EnergyNetworks Innovation Process

NIA Project Registration and PEA Document V2

The voice of the networks

Date of Submission: 19/06/2026

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 12 pages in total.

1. Project Registration

Project Title (*This cannot be changed once registered*) DigiLoop	Project Reference NIA_SSEN_0083
Lead Funding Licensee Scottish and Southern Electricity Networks Distribution	Additional Funding Licensee(s)
Nominated Project Contact(s) Brian Wann, Innovation Delivery Manager	Project Start Date June 2026
Contact Email Address fnp.pmo@sse.com	Project End Date March 2027
Add preceding Projects NIA_SSEN_0077	Project Budget £157,159
Add Third Party Collaborator (non-network)	Collaborating Networks

Strategy theme

Data and digitalisation	X	Flexibility and market evolution	
Net zero and the energy system transition	X	Optimised assets and practices	
Supporting consumers in vulnerable situations		whole energy system	

Project Summary (125 words limit)

Whilst photos submitted by installers and DNO records can support prompt approval of low carbon technology (LCT) applications, often gaps in records trigger site visits to confirm whether a customer is at the end of a looped service or has a dedicated service cable. This introduces delays to the customer application. Plus, when a looped service is identified and plans are made to remove it, sharing those plans with all affected customers to seek consent to go ahead often requires numerous visits, introducing additional delays.

The project aims to identify ways to reduce the need for physical site visits to A) confirm if the properties are looped, and B) share unlooping plans. This will enable faster processing of LCT applications and an improved customer experience.

2. Project Details

2.1. Problem(s)

This should outline the Problem(s) which is/are being addressed by the Project. This cannot be changed once registered.

A looped service is where two or more properties share an electricity service cable connecting them to their local low voltage electricity network (as a property's electricity supply is 'looped' to its neighbours' cutout via a smaller cable). There are typically two properties looped together, although it can be more, and looped services are often found in terraced or semi-detached properties, although occasionally they can also be present in detached properties and flats. This technique was carried out primarily in the 1970s and 1980s as a simpler and more cost-efficient way to connect properties to the local network, yet was discontinued by DNOs in the 1990s and 2000s.

When customers contract with a LCT installer to connect a device such a heat pump or electric vehicle (EV) charger, they are typically asked as part of the application to the DNO whether the property has a looped service cable or not. This is because for some DNOs (SSEN being one) their policies on permitting LCTs to connect to looped services requires some kind of intervention. This is either the use of a load limiter to avoid the LCT drawing power at peak periods or the removal of the loop (referred to as unlooping) to give each property their own dedicated service cable connecting them to the local low voltage network. This is because of potential safety concerns – whilst each property can technically draw up to its own fuse limit (50, 60, 80 or 100 amps), the shared assets may not be able to support all properties doing so simultaneously, such as when using LCTs. When the total demand exceeds the fuse rating of the loop for a sustained period, the fuse should eventually blow, cutting off the supply. However, before this happens, network assets, such as cables, joints, and connectors, may be exposed to sustained high currents, leading to overheating, thermal degradation, and increased wear and tear. It is possible that this would cause failure of those components, which would result power cuts and safety issues.

DNOs reviewing LCT connection applications are able to use their own connectivity records along with the photographs submitted by the installer and their statement regarding presence of a looped service, however confirming whether a customer is at the end of a loop or simply connected via a dedicated single service cable (which looks the same on a photo) requires either DNO records to be analysed or a site visit to determine whether a looped service is present or not.

In the report "Unlooping Electricity Network Connections Research" commissioned by the Department for Energy Security and Net Zero (DESNZ) (Unlooping Electricity Network Connections Research: summary report) they estimate that 11-17% of Great Britain's housing stock (3.1 - 4.7 million homes) may be affected by looped services. The report also notes that DNOs have inconsistent connectivity records – and these data gaps and inconsistent records make it difficult to assess the full scale of the issue. This can also create delays as it forces a site visit to be carried out to truly confirm no looped service is present before an LCT application can be fully processed. It can often take several days or weeks for a site visit to take place, typically as a result of availability and scheduling issues.

In addition to these delays at the start of a customer's LCT application, when a looped service is identified and plans are made to remove it, sharing those unlooping plans with all affected customers in a bid to seek consent for works to go ahead often requires numerous visits. This introduces additional delays, again typically as a result of availability and scheduling issues.

