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NIA Project Registration and PEA Document

Date of Submission

Mar 2024

Project Reference Number

NIA_SSEN_0073

Project Registration

Project Title

HOMEflex (Household or Microbusiness Energy Flexibility) Compliance

Project Reference Number

NIA_SSEN_0073

Project Licensee(s)

Scottish and Southern Electricity Networks Distribution

Project Start

March 2024

Project Duration

1 year and 1 month

Nominated Project Contact(s)

Tim Sammon

Project Budget

£193,000.00

Summary

The HOMEflex project developed the HOMEflex Code of Conduct promoting an inclusive, fair, and transparent domestic flexibility marketplace.

This phase will deliver HOMEflex Compliance, a Scheme to establish standards, help new entrants meet the service levels consumers expect, and deserve, and enable electricity networks to confidently procure flexibility ethically, encouraging the domestic flexibility market to grow in a fairer, more sustainable manner..

The Code of Conduct has been well received by Government, stakeholders, and market participants. National Grid Electricity System Operator (ESO) will include representation of the HOMEflex Code in the procurement of their 2023/24 Demand Flexibility Service (DFS). Phase 2 assists the 'trial' use of the Code, proposing to engage with DFS participants, gaining feedback for the development of a HOMEflex Compliance Scheme.

Preceding Projects

NIA_SSEN_0061 - HOMEflex (Household or Microbusiness Energy Flexibility)

Third Party Collaborators

Flexassure

Nominated Contact Email Address(es)

fnp.pmo@sse.com

Problem Being Solved

HOMEflex started before the cost-of-living crisis and the energy price crisis, which was driven by wholesale gas price increases. During this time, the team delivering HOMEflex have engaged with consumers and stakeholders to develop the HOMEflex Code of Conduct (the Code) with the aims of creating standards for an inclusive, fair, and transparent domestic flexibility marketplace from the start.

The Code for the emerging domestic flexibility markets has been recognised as a success by stakeholders. The Code has been developed with significant input across the market, including consumer research and was opened to public consultation with the feedback taken into consideration when finalising the Code.

The need for such a Code has been borne out by National Grid ESO declaring their intention to adopt the Code requirements for their 2023/24 DFS. Launching a Phase 2 of HOMEflex will enable the existing project team from Scottish and Southern Electricity Networks (SEN) and Flex Assure to assist National Grid ESO with this 'trial'. Furthermore, we will then engage with the DFS participants to gain feedback and support on the development of a HOMEflex Compliance Scheme, which will meet the needs of electricity networks and Flexibility Service Providers at the same time as safeguarding consumers.

The Code has proven to be a valuable resource for the sector, but without the Compliance Scheme based on the Code, there will be no mechanism to carry out advance due diligence of providers, ensure Flexibility Service Providers are maintaining standards or a mechanism to ensure standards for complaints and dispute resolution. Without a Compliance Scheme there is a danger that the Code could sit only as a reference document without being used to protect consumers in vulnerable situations and microbusinesses who need to use flexibility for commercial reasons. Additionally, ensuring that providers meet the standards of the Code would be the responsibility of each of the individual procurers of the flexibility services and there would be no standard process for provider evaluation, or audit of dispute resolution.

Method(s)

We have already researched, engaged and consulted on the Code, which is now finalised. The next task is to roll out the Code and establish how a framework of embedding the Code and checking compliance thereof can be created and sustained.

Setting up a Compliance Scheme framework, based on this coming winter's DFS scheme should enable the Code to be launched, embedded, promoted, and audited. HOMEflex Compliance will engage with DFS providers and consult on the best way to create an effective and sustainable Compliance Scheme.

Overview

Building on the new HOMEflex Code this project sets out to:

1. Support National Grid ESO to utilise the Code in their winter 23/24 DFS
2. Engage with DFS participants to help develop documentation and governance structures for a voluntary Compliance Scheme to assess/monitor compliance with this Code
3. Engage with the Energy Network Association's Open Networks Project and/or individual Distribution Network Operators and Transmission Owners about the framework of a scheme and promote use of the Code in DNO flexibility procurement
4. Develop business case
5. Develop audit process
6. Develop proposal for complaints/dispute mechanism, and possible access to a resolution process
7. Develop processes for establishment and operation of Domestic Flexibility Scheme Oversight Committee, and proposal for Committee composition
8. Consult on potential branding and/or 'trust mark' for Compliance Scheme members
9. Develop proposal for implementation of Compliance Scheme secretariat (expansion of existing Flex Assure Scheme secretariat)
10. Gather DNO, TO and Flexibility Provider support for the Compliance Scheme
11. Produce all associated scheme documentation including legal review, ready for scheme launch

Report on expected outcomes and benefits for Flexibility Service Providers, DNOs, householders, landlords and micro-businesses,

including financial savings, carbon savings, an equality/inclusivity assessment, Social Return on Investment (SROI) and/or Social Value Framework evaluation figures and a fuel poverty alleviation score or other lifestyle improvement assessment, gather expressions of interest / commitment letters from potential members of a voluntary Compliance Scheme.

