NIA Project Registration and PEA Document

Notes on Completion: Please refer to the **NIA Governance Document** to assist in the completion of this form. Please use the default font (Calibri font size 10) in your submission. Please ensure all content is contained within the boundaries of the text areas. The full-completed submission should not exceed 6 pages in total.

Project Registration

Project Title		**Project Reference**
A Needs based segmentation of Low Income and Vulnerable Customers		**ENWL 032**

Funding Licensee(s)	**Project Start Date**	**Project Duration**
ENW	Sept 2022	7 months

Nominated Project Contact(s)	**Project Budget**
InnovationTeam@enwl.co.uk	£273,900

Problem(s)

Ofgem has set out that no one should be left behind in the pursuit of net- zero and innovation in the energy sector. The current cost-of-living crisis and problems in energy supply, combined with the need for DNOs to plan effectively for long term investment, emphasise the importance of developing policies that meet the needs of all customers.

However, the recent report from the RIIO-2 Challenge Group (8 Feb 2022) highlights the concern that the needs of low income and vulnerable (LIV) customers are not generally well understood by Distribution Network Operators (DNOs) and not in a joined-up way. In their report, the Challenge Group 'did not see DNOs consistently and compellingly set out their rationale for different activities' designed to support vulnerable customers. They observed a wide variation in the way DNOs identified the goals and their proposed methods of meeting those goals.

The challenge begins with how DNOs identify LIV customers and understand their needs. LIV customers are typically classified in one-dimensional ways (age, disability, income, etc) and applied inconsistently across regions. This simplification and inconsistency could mean that the needs of LIV customers are under-represented in investment initiatives and ultimately to cause them to fall behind in terms of their access to suitable services and the benefits of new technology. In addition to these limitations, the views of LIV customers are often represented to DNOs through the filter of interest groups (eg Age Concern, RNIB, MIND, etc) and not directly from the customers themselves. Those agencies seeking to represent LIV customers do not necessarily have a full understanding of the energy needs of LIV customers or of the (sometimes limited) role that DNOs can play in providing for those needs.

There is consequently a strong need for an objective appraisal how best to classify LIV customers and to identify their energy needs.

Method(s)

We propose a programme of extensive customer engagement with LIV customers:
- Qualitative research to gain depth of understanding
- Preparatory quantitative research with energy customers across GB
- Expansion of Energy Systems Catapult (ESC) 'Living Lab'

Our approach will provide DNOs with a better understanding of the needs of LIV customers that starts from their lived experience. It will also enable DNOs to develop more efficient, targeted services, resulting in:
- Lower cost to serve
- Higher Social Return on Investment
- Readiness for future vulnerabilities and changing energy markets

By starting from LIV customers' personal point of view, we will be able to fully understand their needs and attitudes, identify the most appropriate forms of engagement and communication, and determine how best to support them in adopting net-zero activities.

In addition, LIV customers recruited to this research will be invited to join ESC's 'Living Lab'. With this expanded resource, ENOs will have the opportunity to optimise future low carbon technologies and service initiatives by validating them first with participants in the Living Lab and with the needs of LIV customers specifically in mind.

Scope

The customer engagement will be conducted at a nationwide level, ensuring representation of all energy supply regions (DNOs are the focus, but GDNs will also be represented, allowing potential application of learnings to the Gas sector too):

Research programme

Part 1
Development of a common 'lens' or group of 'lenses' through which DNOs and Ofgem should view the needs of LIV customers and assess the solutions developed to meet those needs. This first part of the research programme will pursue the following:
- Establishment of a working group comprised of representatives from ENWL, Energy Systems Catapult (ESC) and Impact Research
- Compilation of an industry-wide report that establishes the different 'lenses' through which to view the range of LIV customers, their different needs and the existing and planned initiatives designed to meet them
- Creation of a 'best practice' guide that draws together learnings from the above report, common procedures for classifying LIV customers and their needs, a systematic way to establish realistic goals that DNOs pursue and practical, objective measures of success
- Validation of these findings through a large-scale programme of primary research (Part 2)