The project will aim to identify ways to reduce the need for these physical visits to A) confirm if properties neighbouring the one making the LCT connection application are looped, and B) share unlooping plans with all affected parties, and understand (via industry engagement and customer research) the viability of these.

This should enable faster processing of LCT applications and an improved customer experience, along with efficiency savings for DNOs by removing the costs of staff repeatedly travelling to the properties involved.

2.2. Project Benefit

Should the project successfully identify means of reducing the need for physical site visits to confirm if properties neighbouring the one making the LCT connection application are looped, this should result in faster processing of LCT applications by allowing remote confirmation from photos whether loops are present or not, as opposed to waiting days or weeks for a visit to take place. It will also improve the customer experience as a result.

Should the project demonstrate the ability to successfully share unlooping plans and handle correspondence with customers digitally, as opposed to in person, it will improve the customer experience as a result of avoiding delays that come through DNOs organising site visits. It will also reduce inconvenience by giving customers the chance to review the plans at a time that suits them and with any family or friends, and ask questions or make comments digitally. In addition, it would also reduce the amount of travel time DNO staff have to spend on unlooping projects by removing travel for the initial engagement.

2.3. Method(s)

This section should set out the Method or Methods that will be used in order to provide a Solution to the Problem. The type of Method should be identified where possible, eg technical or commercial.

For RIIO-2 projects, apart from projects involving specific novel commercial arrangement(s), this section should also include a Measurement Quality Statement and Data Quality Statement.

To identify means confirming if properties neighbouring the one making the LCT connection application are looped, the project will liaise with energy suppliers to investigate the potential for sharing data known by suppliers as a result of meter reading/installing activities. The project will also explore the potential for messaging customers to seek photographs allowing the remote confirmation to take place. Qualitative interviews with a number of customers will be carried out to explore what language, framing and contact channels resonates and what options would lead to highest engagement.

In order to demonstrate the ability to successfully share unlooping plans and handle correspondence with customers digitally, the project will carry out qualitative interviews with customers to explore their views of using SSEN's Customer Portal (the secure user account area of the SSEN website for customers) to do this, exploring their reactions to reviewing plans digitally, including understanding, confidence, and expectations around providing consent, or raising questions or objections.

Data Quality Statement (DQS): - The project will be delivered under the NIA framework in line with Ofgem, ENA and SSEN internal policies. Data produced as part of this project will be subject to quality assurance to ensure that the information produced with each deliverable is accurate to the best of our knowledge and sources of information are appropriately documented. All deliverables and project outputs will be stored in our internal systems with appropriate backup and version management. Relevant project documentation and reports will also be made available on the ENA Smarter Networks Portal and dissemination material will be shared with the relevant stakeholders.

Measurement Quality Statement (MQS): - The methodology used in this project will be subject to supplier quality assurance regimes and the source of data, measurement process and equipment as well as data processing will be clearly documented and verifiable. The measurements, designs and assessments will also be clearly documented in the relevant deliverables and final project report made available for review.

2.4. Scope

The scope and objectives of the Project should be clearly defined including the net benefits for consumers (eg financial, environmental, etc). This section should also detail the financial benefits which would directly accrue to the GB Gas Transportation System and/or electricity transmission or distribution.

The scope of the project is to identify a means of remotely confirming if properties neighbouring the one making the LCT connection application are looped, so that there are minimal delays/inconvenience to the customer's neighbours.

The scope also includes demonstrating the ability to successfully share unlooping plans and handle correspondence with customers digitally, helping to avoid delays that come through DNOs organising site visits, giving customers the chance to review the plans at a time that suits them and with any family or friends, and ask questions or make comments digitally.

The project's scope does not include any new provisions for customers who are not digitally literate and/or still request a face to face visit as their preference for the initial liaising with their DNO. It is noted from research carried out by LINK (LINK / New research shows almost a quarter of UK adults feel digitally excluded) showed nearly one-in-four (24%) adults classify themselves as digitally excluded in some form, often driven by a lack of access to reliable devices or broadband.

SSEN's LCT Connection Readiness Indicator project carried out research which found that 47% of customers said the potential for delays would discourage them from having a LCT installed (https://ssen-innovation.co.uk/wp-content/uploads/2025/05/LCT-CRI-Customer-Research-Findings.pdf).

