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

Feb 2022

Project Reference Number

NIA_NGN_357

Project Registration

Project Title

Community Resilience

Project Reference Number

NIA_NGN_357

Project Licensee(s)

Northern Gas Networks

Project Start

March 2022

Project Duration

1 year and 10 months

Nominated Project Contact(s)

Steve Dacre SDacre@northerngas.co.uk

Project Budget

£88,657.00

Summary

This research project will identify and quantify practices and work already undertaken by the GDNs and DNOs, both statutory (business as usual) and non-statutory (above and beyond), to support customers and communities. It will forecast short-term and long-term future risks to the resilience of communities, along with recommendations to ensure that networks are equipped to provide the most appropriate support for vulnerable members of society. This will include a range of scenarios, the future constellation of the energy system and possible future risks and recommendations for future regulation that would encourage collaboration across the energy sector.

Third Party Collaborators

National Energy Action

Energy Innovation Centre

Nominated Contact Email Address(es)

innovation@northerngas.co.uk

Problem Being Solved

The Gas Distribution Networks (GDNs) are responsible for ensuring that communities have access to safe and efficient gas supplies. However, they recognise that supporting the most vulnerable members of society in times of adversity is a necessity, whether as the result of a temporary loss of utilities, instances of flooding, or the extensive and far-reaching effects of a global pandemic. Each type of incident presents a unique and broad set of challenges which require varying levels of intervention from appropriate organisations, for example Local Authorities, community partnerships and charities.

As the networks prepare for a challenging energy systems transition, a more comprehensive and consistent approach to ensuring

community resilience will be required to safeguard vulnerable individuals and communities.

Method(s)

The method of this project will bring together a wider understanding utility provision, customers in vulnerable situations (CVS) and community resilience and further advance knowledge in this area and gaps of activity/knowledge.

It will provide firm evidence for future business cases into exploring gap avenues.

The deliverables of the project will include digital reports of:

- Scoping Study
- Delivery model development and concept testing
- Interim report after Phase 1 detailing findings from Scoping Study and options for delivery model development (Phase 2)
- Final report after Phase 2 detailing viable/preferred delivery models

Measurement Quality Statement

The study will deploy established and widely used social research methods drawn from the qualitative and quantitative paradigms. The methods have been chosen to offer breadth and depth of insights from literature, professional stakeholders and consumers. They will be designed to ensure validity (collection of intended data) and reliability (data collection could be replicated) within appropriate research and sampling contexts to ensure the quality of research outputs. Within GDPR guidelines event and data logs, and sampling data will be updated and maintained with appropriate participant (unique number referencing) and fieldwork event referencing. Techniques and principles to measurement quality will include: collecting data required for the purposes of the study, timeliness (setting date parameters for example), error detection (data cleaning); data uniqueness (removing duplicates); completeness (in survey data for example); and accuracy (good record keeping and data entry).

Data Quality Statement

The design of research tools will ensure the data collected is both high quality and appropriate to the research questions. Data will be collected, processed analysed and reported on using appropriate and secure data storage and software that the Team are familiar and experienced in the use of. Good data housekeeping principles such as version control, dating and data cleaning will be adhered to.

This project is a mixed-method social research study, as such relevant and appropriate (i.e. non-disclosure) data collection tools, analysis outputs will be maintained, kept up-to-date and made available to ensure transparency and traceability of data and results, for example:

· reference data tables (e.g., aggregated output from survey) and in line with good practice where cell numbers are <5 these will be suppressed to avoid inadvertent disclosure

· research tool templates (e.g., topic guides or questionnaires)

· thematic coding frames (qualitative analysis)

· participation and respondent matrices (anonymised as appropriate) but including relevant fields, such as range and type of sector por other characteristics

· evidence review references.

Scope

The proposed research will involve a cross-utility audit of statutory and non-statutory services, support and offers available to customers, with a focus on CVS across Great Britain (GB).

As well as the complexity surrounding customer vulnerability, there is an equally complex and diverse range of stakeholders that provide services and/or support to customers either directly or indirectly related to energy. To help understand and quantify this, the range of support and service providers, what it means for community resilience and customer safeguarding, both in current energy landscape and during the future energy transition, NEA proposes a cross-utility and community audit.

The audit will be delivered using an action research approach of two Phases.

Action research has been chosen as the preferred method because of its interactive, iterative, and collaborative characteristics, and ability to provide insight throughout the course of the research.

The proposed project will comprise:

a) scoping study and

b) delivery model development and concept testing.

On completion of the project, NGN will be positioned to consider how the developed models, or a preferred model could be taken forward to trial. Trials are out of scope of the project but is not proposed here.

Objective(s)

- Desktop Research – Evidence reviews
- Stakeholder mapping – Stakeholder review
- Qualitative expert elicitation workshops and interviews – Online introduction workshops, Sector specific workshops, Interviews
- Model development – Minimum 2 models identified for development
- Qualitative expert elicitation online workshops – Introduction workshop, Refining Workshop
- Consumer concept testing – Postal survey, Discussion groups, interviews
- Evaluate and refine models – Review meeting
- Stakeholder roundtable event – Stakeholder event, Final report

Consumer Vulnerability Impact Assessment (RIIO-2 Projects Only)

This project has been input into the ENA Consumer Vulnerability Impact Assessment Tool and there are no negative impacts on consumers in vulnerable situations therefore there is no need to take mitigation measures.

