

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

Apr 2023

### Project Reference Number

NIA\_CAD0089

## Project Registration

### Project Title

EasyKey

### Project Reference Number

NIA\_CAD0089

### Project Licensee(s)

Cadent

### Project Start

April 2023

### Project Duration

1 year and 6 months

### Nominated Project Contact(s)

innovation@cadentgas.com

### Project Budget

£149,930.00

## Summary

This project is to design a meter box key that is more suitable for customer in vulnerable situations and with dexterity issues. The current standard key is small and requires a high level of dexterity to grip and turn. OGP's new design will allow responsible engineers to attach a new collar to the current meter box locking feature. Once the collar is attached the user will be able to use an innovative, larger key to both unlock the box and use the additional grip to help open the meter box door.

This method will provide a prototype for a commercial solution, that currently does not exist within the market, to enable customers in vulnerable situations to access the ECV and/or EasyAssist and allow them to live independently.

### Nominated Contact Email Address(es)

Innovation@cadentgas.com

## Problem Being Solved

During gas emergencies, customers are advised to isolate gas supply in their property, by shutting off their Emergency Control Valve (ECV). The ECV is typically located close to the meter installation, which can often be in an external gas meter box.

Approximately 50% of all gas meters are fitted in external meter boxes which are locked and need to be accessed with a small standard key. This physical activity is a problem for some of the UK customers listed on the Priority Service Register (PSR).

Approximately 4.6 million people are restricted physically, which could limit their ability to isolate their ECV in a Gas Emergency, 50% of homes have the meter located outside so around 2.3 million people could use a EasyKey, due to an inability to utilise the traditional meter box key. These include osteoarthritis, post stroke and registered disabled. Other accessibility Needs such as sight issues will also benefit from this easy access innovation.

## Method(s)

The current standard key is small and requires a high level of dexterity to grip and turn. OGP's new design will allow responsible engineers to attach a new collar to the current meter box locking feature. Once the collar is attached the user will be able to use an innovative, larger key to both unlock the box and use the additional grip to help open the meter box door.

This method will provide a prototype for a commercial solution, that currently does not exist within the market, to enable customers in vulnerable situations to access the ECV and/or EasyAssist and allow them to live independently for longer.

### **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 providing current relevant PSR data, to enable development to progress in the correct manner.

### **Measurement Quality Statement**

The project will collect data directly from the PSR data available to us, that is relevant to the project. This data will be communicated and reviewed with the wider project team regularly to ensure transparency and consistency.

### **Scope**

OGP looks to develop a collar for the meter box door which will be fitted to the locking mechanism allowing the existing key and a specially designed ergonomic key with additional grip to support opening of the meter box.

The overall scope, broken into four main stages, is the Engineering development of EasyKey – Inclusive of concepts to field trial. This will be achieved by;

Stage 1 – Concept consolidation (review of all ideas, concepts and produce work like prototypes)

Stage 2 – Engineering (develop solution, review material needs and amend based on testing and feedback)

Stage 3 – Alpha Prototypes (Produce Alpha prototypes and test)

Stage 4 - Design for Manufacture & Beta Prototypes (final design review, prototyping and test house and field trials)

### **Objective(s)**

Stage 1: URS/TRS document agreed to by all interested parties, prototypes, user trial and report on findings and test plan draft document.

Stage 2: Prototypes to be made and reviewed with all interested parties, design documentation pack (including CAD and Drawings needed for manufacture). Costed Bill of Materials (BOM) and material options to be provided and cost estimates/implications for each option.

Stage 3: Prototypes for review by all interested parties & test report.

Stage 4: Released CAD and Doc pack, "works like, looks like" prototypes in the correct material for approvals testing and G23. Internal Test Report, External Test House Report, and field trial report

### **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**

- Will produce prototypes that can be fitted on to most existing exterior meter boxes with minimal modifications or additions.
- Will meet all the criteria specified in the URS/TRS to its assigned level, including relevant industry standards and policy.
- Will be user friendly and easier to activate for the majority of users.
- Could have additional accessories to make it more suitable for different user needs.

