

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

Oct 2014

### Project Reference Number

NIA\_NGN\_090

## Project Registration

### Project Title

Project Futurewave

### Project Reference Number

NIA\_NGN\_090

### Project Licensee(s)

Northern Gas Networks

### Project Start

September 2014

### Project Duration

0 years and 9 months

### Nominated Project Contact(s)

Nicholas Phillips NGN Lead Contact, Angus Mcintosh SGN  
, Steve Edwards WWU, Tony Nixon NGGD

### Project Budget

£608,724.00

## Summary

The project has been split into two main stages:

Phase 1: The Co-Creation phase will be investigate, through the collaborative identification of pivotal insights, both consumer and commercial realities, researching key choices about where we'll focus key strategic decisions, develop a set of hypotheses that will guide and ignite the concepts we'll collectively create around the social energy in the subsequent phase of the project

Phase 2: Will be a rapid development stage resulting in fully dimensioned concepts that represent concrete new value for both consumers and GDNs, and how they can be executed. These concepts are designed to gain all GDN alignment on the best way to develop future specific projects, as either a collaborative portfolio of NIA projects or a NIC proposal.

These concepts will become more detailed over the course of Phase 2 from initial sparks of intent to richly dimensioned and optimized propositions, ready for assessment and commercialization planning.

## Third Party Collaborators

Fahrenheit 212

Energy Innovation Centre

Energy Innovation Centre

## Nominated Contact Email Address(es)

innovation@northerngas.co.uk

## Problem Being Solved

Currently, energy customers in the UK have limited options for how they generate, access and consume energy as well as the price they pay. There is also very little scope to flex supply across the energy distribution networks at a local level (i.e. switch off parts of the networks) which in turn makes it difficult to reduce generation capacity and make significant carbon reductions at a national level. Moreover, the cost of energy and access to different sources in rural areas is adding to the issue of fuel poverty. Additionally, concerns around the Energy Trilemma, are relatively unsophisticated when it comes to understanding the energy market – and the potential of gas within it. Any new model must help inform consumers about the value of gas and help place it on the social agenda.

The concept of Social Energy is to put greater control of energy generation, consumption and cost into local communities as well as broadening sources of energy available to remote communities. There are a huge range of options and ideas for how this is achieved but, to date, the role and contribution of the gas networks in this has not been fully explored.

The GDNs would like to deliver a collaborative piece of research to fully appreciate the problems of making social energy a reality, and the role GDNs should play.

## Method(s)

To undertake customised qualitative research in order to uncover fresh consumer and category insights that will serve to inform the advancement of an initial all GDN and stakeholder summit to further explore and develop:

- Consumer habits, practices, unmet needs and motivations for existing and emerging behaviours.
- Operational requirements and commercial realities of distributing natural gas in the UK.
- Competitive landscape and metrics, dynamics and growth drivers of the gas industry.
- Strategic context for the future initiatives supporting options for cogeneration.

Our partners will ensure the targeted ethnography for this Exploratory Research is appropriate and the research is focused around asking the right questions in order to generate profound and unique observations and insights.

The gas networks wish to research new service models within a sustainable energy mix for several million consumers who are off gas (whether domestic or SME).

## Scope

The project has been split into two main stages:

Phase 1: The Co-Creation phase will be investigate, through the collaborative identification of pivotal insights, both consumer and commercial realities, researching key choices about where we'll focus key strategic decisions, develop a set of hypotheses that will guide and ignite the concepts we'll collectively create around the social energy in the subsequent phase of the project

Phase 2: Will be a rapid development stage resulting in fully dimensioned concepts that represent concrete new value for both consumers and GDNs, and how they can be executed. These concepts are designed to gain all GDN alignment on the best way to develop future specific projects, as either a collaborative portfolio of NIA projects or a NIC proposal.

### Stage 2 Preparation

- Providing additional consulting services in preparation for phase 2
- Produce a video on the work been undertaken
- Undertake additional quantification work on research already undertaken
- Assist in the planning and development of stage 2

These concepts will become more detailed over the course of Phase 2 from initial sparks of intent to richly dimensioned and optimized propositions, ready for assessment and commercialization planning.

## Objective(s)

This proposed innovation project is intended enable Networks to understand their role and contribution in localised energy generation and consumption. This initial stage research will:

Four main objectives have been identified initially for the project:-

1. Provide an understanding of consumer habits, practices, unmet needs and motivations for existing and emerging behaviors.
2. Explore the operational requirements and commercial realities of distributing natural gas in the UK.
3. Provide an insight into the competitive landscape and metrics, dynamics and growth drivers of the gas industry.
4. Set the findings in the GDN's strategic objectives and operating environment, as well as all relevant assets and capabilities.

## Consumer Vulnerability Impact Assessment (RIIO-2 Projects Only)

n/a

### Success Criteria

- Clear definition of social energy within 4 rural and 4 urban environments and alignment of these definitions on the project agenda going forward.
- Development of three concepts into a full solution.
- Development and presentation of final solution

### Project Partners and External Funding

n/a

### Potential for New Learning

n/a

### Scale of Project

Fahrenheit 212, working in close collaboration with Basis Research, a UK-based consumer research firm to satisfactorily complete this exploration of consumers across 4 rural and 4 urban geographies. In addition, we would seek to interview relevant local authorities where possible.

### Technology Readiness at Start

TRL2 Invention and Research

### Technology Readiness at End

TRL3 Proof of Concept

### Geographical Area

Initial stages research only.

### Revenue Allowed for the RIIO Settlement

None

### Indicative Total NIA Project Expenditure

The total Project cost is £457,000.00 of which 90% is allowable NIA expenditure (£411,300). The costs are being shared proportionally amongst the Network Licensees as follows:

NGG external NIA expenditure - £114,250.00 NGG internal NIA expenditure - £37,931.00

SGN external NIA expenditure - £114,250.00 SGN internal NIA expenditure - £37,931.00

WWU external NIA expenditure - £114,250.00 WWU internal NIA expenditure - £37,931.00

NGN external NIA expenditure - £114,250.00 NGN internal NIA expenditure - £37,931.00



## 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:

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)

This is a research project.

#### Please provide a calculation of the expected benefits the Solution

Research Project

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

All networks are collaborating on this project and are committed to delivering a better service to their customers.

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

Research

### 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

All GDN's are participating in this project with key learning and insights being shared across the sector.

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

All GDN's recognise the significant challenges that the wider energy industry in the

UK will face in the long term. This project plays significant role in ensuring our gas distribution networks can fully play a full part in the move to a low carbon economy.

It also maintains our focus on the continuing challenging and improving overall levels of service, meeting our stakeholders' expectations and delivering long term improvements

- Has the Potential to Develop Learning That Can be Applied by all Relevant Network Licensees

### 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.

n/a

### 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

n/a

### Relevant Foreground IPR

n/a

### Data Access Details

n/a

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

n/a

**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**

n/a

**This project has been approved by a senior member of staff**

Yes