

NIA Project Registration and PEA Document

Date of Submission

Dec 2016

Project Reference Number

NIA_NGN_195

Project Registration

Project Title

Connecting homes for health

Project Reference Number

NIA_NGN_195

Project Licensee(s)

Northern Gas Networks

Project Start

December 2016

Project Duration

3 years and 9 months

Nominated Project Contact(s)

Jill Walker

Project Budget

£115,989.00

Summary

A two stage methodology to: a) identify and b) effectively test and pilot an appropriate health and wellbeing and environmental benefit criteria that can be incorporated into NGN's current gas grid connection procedure.

Third Party Collaborators

National Energy Action

Durham County Council

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Problem Being Solved

GDNs are currently obliged to provide selected vulnerable households with a gas network connection (where a gas connection is considered to be most appropriate means of assistance) under the Fuel Poor Network Extension Scheme (Ofgem 2016). Under the scheme, GDNs and IGTs work with partner organisations to help eligible households to switch to a natural gas or a heat network, and provide funding to cover connection costs. For a household to be considered for assistance under the Fuel Poor Network Extension Scheme, they must meet the following criteria:

- They must live within the 25% most deprived areas in the UK according to the Index of Multiple Deprivation (IMD)
- They must be eligible for support under the ECO Home Heating Cost Reduction Obligation (Great Britain), Nest in Wales or the Home Energy Efficiency Programmes in Scotland
- They must be in fuel poverty based on the definition or indicator formally adopted by each nation.

The current Regulatory Framework will run until 2021, thus providing an opportunity for interested organisations to assess whether the

obligations for connecting fuel-poor households as they stand are able to cover the wider range of vulnerabilities which living in a cold home can cause or exacerbate, and which providing a gas grid connection could help alleviate. It also provides an opportunity to access how far current frameworks enable and capture additional indicators, such as health and wellbeing, and environmental benefits.

This coincides with a number of strategic recommendations and targets that have been released by official bodies. In terms of health and wellbeing, it overlaps with the release of the 2015 National Institute for Health and Care Excellence (NICE) guideline on excess winter deaths and illness and the health risks associated with cold homes (NG6), as well as the publication of the NHS Five Year Forward Plan (2014).

The evidence review conducted by NICE highlights the significant impact which living in a cold home can have on health, and provides a number of recommendations to address this. Recommendations are targeted at particular organisations: for example, recommendation 3 (provide tailored solutions via the single point of contact health and housing referral service for people living in cold homes) names health and wellbeing boards, local authorities, housing providers, energy utility and **distribution** companies, as well as faith and voluntary sector organisations as being the key actors needing to take action.

This also represents a means through which GDNs can engage with (and bridge) those parts of the health sector that address both clinical concerns and the wider determinants of health, in so far as they coincide with the health impacts of cold homes. For example, the NHS Five Year Forward View emphasises a need to integrate a focus on prevention and public health into current health service delivery. In a context in which pressures upon the NHS are continually increasing, the King's Fund argues that this is to be done by "aspiring to shift investment into the community to provide alternatives to care in hospitals or care homes. As part of this, Sustainability and Transformation Plans (STPs) (due for approval by October 2016) require local NHS organisations to join together and develop health and care service plans that are 'place-based'. The Kings Fund argues that that shift to place-based planning should include "collaboration with **other services and sectors beyond the NHS** to focus on the broader aim of improving population health and wellbeing – not just on delivering better quality and more sustainable health care services".

It is on this basis that NGN is seeking to research and pilot a revised and more inclusive criteria for connecting vulnerable households to the gas network than is currently included in the eligibility criteria of the Fuel Poor Network Extension Scheme. This would represent a voluntary and proactive move on the part of NGN, and relates to the need to identify ways in which specific bodies (in this case, GDNs), can apply the NICE guideline and evidence review to more effectively identify and engage with consumers who may be vulnerable to the health impacts of living in a cold home, and to design and target interventions to provide appropriate assistance. It would also mean that GDNs can contribute to the practical integration of preventative work to treat cold homes (carried out in partnership across sectors) with the alleviation of clinical pressure on the NHS. It therefore integrates GDNs and their service offerings for vulnerable consumers into a pathway for achieving Public Health and NHS outcomes.

Method(s)

This proposal is designed to identify and set out a pathway for enabling the incorporation of health eligibility and environmental benefit criteria into the operations of a specific industry sector: Gas Distribution Networks. It represents the next steps that are needed to ensure the NICE recommendations can be implemented across the range of bodies needed, and to develop grid connection procedures which encompass the full range of vulnerabilities produced by cold homes, rather than focusing on narrow indicators of need.

Scope

A two stage methodology to: a) identify and b) effectively test and pilot an appropriate health and wellbeing and environmental benefit criteria that can be incorporated into NGN's current gas grid connection procedure.

