Notes on Completion: Please refer to the appropriate NIA Governance Document to assist in the completion of this form. The full completed submission should not exceed 6 pages in total.

NIA Project Registration and PEA Document

Date of Submission

Aug 2024

Project Reference Number

NIA2_SGN0069

Project Registration

Project Title

Future Energy Innovation Scenarios

Project Reference Number

NIA2_SGN0069

Project Licensee(s)

SGN

Project Start

August 2024

Project Duration

0 years and 2 months

Nominated Project Contact(s)

sgn.innovation@sgn.co.uk

Project Budget

£52,641.00

Summary

The project will build on initial work carried by SGN that looks at the future priorities for innovation across scenarios and themes related to the energy transition. Whilst FES looks at likely consumption etc. it doesn't specifically look at where innovation should be prioritised to enable the transition from a whole-systems perspective and does not specifically look at the roll a gas network could play in these future scenarios.

Nominated Contact Email Address(es)

sgn.innovation@sgn.co.uk

Problem Being Solved

The UK has committed to a target of Net Zero emissions by 2050. Along with the ongoing changes in the UK energy transition, utility networks (especially gas networks) are currently facing various unknowns, including uncertain regulations, government and regulatory policies, and significant changes in demand and prices.

To achieve our ambitious decarbonisation targets the energy system must have strong strategies and roadmaps in place especially for innovation which will be critical in achieving the net-zero ambition. Gas networks have a critical role to play in the net-zero journey and we need to be sure innovation activities are focused in the right areas.

Method(s)

This is a desk-based study which will analyse market drivers and conduct a PESTLE and Gap analysis on future energy themes.

Week 1:

Conduct deep-dive walkthroughs with key stakeholders for each of the themes to understand existing work, data, analysis and assumptions.
Consolidate industry trends to identify potential thematic gaps
Week 2:

Run working sessions with theme leads and selected SMEs to investigate potential gaps.
Start to develop the high-level roadmap and principles to prioritise activities.
Week 3:

provide narrative around the themes and which will act as the main reference document for the communication approach.
Week 4:

Prepare presentations for specific audiences highlighting key aspects of the strategy relevant to each group.

Scope

There are currently several transition pathways for achieving net zero by 2050. To prepare our network effectively, SGN is planning to conduct a fact-finding exercise to determine how we can best deliver a Future Energy Innovation Strategy, focusing on both regions in Scotland and southern England.

Objective(s)

This project aims to develop a robust strategy, complete with roadmaps, documentation, and models for the various themes involved. This strategy will serve as the foundation for the remaining GD2 workload and will transition into the GD3 workload and funding plans.

Consumer Vulnerability Impact Assessment (RIIO-2 Projects Only)

The project primarily aims to create a robust strategy for the workload and funding plans for the remaining of GD2 and into the GD3 period. The output will establish a viable pathway for Future Energy themes including 'Vulnerable Customers' and provide a roadmap for exploration of this topic area. This could potentially result in reduced expenses for individuals in vulnerable circumstances.

Success Criteria

The following success criteria for the project include the completion of:

- Conduct a fact-finding exercise to determine how we can best deliver a Future Energy Innovation Strategy.
- Create a robust strategy, complete with roadmaps, documentation and models for the various themes involved.

Focus on different regions in Scotland and southern England.

Project Partners and External Funding

CapGemini

Potential for New Learning

This project will serve as a valuable opportunity to develop strategies for the remainder of GD2 and into the GD3 period, focusing on Future strategy building across SGN Scotland and southern England.

Scale of Project

The project involves a 4-week sprint and will cover SGN Scotland and southern England.

Technology Readiness at Start

TRL2 Invention and Research

Technology Readiness at End

TRL3 Proof of Concept

Geographical Area

The project involves workshops and stakeholder session across SGN locations, providing insights into future energy innovation pathways.

Revenue Allowed for the RIIO Settlement

If the project is successful, the developed solution has the potential to support a net zero future.

Indicative Total NIA Project Expenditure

The total project expenditure is £52,641.50, 90% (£47,377.35) of which will be recovered via the NIA funding mechanism in line with the funding conditions. Total partner expenditure will be £39,491.

Project Eligibility Assessment Part 1

There are slightly differing requirements for RIIO-1 and RIIO-2 NIA projects. This is noted in each case, with the requirement numbers listed for both where they differ (shown as RIIO-2 / RIIO-1).