Ofgem's ED2 Societal Return on Investment (SROI) figures show the annual saving from customers having an EV is £1,288. An Octopus Energy report found that a standard heat pump can deliver £22 per annum savings.

The digital confirmation capability should reduce delays by providing quicker confirmations of whether applications can go ahead or if unlooping is required, and the unlooping plans sharing capability may give more customers time to think about decisions/review with family/friends and make a decision that doesn't result in dropping out of LCT uptake. We assume the 47% dropout rate would halve, resulting in 23.5% more customers enjoying the benefits of heat pumps and EV chargers.

With the estimates from SSEN's 2024 DFES data (under the Electric Engagement scenario) of new domestic LCT applications that could be received from 2027 (the first year the capability could be implemented) until the end of ED3 in 2033 that equates to benefits to SSEN's customers of £760m.

SSEN Field Managers will normally have to visit a site 2-3 times to plan a unlooping job and discuss with affected customers, equating to about 12 hours of time. SSEN estimates the number of looped services in its licence areas to be circa 516,000. SSEN is developing

proactive unlooping plans to remove these, and expect to continue to remove looped services reactively as LCT applications are submitted. With delivery of that volume of jobs spread out until 2050, and assuming 24% of customers are not digitally literate and/or still request a face to face visit as their preference for the initial engagement, this equates to an efficiency saving for SSEN of £162m.

2.5. Objectives

This cannot be changed once registered.

The project will aim to deliver the following objectives:

1. Customer-tested insights into the optimal language, framing, and channels to support customer engagement;
2. Understanding of the feasibility of energy suppliers sharing asset data (photo and/or text) captured as a result of meter reading/installing activities;
3. Customer expectations and requirements for DNOs to digitally share unlooping plans (and handle correspondence between the parties);
4. Identification of impact on processing time for LCT applications and reduction in DNO costs.

2.6. Consumer Vulnerability Impact Assessment (RIIO-2 projects only)

Details of the expected effects of the Method(s) and Solution(s) upon consumers in vulnerable situations. This must include an assessment of distributional impacts (technical, financial and wellbeing-related). For RIIO-1 projects please add "Not Applicable"

The project has scored 7.3/10 overall as a result of the potential impacts the project may have on vulnerable customers:

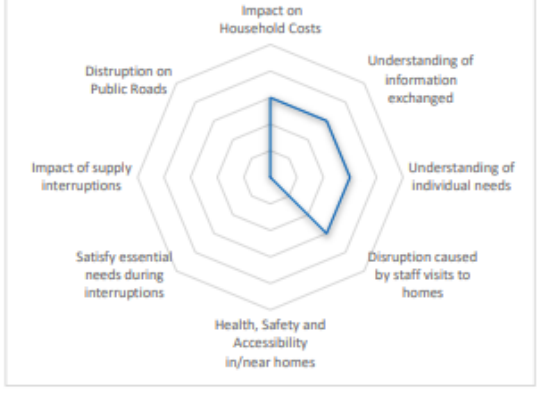
RESULTS DASHBOARD

Project Impact Score

Overall Project Score:	10.0 /10
Relative Impact Score:	7.3 /10
Positive Impact Score:	4.5 /10
Negative Impact Score:	0.0 /10

Customer Impact Calculator

Overall Impact Score:



Negative Impacts and Mitigations

Driver of Negative Impact	High-Level Mitigation
Unavailable	There is no need to take mitigation measures.

2.7. Success Criteria

Details of how the Funding Licensee will evaluate whether the Project has been successful. This cannot be changed once registered.

The project will be determined to have been successful if it delivers the following:

1. A method of remotely confirming if properties are looped to support LCT applications;
2. The ability to successfully share unlooping plans and handle correspondence with customers digitally.

2.8. Project Partners and External Funding

Details of actual or potential Project Partners and external funding support as appropriate.

The project will require independent expertise in relation to carrying out the customer research aspects and so we will be partnering with Explain Market Research to carry out this work.

2.9. Potential for New Learning

Details of what the parties expect to learn and how the learning will be disseminated.

We expect to learn what contact channels, language and framing resonates best with customers when DNOs need to request photographs in order to process their neighbour's LCT application.

We also expect to learn the feasibility of energy suppliers sharing asset data (photo and/or text) captured as a result of meter reading/installing activities, which can be used to support the processing of LCT applications.

Finally, we expect to learn customer's expectations and sentiment towards using an online platform to view unlooping plans and communicate with their DNO regarding the proposed works.