Stage 1:

NEA will conduct a desk-based review to assess existing evidence regarding the health outcomes and environmental benefits of connecting a household to the gas grid. The research will review existing academic, peer-reviewed and grey literature. From this a sample of schemes that demonstrate good practice in terms of integrating health and cold homes, and achieving particular environmental outcomes (such as improvements to the energy efficiency of homes), will be identified. These schemes will be contacted and invited to participate in a telephone interview in order to appraise how relevant impact indicators have been identified and effectively measured by existing cold homes initiatives (in terms of both qualitative and quantitative evaluation techniques). Indicators and measurement techniques identified during the review will be critically assessed in terms of their validity and suitability. This will inform the development and testing of appropriate indicators and measurement parameters that could be included in new eligibility criteria for network extension. The review will seek to identify any gaps in current knowledge that can be addressed through

piloting a gas grid connection scheme with health-based eligibility criteria, including any that fall within the five areas where NICE currently notes that gaps in evidence exist.

The information collected during the review will inform the design and development of a methodology for addressing any gaps in current evidence identified and for testing the eligibility criteria developed (model development stage). The results of the review will be shared with partners (including NGN, Durham County Council (DCC) - the delivery Local Authority - and an appropriate academic partner) during a consultation workshop in which appropriate methods for testing and piloting the new health criteria will be refined and developed, taking into account the knowledge and experience of each partner. Scheme managers who provided information at the telephone interview stage will also be invited to attend and provide insight/input. Once a methodology has been developed, a new proposal will be submitted to NGN for approval to deliver stage 2 of the research.

Stage 2:

Pending approval of the proposal submitted to NGN by NEA at the end of stage 1, stage 2 of the research will involve the piloting of gas grid connection procedures that incorporate the new health and environmental benefit criteria developed under stage 1. Whilst the specific methodology for doing so will depend upon the findings of stage 1 of the research, NEA proposes that a crisis fund (currently under consideration) be included in stage 2 to enable any grid connections that are made under the new criteria to be supplemented with appropriate heating measures needed to achieve health outcomes for a vulnerable household, where referrals to current schemes are not available.

This will entail close working with DCC and NGN in order to pin-point the location of households not currently connected to the gas network and to apply data sharing mechanisms (according to the strict following of ethical procedures) for the further identification households that would meet the health eligibility criteria being tested. It will also necessitate close partnership working with other identified local agencies for the delivery of measures via the proposed project crisis fund. NEA will deliver a pre- and post- connection and installation assessments in order to evaluate a) the health and environmental impact of connecting a household to the gas grid in conjunction with appropriate heating installations and b) to further refine the proposed health and environmental eligibility criteria for gas connection procedures. A key outcome of pilot would be the development of best practice guidelines for other GDN areas seeking to implement similar criteria and to provide policy insights useful to the future formulation of relevant policy.

Extension to original PEA

Introduction

After successful completion of stage 1, Durham County Council, a critical project partner took the decision to withdraw from the project. Their role as partner was not only to implement data sharing mechanisms, assisting the identification of households that would meet the health eligibility criteria, but also to source funding for consumer gas appliances. The former was successfully completed before Durham County Council's withdrawal. However, the latter has left a critical path of the project unfulfilled. Without such funding being secured for gas appliances, the project is not viable to continue.

NIA funding was secured for the research element of the project only, the gas connection and gas appliances for connecting homes to the gas network were/are envisaged to be funded outside of the innovation allowance.

To identify a new project partner, consultation is underway with a number of energy suppliers as part of ofgem's Warm Home Discount Scheme. The supplier is required to submit an application to the scheme to secure the required level of funding to partner this project. The outcome of all applications under the Warm Home Discount Scheme will be announced in July.

Although, work is underway to ensure the successful delivery of the project, the impact of the partner withdrawal as led to significant project time delays, which cannot be recovered. On the assumption a project partner will join the project by the end of July 2018, the new project timeline completion date is May 2020.

Reason for extending the project

Not only was phase 1 of the project a success, validating the anticipated benefits the project will deliver, but also the project will have a real term social impact. The projects aim and objectives are still current.

Greater governance has been placed around the project, with project responsibilities, communication paths and risks scrutinised in detail, therefore reducing the chance of any future project delays occurring.

Recommendation

Due to the remaining uncertainty surrounding the security of a critical project partner, it is recommended the project is extended until August 2018. By which time it will be known whether the suppliers Warm Home Discount Scheme application has been successful and therefore whether they would be eligible to join the project. At this point a decision will be made as to whether the project is viable to continue.

Should the project successfully secure a project partner, a further project extension application will be submitted for the entire duration of the project.

Objective(s)

1. Gas connections procedures are refined to help to ensure the most vulnerable households are reached and engaged.
2. The concept is socialised through key industry players to bring about wider change and the development of future regulations is better informed.
3. Local authorities and GDNs are more enabled to work in partnership to achieve health outcomes (bridging the gap between the two).
4. New avenues for infrastructure improvement and policy developments are identified.