Part 2
Nationally representative customer engagement with LIV customers:
- Qualitative research to gain depth of understanding,
  o 10 online focus groups with customers in vulnerable circumstances across GB
  o 50 In-depth telephone interviews with customers in vulnerable circumstances, or customers that are unable to participate in online focus groups
- Preparatory quantitative research with energy customers across GB
  o 20-minute online survey with 1,000 energy users, nationally representative across DNO regions

o   25-minute telephone/face-to-face survey with 100 nationally representative customers in vulnerable circumstances, or customers that are unable to participate in online panel surveys
•   Expansion of Energy Systems Catapult (ESC) 'Living Lab'

Although it will be beyond the scope of this current submission, there is likely to be a case for a subsequent, separate piece of work comprising large scale quantitative research to validate the findings.

Outputs
Our approach will provide DNOs with a better understanding of the needs of LIV customers that starts from their lived experience. It will also enable DNOs to develop more efficient, targeted services, resulting in:
•   Lower cost to serve
•   Higher Social Return on Investment
•   Readiness for future vulnerabilities and changing energy markets

Objective(s)

By providing DNOs with a better understanding of the expressed needs of LIV customers, the service and support they receive will be better targeted to meet their specific requirements and be delivered more consistently across the country.

The outputs from this work will provide to DNOs a clear and comprehensive guide to the different states of vulnerability, the specific needs of customers in these vulnerable circumstances and evidence for over- and under-delivery of services to these customers.

Success Criteria

The research will deliver a practical set of tools / library of material that DNOs will demonstrably use to:
•   better engage with LIV customers
•   improve communications with LIV customers
•   develop better solutions to support LIV supporters on the route to net zero activity (adoption of new technology, changes in behaviour, improved support, etc).

Success will be defined as:
•   the widespread use of the new / refined definitions of LIV customers that may emerge from the research
•   the application of the learnings to the development of better services for LIV customers and
•   the LIV customer definitions and needs-based recommendations come to be seen nationally as the 'gold standard' for guiding DNO business plans with regards to serving LIV customers.

Technology Readiness Level at Start	**Technology Readiness Level at Completion**
TRL3	TRL5

Project Partners and External Funding

Potential for New Learning

Fresh approach to defining Low income and Vulnerable (LIV) Customers in a more insightful and consistent way
Expanded resource for the development and testing of new initiatives to designed to service LIV customers and ensure that 'no one is left behind'.

Scale of Project

Comprehensive coverage of the full range of LIV customers

Geographical Area

North West England

Revenue Allowed for in the RIIO Settlement

£0

Indicative Total NIA Project Expenditure

£259,000

Project Eligibility Assessment

Specific Requirements 1

1a. A 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 systems and 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	☐

Specific Requirements 2

2a. Has the Potential to Develop Learning That Can be Applied by all Relevant Network Licensees ☒

Please answer one of the following:

i) Please explain how the learning that will be generated could be used by relevant Network Licenses.

The project will deliver a better understanding of the needs of LIV customers together with more consistent definitions of the different types of customers. Expansion of the ESC 'Living Lab' will expand the number of potential LIV participants in future trials of new technologies and policy initiatives

ii) Please describe what specific challenge identified in the Network Licensee's innovation strategy that is being addressed by the Project.

This project will address the 'Improve Network Reliability' objective which sits in our Optimised Assets and Practices theme

Is the default IPR position being applied?

Yes	☒
No	☐

If no, please answer i, ii, iii before continuing:

i) Demonstrate how the learning from the Project can be successfully disseminated to Network Licensees and other interested parties

ii) Describe how any potential constraints or costs caused, or resulting from, the imposed IPR arrangements

iii) Justify why the proposed IPR arrangements provide value for money for customers

2b. Has the Potential to Deliver Net Financial Benefits to Customers ☒

Please provide an estimate of the saving if the Problem is solved.