Requirement 1

Facilitate the energy system transition and/or benefit consumers in vulnerable situations (Please complete sections 3.1.1 and 3.1.2 for RIIO-2 projects only)

Please answer **at least one** of the following:

How the Project has the potential to facilitate the energy system transition:

This project is a vital enabler to develop future pathways for GD3, therefore playing a vital part in the net-zero targets.

How the Project has potential to benefit consumer in vulnerable situations:

n/a

Requirement 2 / 2b

Has the potential to deliver net benefits to consumers

Project must have the potential to deliver a Solution that delivers a net benefit to consumers of the Gas Transporter and/or Electricity Transmission or Electricity Distribution licensee, as the context requires. This could include delivering a Solution at a lower cost than the most efficient Method currently in use on the GB Gas Transportation System, the Gas Transporter's and/or Electricity Transmission or Electricity Distribution licensee's network, or wider benefits, such as social or environmental.

Please provide an estimate of the saving if the Problem is solved (RIIO-1 projects only)

N/A

Please provide a calculation of the expected benefits the Solution

N/A

Please provide an estimate of how replicable the Method is across GB

The output from this project has the potential to be rolled out across the UK.

Please provide an outline of the costs of rolling out the Method across GB.

This is a low TRL project and will focus purely on developing a roadmap strategy.

Requirement 3 / 1

Involve Research, Development or Demonstration

A RIIO-1 NIA Project must have the potential to have a Direct Impact on a Network Licensee's network or the operations of the System Operator and involve the Research, Development, or Demonstration of at least one of the following (please tick which applies):

☐ A specific piece of new (i.e. unproven in GB, or where a method has been trialled outside GB the Network Licensee must justify repeating it as part of a project) equipment (including control and communications system software).

☐ A specific novel arrangement or application of existing licensee equipment (including control and/or communications systems and/or software)

☐ A specific novel operational practice directly related to the operation of the Network Licensees system

☐ A specific novel commercial arrangement

RIIO-2 Projects

☐ A specific piece of new equipment (including monitoring, control and communications systems and software)

☐ A specific piece of new technology (including analysis and modelling systems or software), in relation to which the Method is

unproven

☑ A new methodology (including the identification of specific new procedures or techniques used to identify, select, process, and analyse information)

☐ A specific novel arrangement or application of existing gas transportation, electricity transmission or electricity distribution equipment, technology or methodology

☐ A specific novel operational practice directly related to the operation of the GB Gas Transportation System, electricity transmission or electricity distribution

☐ A specific novel commercial arrangement

Specific Requirements 4 / 2a

Please explain how the learning that will be generated could be used by the relevant Network Licensees

N/A

Or, please describe what specific challenge identified in the Network Licensee's innovation strategy that is being addressed by the project (RIIO-1 only)

N/A

Is the default IPR position being applied?

☑ Yes

Project Eligibility Assessment Part 2

Not lead to unnecessary duplication

A Project must not lead to unnecessary duplication of any other Project, including but not limited to IFI, LCNF, NIA, NIC or SIF projects already registered, being carried out or completed.

Please demonstrate below that no unnecessary duplication will occur as a result of the Project.

The project will build on initial work carried by SGN that looks at the future priorities for innovation across scenarios and themes related to the energy transition Assessment against the Smarter Network Portal has been carried out along with discussions with other GDNs.

If applicable, justify why you are undertaking a Project similar to those being carried out by any other Network Licensees.

N/A

Additional Governance And Document Upload

Please identify why the project is innovative and has not been tried before

This project looks to uncover various unknowns, including uncertain regulations, government and regulatory policies, and significant changes in demand and prices. This is a new area of innovation and therefore would require a collaborative approach through NIA where information and lessons learned can be shared.

Relevant Foreground IPR

All relevant foreground IP created as part of the project will follow NIA governance.

Data Access Details

Data and project information can be obtained by contacting the project manager.

Please identify why the Network Licensees will not fund the project as apart of it's business and usual activities

This project involves developing strategies and roadmaps which require development and industry exploration to validate options for a

Net Zero future.

Please identify why the project can only be undertaken with the support of the NIA, including reference to the specific risks(e.g. commercial, technical, operational or regulatory) associated with the project

Due to the innovative approach, this style project would normally have a risk profile that is too high for BAU or other funding methods. In addition, if the project were funded under BAU or other methods, it would take significantly longer, and the solutions would arrive too late to support the net zero transition. Also utilising NIA allows for shared learning with the other utilities and GDNs.

This project has been approved by a senior member of staff

☑ Yes