Success Criteria

- Quantify the current assistance being offered, statutory and non-statutory
- Provide an overview of the support available to members of the community
- Suggest best methods to coordinate and engage with the variety of external stakeholders
- Consider the different types of vulnerability, e.g., health or situational
- Consider the different types of community, e.g., regional or cultural
- Evaluate future risks to network resilience and the resulting impact on community assistance
- Consider a range of potential future network options within the energy systems transition
- Aim to influence regulation to encourage wider energy collaboration.

Project Partners and External Funding

The project partner is NEA. The project is wholly funded via NIA and facilitated via the EIC

Potential for New Learning

This project will enhance how vulnerability is understood, improve knowledge of the range and complexity of vulnerabilities and how different vulnerabilities interact or emerge in the context of energy, or different types of utility.

Enhanced understanding of the relationship between energy vulnerability and the energy transition, including risks and opportunities,

and potentially to inform GDNs development of network options beyond GD2 to ensure that no household is left behind in the drive towards net zero.

GDNs and utilities will have increased knowledge to meet their statutory and non-statutory vulnerable customer obligations, and additional evidence to demonstrate how they are leading the way with support for vulnerable customers.

Ultimately, the new learning will provide opportunities to demonstrate industry leadership, informing wider partnership work within utility sectors and among policy makers, including regulators.

All reports will be published on the ENA Smarter Networks Portal

Scale of Project

Community resilience project will be delivered as detailed. Carried out in any other way, including a lessened scope will significantly reduce the benefit received from the project

Technology Readiness at Start

TRL2 Invention and Research

Technology Readiness at End

TRL5 Pilot Scale

Geographical Area

The project is research based and is GB wide

Revenue Allowed for the RIIO Settlement

N/A

Indicative Total NIA Project Expenditure

Total external costs: £66,492.73

Total internal costs: £22,164.24

Total NIA expenditure: £88,656.97

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:

N/A

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

This scoping study and subsequent concept testing will enhance how vulnerability is understood, improve knowledge of the range and complexity of vulnerabilities and how different vulnerabilities interact or emerge in the context of energy, or different types of utility. As well as the complexity surrounding customer vulnerability there is an equally complex and diverse range of stakeholders that provide services and/or support to customers either directly or indirectly related to energy. This research will aim to better understand and quantify this, the range of support and service providers, what it means for community resilience and customer safeguarding, both in current energy landscape and during the future energy transition. The outputs from these projects will allow utility companies to better serve and support their consumers living in vulnerable situations.

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

This is a research project and benefits are solely qualitative. These include:

· Financial – Identify opportunities for partnerships between GDN's, DNO's and water utilities based on this research to recognise delivery of respective social obligations

· Health and safety – Integration with existing data systems to identify and respond to vulnerability under different scenarios

· Customer - Trials preferred models to innovate, collaborate and coordinate so that assistance is better targeted to customers most in need.

· Community – Cross sector/utility partnership workings. Identifying wider community stakeholders through this research

· Carbon reduction – Help to ensure net zero transition is fair and just by accounting for vulnerabilities within multiple transition scenarios.

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

The project closure report will be able to showcase if learnings can be replicated as well as the scale and costs associated.

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

Roll out cost are not within scope as the end TRL level is 5

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

The learnings from this project could be adopted by other Network licenses. However, the cost and methodology to roll this is out have not yet been developed

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.

A thorough check has been completed of the Smarter Networks Portal and no similar projects have been identified. All networks were informed of the project via a project notification form on huddle, as per the ENA ENIP process and no issues of duplication have arisen.

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

From thorough checks undertaken, Northern Gas Networks are sure there has not, to date, been a cross-utility audit of statutory and non-statutory support and services to customer in vulnerable situations across GB. Such an audit will not only quantify the support and services, but critically appraise them according to design, delivery, cross-sector partnerships and applicability and outcomes. This will be done considering how we understand vulnerability, and its complexity, transience, and intersectionality.

This approach will strengthen existing partnership work between GDNs, DNOs and water utilities and highlight potential cost efficiencies on delivery of respective social obligations. Such a new approach to cross-utility and community support will also point to opportunities for relevant parties, and their partners to innovate, collaborate and coordinate so that assistance is better targeted to customers most in need, demonstrating industry leadership among policy makers, including regulators.

Relevant Foreground IPR

The project and the resultant outcomes/deliverables will conform to the default treatment of IPR as set out under the agreed NIA Governance (where the default requirements address two types of IPR: Background IPR and Foreground IPR)

Data Access Details

For all data access requests, please follow the guidance set out in Northern Gas Networks Innovation Data Sharing Policy.
https://www.northerngasnetworks.co.uk/ngn-you/the-future/our-funding/

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

The scale of the issues at hand is unknown and therefore a high level of uncertainty associated with the project which would be beyond the network licensees' risk appetites. This project will forecast short-term and long-term future risks to the resilience of communities, along with recommendations to ensure that networks are equipped to provide the most appropriate support for vulnerable members of society.

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

The high level of risk associated to a low TRL research project is beyond the current risk appetites of networks, the NIA will allow us to

complete this project to better inform future decisions and opportunities. The use of NIA funding means learning will be shared with all networks.

This project has been approved by a senior member of staff

☑ Yes