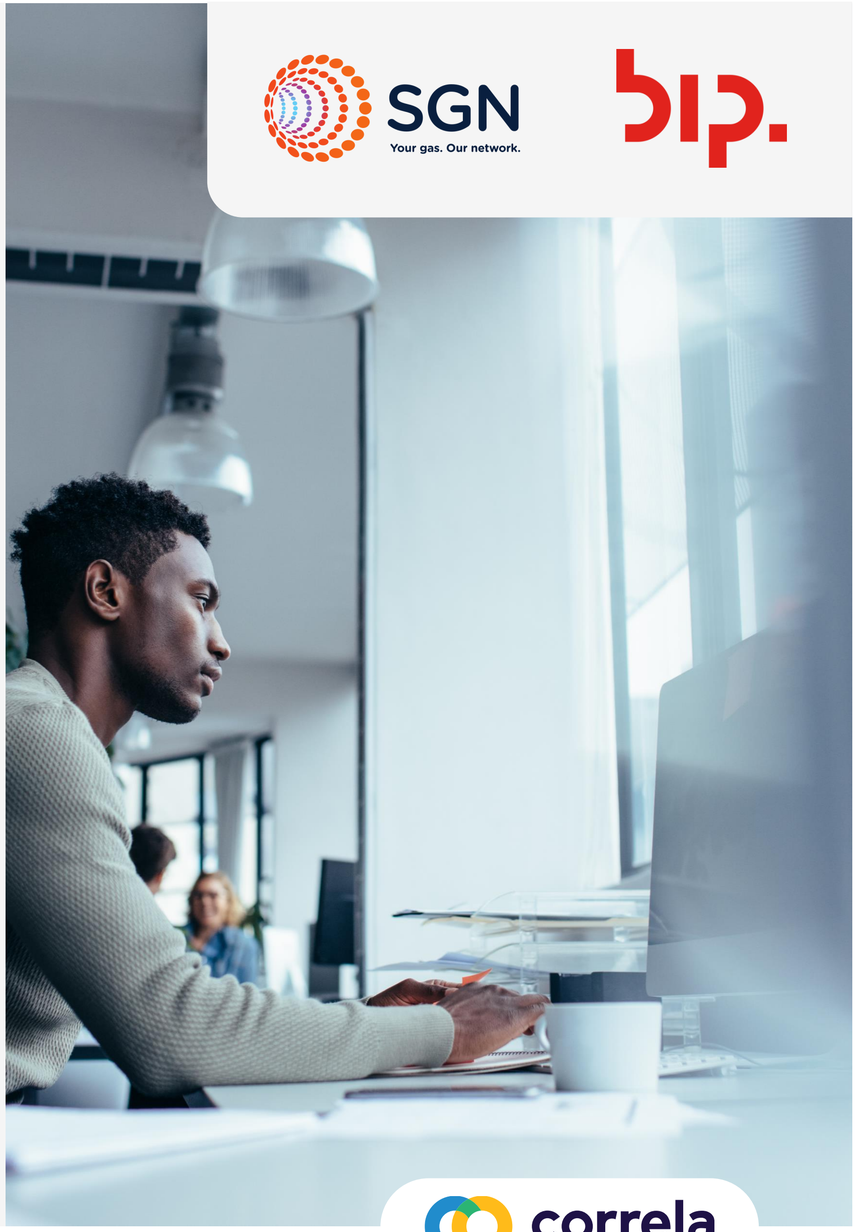
- **Work Package 4:**
  Inform a live trial demonstration by outlining essential eligibility criteria and identifying factors, assumptions and limitations that could positively or negatively affect a live trial. A trial site will be selected off the back of a screening methodology and a rollout strategy will be developed for the demonstration which will seek to prove the enablement of wider uptake of green gases across the UK grid.

- **Work Package 5:**
  Dissemination of findings and results.

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Stakeholder Groups

- DESNZ
- Ofgem
- Retail Energy Code Company (RECCo)
- Gas Shippers
- Gas Suppliers
- Distribution Networks
- Independent Gas Transporters
- National Gas
- Gas Producers
- Energy UK
- Future Energy Networks
- National Energy Systems Operator (NESO)



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Glossary

Term		Description
FWACV	Flow Weighted Average Calorific Value	Flow Weighted Average CV (FWACV) is a calculation used to determine the average calorific value within an LDZ for charging purposes. The formula for calculating FWACV is (Actual Energy Flow) / Volume Flow. The result is expressed in MJ/m3. FWACV Cap is the lowest source + 1, where the lowest source is expressed in MJ/m3.
GCoTER	Gas (Calculation of Thermal Energy) Regulations	Regulations that provides for the number of therms or kilowatt hours conveyed by public gas transporters to premises to be calculated on the basis of calorific values of the gas, with adjustments of volumes for temperature and pressure, either determined by, or declared by, the transporter in accordance with the Regulations. The Regulations exist to ensure domestic suppliers calculate CV in the same way in order to charge consumers in a consistent and fair way for the energy they consume.
GS(M)R	Gas Safety (Management) Regulations	Regulations that applies to the conveyance of natural gas (methane) through pipes to domestic and other consumers and cover four main areas: (a) the safe management of gas flow through a network, particularly those parts supplying domestic consumers, and a duty to minimise the risk of a gas supply emergency; (b) arrangements for dealing with supply emergencies; (c) arrangements for dealing with reported gas escapes and gas incidents; (d) gas composition.
LDZ	Local Distribution Zone	A Local Distribution Zone refers to a designated geographic area within the UK where gas is distributed. The country is divided into 18 Local Distribution Zones. The LDZ a property is located in determines which Gas Distribution company is responsible for delivering gas to the property, affecting costs, and available tariffs