Consumer Vulnerability Impact Assessment (RIIO-2 Projects Only)

n/a

Success Criteria

Stage 1:

A final report including:

- A review of existing evidence regarding the health outcomes and environmental benefits of connecting a household to the gas grid
- A review of how impact upon health and wellbeing and the environment has been effectively measured by existing initiatives (qualitatively and quantitatively)
- An analysis of gaps in current evidence
- Recommendations of appropriate measurement parameters for a new health-based eligibility criteria for network extension procedures that can work towards addressing those gaps

A consultation workshop with all partners to:

- Share the results of the stage 1 review and provide feedback
- Refine and develop methods for testing the criteria developed in the stage 1 review and closing gaps in current evidence regarding the health outcomes of network connections
- A full proposal for stage 2 of the research incorporating feedback from the consultation workshop will be developed and submitted to NGN for approval

Stage 2:

A pilot study to test and evaluate the health and environmental impact of gas connections procedures in a specified region (County Durham) using qualitative and quantitative techniques both pre- and post-connection (including the use of a crisis fund for the installation of accompanying measures)

A final report evaluating:

- impact upon health and wellbeing, and benefits to the environment, of connecting a household to the gas network
- effectiveness of including health and environmental eligibility criteria to current network extension procedures
- assessment of available health and environmental indicators and criteria that could be adopted as good practice
- A best practice blue-print including:
 - recommendations for how health and environmental eligibility criteria can be incorporated into current frameworks for gas connections
 - case studies for effective partnership working between local authorities and GDNs for the implementation of the NICE guidance across sectors

- policy recommendations for enabling other industry bodies to incorporate learnings from the research into connections procedures

Project Partners and External Funding

National Energy Action (NEA)

Northern Gas Networks

Durham County Council

This project will be part funded by the NEA and NGN's NIA allowance.

Potential for New Learning

NGN is seeking to research and pilot a revised and more inclusive criteria for connecting vulnerable households to the gas network than is currently included in the eligibility criteria of the Fuel Poor Network Extension Scheme. This would represent a voluntary and proactive move on the part of NGN, and relates to the need to identify ways in which specific bodies (in this case, GDNs), can apply the NICE guideline and evidence review to more effectively identify and engage with consumers who may be vulnerable to the health impacts of living in a cold home, and to design and target interventions to provide appropriate assistance. It would also mean that GDNs can contribute to the practical integration of preventative work to treat cold homes (carried out in partnership across sectors) with the alleviation of clinical pressure on the NHS. It therefore integrates GDNs and their service offerings for vulnerable consumers into a pathway for achieving Public Health and NHS outcomes.

Scale of Project

The scale of this project has been developed in conjunction with National Energy Action (NEA) which will look to re-evaluate the way that we determine which vulnerable properties to connect to the gas grid.

Technology Readiness at Start

TRL5 Pilot Scale

Technology Readiness at End

TRL8 Active Commissioning

Geographical Area

The practical stage of the project will be carried out in NGN's network.

Revenue Allowed for the RIIO Settlement

GDN's are incentivized to hit targets set by Ofgem within the social obligation output. Last year we received £1.3 million for meeting the targets hit in years 1, 2 and 3.

Indicative Total NIA Project Expenditure

Total-Stage 1 £18353

Stage2- NEA costs circa £60k

Stage 2- NGN costs circa £8399

Stage 2- install costs- based on 50 properties @£5k/property £250k- looking to externally fund, based on outputs of stage1.

Total Stage 2 Costs £318,399, of which £68399. NIA funded

Total NIA Funding Stages External Costs 1+2 £86,932

Total internal expenditure £28,977

Total NIA Funding £115,989

Project Eligibility Assessment Part 1

There are slightly differing requirements for RII0-1 and RII0-2 NIA projects. This is noted in each case, with the requirement numbers listed for both where they differ (shown as RII0-2 / RII0-1).

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 RII0-2 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 (RII0-1 projects only)

The full benefits to customers are to be determined but are associated with 3 key areas;

- Cost savings, based on an average saving of £500/property over 20 years this would be £500,000
- Health benefits, To be determined, amount likely to be in excess of Cost savings
- Environmental Benefits, based on carbon reduction, to be determined as part of the project.

Please provide a calculation of the expected benefits the Solution

Cost savings, based on an average saving of £500/property over 20 years this would be £500,000

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

Further benefit identification will be carried out as part of the project.

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

None.

Requirement 3 / 1

Involve Research, Development or Demonstration

A RII0-1 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

RIO-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 obliged to provide vulnerable households with a gas network connection under the fuel poor extension Scheme, this must meet certain criteria within the scheme. With the current regulation framework due to end in 2021 it provides an opportunity for interested organisations to assess whether the obligations for connecting fuel-poor households as they stand are able to cover the wider range of vulnerabilities which living in a cold home can cause or exacerbate, and which providing a gas grid connection could help alleviate. The project will produce a report which will be shared with all other GDN's.

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

This addresses NGN's RIO output in the area of social obligation with regards to the number of fuel poor connections.

- ☒ 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.

This is project looks to change the way that we connect vulnerable homes to the Gas Grid, there are no projects on the SNP looking into this.

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