The Working Group from the HOMEflex Code will be consulted again on the Compliance Scheme proposals to provide input to and oversight of the project, with representation of key stakeholders.

Scope

The ultimate benefit of this project will be the development of an inclusive, healthy, publicly trusted and liquid domestic Flexibility Services marketplace. The project is not dedicated to a specific, single financial benefit to the customer, but rather a better customer experience throughout the whole cycle of a customer's engagement with a Flexibility Services Provider, the avoidance of customer detriment and unrealised income, and facilitation of better understanding of offers and a clear thread of accountability across a potential stack of service delivery partners.

The benefits hereof must be seen in the context of the potential for the provision of domestic flexibility to contribute to the efficient and reliable operation of the electricity system along with significant reductions in carbon emissions. Findings from the first phase of the CrowdFlex1 project indicate a significant potential for domestic flexibility to help balance the Great Britain (GB) electricity system, including the potential to reduce the GB system peak demand by up to 10% (6.8GW), and to provide up to 37GW of demand turn up flexibility, equating to 53% of the magnitude GB system peak.

Objective(s)

HOMEflex Compliance will use the Code to deliver a framework for a sustainable Compliance Scheme with the aim of helping the provision of energy flexibility services in the domestic and small business market and to evaluate potential benefits.

Consumer Vulnerability Impact Assessment (RIIO-2 Projects Only)

HOMEflex Compliance scores 10/10 on the Consumer Vulnerability Impact Assessment (CVIA). This is because the drive behind the HOMEflex Code and the HOMEflex Compliance project is to support less well off or more vulnerable consumers when accessing domestic flexibility services.

The Code aims to ensure that a broad range of consumers can partake in flexibility service; it sets out common standards of practice for companies delivering energy flexibility services to consumers, ensuring good practice and accountability. This good practice includes one of the five chapters being devoted to 'Ethics and Fair Conduct'. This chapter covers topics such as 'Inclusive Service Design and Performance', communications in plain language and 'accessible formats, for a wide range of potential consumers'.

Other chapters, such as 'Complaints and Dispute Mechanism' also seek to look after the interests of consumers in vulnerable situations with stipulations which include 'A Customer may nominate a representative to deal with their Complaint'.

The Compliance Scheme is what will encourage, support and enforce the HOMEflex Code and make sure that consumers in vulnerable situations can, as far as possible, partake in energy flexibility.

1 National Grid ESO 2021. CrowdFlex – Phase 1 Report. https://smarter.energynetworks.org/projects/nia2_ngeso001/

Success Criteria

For HOMEflex Compliance to be a success, it will deliver a governance structure and business case for a voluntary Compliance Scheme to the point where it is ready for launch and implementation in both Distribution System Operator (DSO) and National Grid ESO flexibility markets.

The Compliance Scheme will be built in accordance with stakeholder feedback and will measure the success and engagement of the project.

Project Partners and External Funding

SSEN will deliver the project, with support from Flex Assure as described below:

Flex Assure is a voluntary scheme established by the Association for Decentralised Energy (ADE) in 2019. Flex Assure will be involved in the project, with responsibility for:

- Supporting National Grid ESO to use the HOMEflex Code during winter 2023/24 DFS
- Evaluating the impact of the Code during DFS this winter
- Gathering feedback from the DFS Flexibility Service Providers

- Stakeholder consultation on the Compliance Scheme
- Evaluation of individual and social benefits attached to HOMEflex
- Development of governance framework for Compliance Scheme
- Creation and legal review of governance documents (Scheme Bye-Laws)
- Research on quantification of the value of implementing a voluntary Compliance Scheme for Flexibility Services Providers

Potential for New Learning

At present in the United Kingdom there are no standards pertaining to the procurement of flexibility from domestic consumers. This project will use the Code to contribute to the creation of and wider adoption of standards in this new, emerging market.

The project will seek to produce insights around and quantification of the potential value of establishing a customer assurance scheme for Flexibility Services Providers working with domestic and micro business energy users. With domestic flexibility and local flexibility markets still in their infancy, there is currently very little quantitative evidence available in this area.

Learning will be disseminated via project reports and across social media platforms and industry events.

