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

Jan 2023

Project Reference Number

NIA_CAD0088

Project Registration

Project Title

Digital Exclusion

Project Reference Number

NIA_CAD0088

Project Licensee(s)

Cadent

Project Start

February 2023

Project Duration

0 years and 8 months

Nominated Project Contact(s)

innovation@cadentgas.com

Project Budget

£92,887.00

Summary

Energy networks need to communicate messages to their residential consumers to inform them of planned outages, unplanned outages (incidents) and local works. Communication is increasingly using digital channels which many consumers prefer. However, c20% of the population are digitally excluded (DE) without easy access to the internet. The wired (PSTN) telephone network will be switched off by 2025 so an important channel for DE will be lost.

The transition to NetZero will require increased communication between energy networks and their consumers. Communities and homes will adopt low carbon solutions, hydrogen, heat pumps, DSR, time of day pricing, etc. DE consumers should participate in, and benefit from, these transitions.

Third Party Collaborators

Energy Innovation Centre

Nominated Contact Email Address(es)

Innovation@cadentgas.com

Problem Being Solved

Energy networks need to communicate messages to their consumers to inform them of planned outages, unplanned outages (incidents) and local works. Communication is increasingly using digital channels which many consumers prefer. However, c20% of the population are digitally excluded (DE) without easy access to the internet so they cannot use digital channels such as email, Twitter, and messaging services such as WhatsApp.

Energy networks use conventional post and automated and manual telephone calls to communicate with consumers. However, these methods are slow, and usually lack any confirmation of reception. In the near future (by the end of 2025), the wired Public Switched

Telephone Network (PSTN) will be switched off.

The transition to NetZero will require increased communication between energy networks and their consumers. Businesses, communities, homes, and individuals will need to adopt low carbon solutions. DE consumers should participate in, and benefit from, these transitions, but this will be difficult without easy access to information.

Energy networks will increasingly need to communicate with end consumers; a lack of effective channels could impede the roll-out of solutions such as hydrogen, hybrid heat pumps and Demand side response (DSR).

Method(s)

We will take a novel approach to this problem using a holistic view and enabling future phases, if commissioned, to co-design potential solutions with consumers and stakeholders.

By researching the good practice in communicating with DE consumers, and how other industries have addressed the problem, we will identify the high-level current and future communication requirements of both organisations and consumers.

Future phases, through in-depth consumer research, will understand the depth of the problem, the specific reasons behind DE, and identify discrete groups and their communication preferences. This will allow us to create a comprehensive communications framework and help to ensure that future solutions meet the needs and preferences of DE consumers. For example, if the reason that a group don't use the internet is because they don't trust it, providing free internet access is not a solution.

Future phases, if commissioned, will use the comprehensive needs-based communication framework as a starting point we will co-design a portfolio of innovative new concepts with consumers and stakeholders that could be realised in a future stage of the project.

Data Quality Statement

The project will ensure that necessary data is of sufficient quality and readily available to meet the objectives of the project. This will be achieved by capturing output that has derived from research undertaken with other industries that have addresses similar problems.

Measurement Quality Statement

The project will collect data/feedback directly from the other industries that have undertaken similar work in this area. This data will be communicated and reviewed with the wider project team regularly to ensure transparency and consistency.

Scope

This research project will aim to discover a deep understanding of the causes, challenges, and risks of DE amongst energy consumers. The objective of this discovery project is to:

- Identify good practice in communicating with DE consumers by researching the way leaders in other industries have addressed the problem and identifying energy networks communication requirements.

This will be undertaken by reviewing current practices and by:

- Engage with industry, charities, and other bodies to capture good practice
- Capture needs of energy networks and high-level consumer needs
- Create a community to support later activities
- Report and share

Objective(s)

The objectives of this project are:

Identify good practice in communicating with DE consumers by researching the way leaders in other industries have addressed the problem and identifying the current and future energy networks' communication requirements.

Consumer Vulnerability Impact Assessment (RIIO-2 Projects Only)

This project has been input into the 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

- Identify good practice other industries have developed in addressing the communicating needs of DE consumers.
- Document different types of messages energy networks may wish to communicate to DE consumers.
- Gather network requirements.
- Strengthen links with experts in other sectors.

Project Partners and External Funding

The project partner for this project is Energy Systems Catapult in collaboration with NGN and NGET and the project will be wholly funded via NIA.

The EIC will facilitate this project.

Potential for New Learning

By the end of this research project, Utility companies will have a better understanding of the range of challenges and the specific reasons behind DE, so discrete groups can be identified, and how best to communicate with each of these groups.

All reports will be published on the ENA Smarter Networks Portal.

Scale of Project

The project will be delivered as detailed and will bring a better understanding relating to alternative means of communicating with digitally excluded customers. Should this research phase be successful, then there will be opportunity to move into a development/delivery phase, thereby rolling out a potential desired solution, that would bring benefit to customers in these circumstances. If the scale was lessened, it would significantly reduce the benefit received from the project.

Technology Readiness at Start

TRL2 Invention and Research

Technology Readiness at End

TRL3 Proof of Concept

Geographical Area

The project is research based and is applicable to Cadent's four Networks as well as NGN and NGET.

Revenue Allowed for the RIIO Settlement

N/A

Indicative Total NIA Project Expenditure

Total external costs: £69,665

Cadent	£22,434
NGN	£22,433
NGET	£24,798

Total internal costs: £23,222

Cadent	£7,478
NGN	£7,478
NGET	£8,266

Total NIA expenditure: £92,887

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:

The aim of this research project is to identify best practice in terms of communicating with digitally excluded customers (circa 20% of UK population). This will be achieved by researching the way leaders in other industries have addressed this problem, whilst also engaging with consumers and consumer groups.

The potential benefits for this project include:

· Customer needs are better understood allowing upskilling through training and tools to communicate with DE customers and

be able to adopt a consistent approach across industries

· Improving the knowledge and understanding of staff in the needs of all members of the community through training and tools.

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

As this is a research project, then there will be no financial benefits to capture at this stage. However, this project will aim to see if there could be a potential solution to adopt, which will aid customers who are in a vulnerable situation by the fact that they are currently digitally excluded and therefore are at risk of receiving key communications.

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

This must be in terms of the number of sites, the sort of site the Method could be applied to, or the percentage of the Network Licensees system where it could be rolled-out.

There will be no roll out opportunity at the completion of this project. Further phases would need to be delivered for this to be achieved.

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 3

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 and no similar projects have been identified. All networks were informed of the project via a project notification form on huddle 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

Digital Exclusion has not been identified previously across all GDNs and thus makes this project innovative.

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

Any consumer data gathered throughout this project will be anonymised and will be compliant with General Data Protection Regulations (GDPR) and the UK Data Protection Act. Any compliant data can be made available for review upon request.

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 there is a high level of uncertainty associated with the project which would be

beyond the network licensees' risk appetites. This piece of work is to better understand the opportunities for communicating with digitally excluded customers, ensuring they kept informed of current and future needs (move to Net Zero).

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 risk associated with the low TRL project is beyond the current risk appetites of networks. NIA will allow us to complete this project to better inform future decisions and opportunities.

This project has been approved by a senior member of staff

☑ Yes