

EIP001

How can we enable the future Gas Distribution System Operator?

Problem Statement Details

Existing network control centre processes are developed for use with traditional producers/sources including from the NTS & Biomethane.

As the energy system transitions to lower carbon gases, a new system control solution needs to be developed to facilitate ease of use across pressure tiers, including accounting for the required flexibility & storage requirements of the future.

Future Gas Distribution System Operation will be reliant on collaboration between GDNs & DNOs to enable an efficient and coherent approach to the energy system transition.

Key Stakeholders

GT&M, Producers/Shippers, Market Services (NGN), System Control (NGN), Supply Strategy (NGN), OFGEM, 3iG (NGN)

Target Market

Systems Modelling Providers / AI Developers

Enablers and Constraints

Enablers are considered to be utilising learnings and engagement with the existing National Future System Operator work streams.

Scalability and Target Implementation Date

Any suitable solution would need to be developed in line with NGN Cyber Security requirements, which would be enabled by collaboration with NGN's 3iG Teams. A prototype solution would need to be modelled and tested on a separated system to enable benchmarking against existing processes to validate accuracy and performance. Once proven an implementation plan is required to facilitate a seamless transition between existing and new systems.

Innovation Strategy Target Areas

Innovation Theme	Target Area	Primary or Secondary
Data and Digitalisation	<p>The shift to data-driven, digitally-enabled networks is critical as we move towards Net Zero.</p> <p>We need your help to drive standardisation, interoperability, security and digital skills whilst accelerating our transformation to data-driven networks by the mid 2030s.</p>	Primary
Flexibility and Market Evolution	<p>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.</p>	
Net zero and the energy system transition	<p>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.</p> <p>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.</p>	Secondary
Optimised assets and practices	<p>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.</p>	
Supporting Consumers in Vulnerable Situations	<p>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.</p>	
Whole Energy System Transition	<p>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.</p>	