### **Project Partners and External Funding**

The project partner for this project is Oxford Gas Products and the project will be wholly funded via NIA.

## Potential for New Learning

Understanding into the scale and volume of the 'market' for this device beyond that of the priority services register.

Identification of relevant British standards applicable for this project use case and potentially other retrofit devices.

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

## Scale of Project

The project will be delivered as detailed and will bring significant changes to how customers access their meters that are in boxes and provide an assisted device ready for manufacture.

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

TRL7 Inactive Commissioning

## Geographical Area

The project is development based and is applicable to Cadent's four Networks.

## Revenue Allowed for the RIIO Settlement

N/A

## Indicative Total NIA Project Expenditure

Total external costs: £119,930

Total internal costs: £18,000

Total NIA expenditure: £137,930 + £12,000 Contingency

## 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 solution being developed during the project will have a significant impact on customers, with a focus on those with dexterity issues, Osteoarthritis, post stroke and other accessibility Needs such as sight issues. The network would look to issue the solution to customers meeting the relevant PSR codes, reaching around 1 million customers in the UK. However with the simplistic nature of the solution it would be relevant to further PSR codes and a wider audience.

### 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

The aim of the project is not necessarily to see financial benefits but to impact the experience of PSR customers and to keep them safe in a gas emergency. In addition, the project has the below benefits:

Financial - Reduced P1/uncontrolled callouts of personnel to temporarily cut off gas supplies.

Health & Safety – Having an easier access to the ECV, the customer is able to make safe prior to an engineer visit. Safety impact on property & people.

Community – Increase in PSR conversations and opportunities to discuss safety and co awareness during implementation.

Customer – empowered to make safe and increased confidence in an emergency and being able to live independently for longer. This added accessibility will allow customer to gain access to read meters more easily and therefor more often.

Business as Usual – the device is retro fit and will be simple and quick to fit.

Environmental - Less gas wasted in the event of an escape

Additional SROI can be achieved with conversations and energy awareness. Expected to reach 150,000 customer (30,000 per network). An assessment at the end of the project will be conducted to understand the true SROI.

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

The project output will be shared across networks and will be able to be rolled out across all GDNs, it is also replicable across the electricity networks for use on Electricity meter boxes.

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

Roll out costs are not within the project scope and will depend on the network implementation plans. The networks could look to roll out whilst visiting customers on existing visits and therefore cost would be minimal. The cost of purchasing is expected to be comparable to existing meter box keys.

## 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.

Review of existing solutions conducted and trials of a simply keyless solution has taken place without success under G23. Other ergonomic assisted key solutions have been developed for disability needs however not in the case of meter boxes. We conducted a call for innovation through the partnership with EIC and received presentations from five suppliers, down selection of the best solutions was deemed to be OGP and the extensive research into the subject matter.

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

Review of the ENA portal has not found any similar projects or anything relating to this project. The project will also be shared with the other network licenses ahead of project start.

## **Additional Governance And Document Upload**

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

Current methods do not consider accessibility for the GB customer and after trialling an alternative in the field, Cadent discovered that there was no ergonomic or innovative solution existing for this application.

OGP have researched and have initial ideas are considering vulnerability not previously consider and addressing a problem that has not been explored. Innovation funding is needed to prove the solution is feasible and will support a wide variety of customer Needs.

### **Relevant Foreground IPR**

Background IPR in place though know-how, research and design work shared during presentation. This will be considered and relevant to any foreground IPR generated.

### **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**

This solution is untested and unproven and will require research and development to ensure it is compatible and meets the requirements of the customer. This wouldn't be possible through BAU.

### **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.

Technical – proof of concept and development of solution to ensure the system works for PSR customers.

- Risk that PSR customers and those with accessibility needs would be unable to access the meter in an emergency.

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

Yes