N/A – this is a research project

Please provide a calculation of the expected financial benefits of a Development or Demonstration Project (not required for Research Projects). (Base Cost – Method Cost, Against Agreed Baseline).

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

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

An additional £50,000. This is the anticipated cost of preparing literature suitable for dissemination to DNOs and for the organisation of two dissemination events designed to present the outputs not only to DNOs but a wider audience of interested parties (eg GDNs, Local Government, LIV representative groups)

2c. Does Not Lead to Unnecessary Duplication ☒

Please demonstrate below that no unnecessary duplication will occur as a result of the Project.

To our knowledge, there is no other NIA-funded work that addresses the idea of defining LIV customers specifically by their needs rather than simply their external (eg demographic) characteristics. It will draw on primary data for which the design, collection and analysis will be exclusively for this research.

A recently established NIA project, 'Social Connect' (formerly Empower) being conducted by UKPN, also addresses customer vulnerability, but with a focus on those in fuel poverty and the development of a practical detection system based on a range of data sources.

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

Additional Governance Requirements
The project is innovative (ie not business as usual) and has an unproven business case where the risk warrants a limited Research, Development or Demonstration Project to demonstrate its effectiveness ☒

       (i)   Please identify why the project is innovative and has not been tried before.

While LIV customers have been researched widely, it has not been with a view to taking a fresh approach as to how these customers can best be defined in terms of their specific energy needs and associated vulnerabilities, as opposed to simply categorizing them by their external characteristics. This project has the potential to produce powerful new insights and to support more efficient targeting and delivery of ENO services precisely because it seeks to move beyond one-dimensional classifications of customers.

      (ii) Please identify why the Network Licensee will not fund such a Project as part of its business as usual activities

The research is explorative in nature, so that specific outcomes (such as the definition of new customer groups) are as yet unknown. It is not related to a specific technology or policy initiatives, so that the outcomes are expected to deliver long term strategic benefits rather than shorter term service improvements

iii) Please identify why the Project can only be undertaken with the support of the NIA, including reference to the specific risks (eg commercial, technical, operational or regulatory) associated with the Project

The explorative nature of this work does not guarantee an immediate tangible benefit to a single Network Licensee. The project will use well-established market research methods and allows for significant effort in designing the research instruments. The risk of not obtaining useful data is therefore low. A moderate risk is the uncertainty around what specific findings will be delivered that can be used to enhance ENO services

Has been approved by senior member of staff ☒

Additional Registration Information

Short Name

A Needs based segmentation of Low Income and Vulnerable Customers

Introduction

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Benefits

The project will deliver a better understanding of the needs of LIV customers together with more consistent definitions of the different types of customers. Expansion of the ESC 'Living Lab' will expand the number of potential LIV participants in future trials of new technologies and policy initiatives

Technologies (Please Select one of the following)

Active Network Management	☐
Asset Management	☐
Carbon Emission Reduction Technologies	☐
Commercial	☐
Comms & IT	☐
Community Schemes	☐
Condition Monitoring	☐
Conductors	☐
Control Systems	☐
Cyber Security	☐

Demand Response ☐

Demand Side Management ☐

Distributed Generation ☐

Electric Vehicles ☐

Energy Storage ☐

Energy Storage and Demand Response ☐

Environmental ☐

Fault Current ☐

Fault Level ☐

Fault Management ☐

Harmonics ☐

Health & Safety ☐

Heat Pumps ☐

High Voltage Technology ☐

HVDC ☐

Low Carbon Generation ☐

LV & 11kV Networks ☐

Maintenance & Inspection ☐

Measurement ☐

Meshed Networks ☐

Modelling ☐

Network Automation	☐
Network Monitoring	☐
Offshore Transmission	☐
Overhead Lines	☐
Photovoltaics	☐
Pre-Heat	☐
Protection	☐
Resilience	☐
Stakeholder Engagement	☒
Substation Monitoring	☐
Substations	☐
System Security	☐
Transformers	☐
Voltage Control	☐
Gas Distribution Networks	☐
Gas Transmission Networks	☐
Electricity Transmission Networks	☐