2.10. Scale of Project

The Funding Licensee should justify the scale of the Project – including the scale of the investment relative to the potential benefits. In particular, it should explain why there would be less potential for new learning if the Project were of a smaller scale.

In order to try and deploy the learnings into business as usual as soon as possible, the project has identified the minimum amount of customer research needed to provide sufficient insights to shape the implementation of any viable solution(s). There was an initial desire to evaluate a wide range of communication and data sharing options, and test those concepts with a large number of customers, however it was felt that initial engagement with industry and past insights from SSEN's LCT Connections Readiness Indicator project had in effect created a shortlist of options and shown how a relatively small research group can provide a sufficient steer as to customer sentiment. As a result, the size of the project (and associated investment) has been scaled back in a bid to deliver the minimum level of outputs needed to achieve the objectives. Reducing the scope and size of investment would prevent the project from delivering the outputs, the ability to implement into business as usual, and in turn the benefits for DNOs.

Development steps

Technology Readiness Level (TRL) at Start	4	TRL at Completion	8

Lead Sector

Electricity Distribution	X	Electricity Transmission	

Other Sectors

Electricity Distribution		Electricity Transmission	

2.11. Geographical Area

Details of where the Project will take place. If the Project is a collaboration, the Funding Licensee area(s) in which the Project will take place should be identified.

The project will be mostly desktop research, with customers to be recruited from across Great Britain for the purposes of carrying out the research in the form of interviews.

2.12. Revenue allowed for in the current RIIO settlement

An indication of the funding provided to the network licensee within the current RIIO settlement that is likely to be surplus to requirements as a result of the Project.

We've not identified funding that is likely to be surplus to requirements as a result of the project – should the outputs be implemented into delivery it will be in the last year of ED2, and we will be able to gauge the level of success once rolled out.

2.13. Indicative Total NIA Project Expenditure

An indication of the total Allowable NIA Expenditure that the Funding Licensee expects to reclaim for the whole of the Project (RIIO1).

An indication of the Total NIA Expenditure that the Funding Licensee expects to reclaim for the whole of the Project (RIIO2).

The total project expenditure is expected to be £157,159.

3. Project Eligibility Assessment

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).

3.1. 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:

3.1.1. How the Project has the potential to facilitate the energy system transition:

By removing delays and making it easier/more convenient for customers to interact with the DNO regarding unlooping jobs it should result in more customers continuing with the LCT uptake journey.

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

Not applicable.

3.2. 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.

3.2.1. Please provide an estimate of the saving if the Problem is solved (RIIO-1 projects only)

Not applicable.

3.2.2. Please provide a calculation of the expected benefits the Solution

This is for Development or Demonstration Projects, not required for Research Projects. It should be (Base Cost – Method Cost, Against Agreed Baseline) and include a description of the recipients of the benefits.

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Ofgem's ED2 Societal Return on Investment (SROI) figures show the annual saving from customers having an EV is £1,288. An Octopus Energy report found that a standard heat pump can deliver £22 per annum savings.

The digital confirmation capability should reduce delays by providing quicker confirmations of if applications can go ahead or if unlooping is required, and the unlooping plans sharing capability may give more customers time to think about decisions/review with family/friends and make a decision that doesn't result in dropping out of LCT uptake. We assume the 47% dropout rate would halve, resulting in 23.5% more customers enjoying the benefits of heat pumps and EV chargers.

With the estimates from SSEN's 2024 DFES data (under the Electric Engagement scenario) of new domestic LCT applications that could be received from 2027 (the first year the capability could be implemented) until the end of ED3 in 2033 that equates to benefits to SSEN's customers of £760m.

SSEN Field Managers will normally have to visit a site 2-3 times to plan a unlooping job and discuss with affected customers, equating to about 12 hours of time. SSEN estimates the number of looped services in its licence areas to be circa 516,000. SSEN is developing proactive unlooping plans to remove these, and expect to continue to remove looped services reactively as LCT applications are submitted. With delivery of that volume of jobs spread out until 2050, and assuming 24% of customers are not digitally literate and/or still request a face to face visit as their preference for the initial engagement, this equates to an efficiency saving for SSEN of £162m.

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

This must be 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.