Scale of Project

The objective of HOMEflex Compliance is to deliver a framework for an effective and sustainable Compliance Scheme with the aim of helping the provision and growth of energy flexibility services in the domestic and micro business market and to evaluate potential benefits. This will be for all domestic and microbusiness energy flexibility services in GB, including DSO and ESO markets, and help to ensure the method is scaled accordingly. To attempt a project at a smaller scale would be impractical and would not benefit the wider GB energy system.

Technology Readiness at Start

TRL3 Proof of Concept

Technology Readiness at End

TRL9 Operations

Geographical Area

This project will be applicable across GB. SSEN is the lead DNO, on behalf of all DNOs across GB, as well as the ESO via the Open Networks Project.

Revenue Allowed for the RII Settlement

N/A

Indicative Total NIA Project Expenditure

Total expenditure is £193,000.

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:

The HOMEflex Compliance project has the main stated aim of making flexibility services related to the energy system transition fairer, and more inclusive. It will do this by enabling, promoting, and enforcing the standards set out in the HOMEflex Code and ensuring members of the scheme meet and maintain minimum standards. It is vital that consumers have a positive experience when engaging with Flexibility Service Providers, to ensure that the maximum capacities of flexibility are accessed.

How the Project has potential to benefit consumer in vulnerable situations:

As above, the fairness element of the HOMEflex Compliance project is focused on ensuring that the most vulnerable or fuel poor consumers are given all the opportunities possible to partake in energy flexibility, through defining standards of engagement with consumers who may be in vulnerable circumstances. This will allow more the vulnerable of households to benefit from cost savings, rewards, any added resilience, and associated sustainability benefits of providing domestic flexibility.

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 mentioned in the Scope of this document, the Crowdflex project looked at the scale of potential domestic flexibility. Since then, the CrowdFlex team have looked to put a value on this. They did so with a Strategic Innovation Fund Discovery Project. This project estimated that "As CrowdFlex becomes Business As Usual, the value of flexibility could be worth £1.25Bn/yr to the end consumer across GB when the cost of providing flexibility services is accounted for."

We can use this assumption to work out the benefit costs.

As a new activity the Base Cost = £0.00

UK based research in 2023 from Adobe looks at the cost of broken trust. The research says "British businesses face losing a large portion of their customer base if they don't prioritise trust, with 71% of UK consumers saying they will stop purchasing from a company altogether if their trust is broken." If we equate this to the trust which could be lost in the domestic flexibility market, we can start to work out the benefit of HOMEflex when building and maintaining trust. Of course, as well as HOMEflex, the reputation and trust of the individual companies comes into play. As does the trust in electricity networks as a whole. If we take HOMEflex as being a third of the basis of the trust in future domestic flexibility, we can take the 71% who wouldn't partake without trust to 23.7%.

With 23.7% of domestic flexibility at risk without adequate compliance which HOMEflex can deliver, this has a value of nearly £300m per year, the exact calculation using these assumptions produces £296,250,000 as follows:

23.7×1250000000

100

= 296250000

Against a cost of the project at £193,000 the return could be as high as £1511 for every pound spent on the project.

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

The idea for promoting fairness, inclusivity and trust in the emerging domestic energy flexibility market came from the ENA Open Networks programme. As such there is every opportunity for the HOMEflex Code, and the HOMEflex Compliance Scheme to be replicated GB wide via ESO and DSO flexibility markets.

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

Costs will be determined during the HOMEflex Compliance project. We anticipate a minimum viable operation to cost less than £100,000 per annum. However, we envisage an ongoing and scalable revenue stream from membership fees. As the number of Flexibility Service Providers increases, membership revenue will rise. These fees will be pitched to ensure the amount of administration and audit work etc will be covered.

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 trialed 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 learning will be disseminated across DNOs and TOs. National Grid ESO and Electricity North West Limited are already Working Group members. During the project we will be liaising with other Open Network members and presenting the HOMEflex Code and HOMEflex Compliance Scheme at industry events. This process started with ENERGYextra on 20 September 2023, then a presentation at the Innovation Summit.

The project team are already activity engaged with ESO and many of the DNOs. Following the project, the Compliance Scheme will be launched and we hope to have the majority of DNOs and TOs as founding partners of the scheme.

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.

The HOMEflex Code is novel and as such, this type of Compliance Scheme does not exist in any other form.

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

The only relevant Foreground Intellectual Property is that produced by HOMEflex when creating and delivering the Code.

Data Access Details

For information on how to request data gathered in the course of this project, see Network Innovation Competition (NIC) and Network Innovation Allowance (NIA) Data Sharing Procedure at <https://ssen-innovation.co.uk/innovation-strategy/>.

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

This project started at Open Networks and is for the benefit of consumers and all DNOs.

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

This requires NIA funding as it is not a business specific DNO project and is not commercially viable at this stage.

This project has been approved by a senior member of staff

Yes