EIP009

Can digitalisation bolster (<2 bar) resilience?

Problem Statement Details

GDNs are continuing to deliver their Digitalisation Strategies, facilitating a greater ability to utilise real-time pressure monitoring and system management through use of distributed technology such as IoT (Internet of Things) enabled devices.

Part of this work should also include evaluating the value of capturing, monitoring and reporting on different metrics. Today, the networks predominantly analyse pressure, flow, temperature and quality (at specific locations). Future networks (< 2 bar) may benefit from the ability to report and react to differing metrics (i.e., composition, calorific value, velocity…). Outcomes of this evaluation will identify a suitable range of device/instrumentation types that could be deployed on the network, the volume required, suitable locations, and how deployment of such devices should be prioritised.

There is an increasing need to understand the requirement and feasibility of providing low power solutions to facilitate installation of such equipment at higher volumes and increased remoteness across the network. This will improve GDNs ability to efficiently manage the gas distribution network today, however, this will also increase resilience and reliability during the energy system transition as a result of changing customer demands.

Key Stakeholders

Other GDNs, DNOs, Local Authorities, Customer Groups

Target Market

Technology Partners, Academia

Enablers and Constraints

Enablers: Existing projects looking at what technology can be deployed onto the network to enable digitalisation.

Scalability and Target Implementation Date

RIIO-GD2 and beyond, dependant on proposals.

Solutions could be scalable across Network Operations, System Control, Network Analysis & Modelling.

Innovation Strategy Target Areas

Innovation Theme	Target Area	Primary or Secondary
Data and Digitalisation	The shift to data-driven, digitally-enabled networks is critical as we move towards Net Zero. We need your help to drive standardisation, interoperability, security and digital skills whilst accelerating our transformation to data-driven networks by the mid 2030s.	Primary
Flexibility and Market Evolution	Energy networks must quickly and efficiently respond to the rapidly evolving needs of the energy system transition. We need your support to eliminate barriers to new market entrants, deploy novel commercial and network management solutions whilst ensuring fair participation and eliminating regulatory barriers within the RIIO-2 price control periods.	
Net zero and the energy system transition	In order to meet the UK net zero targets of 2050 we must start converting our networks to deliver low carbon fuels today. We want to work with you to develop the role of our gas networks into the future by investigating, trialling, implementing and delivering safe, low carbon alternatives to natural gas such as Hydrogen.	
	Net Zero requires connection of more low and zero carbon sources of energy generation, storage and demand to both the transmission and distribution networks. We need your innovative methods for effective network management and accessing flexibility to improve visibility, forecasting and modelling of low carbon technologies.	
Optimised assets and practices	Innovation has a key role to play in ensuring our networks continue to remain reliable, safe, secure and resilient to our changing climate. We are constantly looking to improve and welcome support to identify methods to prevent interruptions, ensure resilience, reduce climate impact and future-proof our networks.	Secondary
Supporting Consumers in Vulnerable Situations	Equality and fairness are the foundations of a just transition to Net Zero. We hope you can provide insight into the transient and situational nature of vulnerability and how we can overcome the impact the energy system has on consumers, building strong relationships for the future.	
Whole Energy System Transition	The energy system must consider the full range of opportunities, risks and interdependencies that exist across the energy networks to integrate and optimise them in a way that best serves the consumer. We are looking for ways to improve visibility of the networks and transitional options, co-ordinate approaches and collaborate across the UK.	