In the report "Unlooping Electricity Network Connections Research" commissioned by they estimate that 11-17% of Great Britain's housing stock may be affected by looped services – that equates to 3.1 - 4.7 million homes. We anticipate that the methods the project is aiming to test could be utilised by all DNOs, and so could be used to support the identification and planning for removal of these looped services.

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

The costs to roll out across GB should be relatively low as it may simply be data sharing and website development costs – however we will better understand any associated costs once the project is completed.

3.3. Requirement 3 / 1 – involve Research, Development or Demonstration

3.3.1. RIIO-1 Projects

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 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 GB electricity transmission or distribution systems	
A specific novel commercial arrangement	

3.3.2. RIIO-2 Projects

A RIIO-2 Project must involve the Research, Development or Demonstration of at least one of the following:

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)	X
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	

3.4. Requirement 4 / 2a – develop new learning

A Project must develop new learning that can be applied by Gas Transporter and/or Electricity Transmission or Electricity Distribution licensees. For RIIO-1 Network Licensees may wish to address challenges specific to their network.

Please answer one of the following:

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

The findings should be easily implemented by other DNOs as it will give clear insights into what contact channels, language and framing resonates best with customers when DNOs need to request photographs in order to process their neighbour's LCT application, whether there is a route for data sharing with energy suppliers to secure asset data (photos and/or text), and what customers expect for digital engagement when sharing and progressing unlooping plans.

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

Not applicable.

3.4.3. Is the default intellectual Property Rights (IPR) position being applied?

This cannot be changed once registered.

Yes	X	No	

If "no", the following questions must be answered:

3.4.4. Demonstrate how the learning from the Project can be successfully disseminated to Network Licensees and other interested parties:

Not applicable.

3.4.5. Describe how any potential constraints or costs caused, or resulting from, the imposed IPR arrangements:

Not applicable.

3.4.6. Justify why the proposed IPR arrangements provide value for money for customers:

Not applicable.

3.5. Requirement 6 / 2d – 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.

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

There are no other projects which have looked at tackling the challenges this project seeks to.

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

Not applicable.

3.6. Requirement 5 / 2c – be innovative

A Project must be innovative (ie not a business as usual activity) and have an unproven business case entailing a degree of risk warranting a limited Research, Development or Demonstration Project to demonstrate its effectiveness. This could include Projects which are untested at scale, or in relation to which there are risks, which might prevent the widespread deployment of the equipment, technology or methodology.

3.6.1. Why is the project innovative?

RIIO-1 projects must include description of why they have not been tried before.

It is attempting to find a way to digitally and so remotely confirm assets and share unlooping plans which has traditionally been done via in-person visits by DNO staff or their contractors. A digital method would be innovative as it would minimise inconvenience/disruption to the customer and save DNO staff travel time.

3.6.2. Why is the Network Licensee not funding the Project as part of its business as usual activities?

The investigation into customer attitudes towards the proposed methods requires funding for the customer research company, which there are no available funds for.

3.6.3. Why can the Project can only be undertaken with the support of NIA?

This must include a description of the specific *risks (e.g. commercial, technical, operational or regulatory) associated with the Project.*

The innovation funding will enable the team to investigate the technical feasibility of data sharing which may expose commercial and/or regulatory risks – by carrying out via the project these can be explored with a level of immunity within the bubble of innovation, whilst formally documenting and enabling the review of such issues with parties such as DESNZ and Ofgem.

3.7. Relevant Foreground IPR

Details of expected Relevant Foreground IPR which will be generated in the Project. If applicable, this must also explain if Background IPR will be required to use the Relevant Foreground IPR.

The relevant foreground Intellectual Property Rights (IPR) we expect to generate in the project will be the methodology/methodologies that are deemed most suitable for digitally and remotely achieving the objectives of the project. We will ensure this is shared with all DNOs in a bid to have it benefit customers across all licence areas.

3.8. Data Access Details

A description of how any data (de-sensitised where necessary) that are expected to be gathered in the course of the project can be requested by interested parties, and, if applicable, reasons why such data cannot be released to interested parties. This requirement may be met by including a link to the publicly available data sharing policy, which is required by virtue of paragraphs 2.13-2.16 of the RIIO-2 NIA Governance Document.

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

4. PEA approval

The senior person (RIIO-1) or senior network manager (RIIO-2) responsible for implementing RIIO-2 NIA Projects must approve the PEA. It must then be published on the Project Registration page of the Smarter Networks Portal.

Please confirm this project has been approved by a senior member of staff	X