



Future Energy Networks Innovation Process (FENIP)

Overview and Governance Document

Jan 2025

Document Control

Authorities

Version	Issue Date	Authorisation	Comments
1	28 March 2025	FEN	

Related Documents

Reference 1	Ofgem NIA Governance Document
Reference 2	Ofgem SIF Governance Document
Reference 3	ENA ENIP Document

Change History

Version	Change Reference	Description
2.1		V2 for FEN approval

Distribution

Public

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Introduction

Section 1

1. Introduction

1.1 Executive Summary

The Future Energy Networks Innovation Process (FENIP) provides a guide for stakeholders about network innovation, and the document also includes an explanation of how innovation projects are delivered. This document contains details of the end-to-end industry-led process for reporting, collaborating, and disseminating Ofgem funded innovation projects in Great Britain. You will find links to important innovation project documentation, as well as the relevant regulatory guidance and information.

1.2 Purpose of this Document

The network innovation process summarised in this document has been presented to Ofgem in its previous guise as the ENIP (produced by the ENA) and external stakeholders, and feedback from these groups has been incorporated. We will continue to develop our approach in collaboration with Ofgem and stakeholders.

The purpose of this document is to:

- Set out the principles and governance of the FENIP
- Detail each step in the end-to-end industry led innovation process
- Increase the reporting transparency, visibility of the innovation process and benefits of innovation
- Explain how new technologies and other innovations are selected and progressed through the innovation process from idea stage to rollout
- Encourage collaboration between energy networks, with third-party innovators and with wider industry innovation schemes
- Facilitate sharing of learning and outputs from innovation, recognising the importance of dissemination and encouraging wider engagement.

The innovation process described herein formally covers NIA (Network Innovation Allowance) and SIF (Strategic Innovation Fund) projects, from project inception through to project rollout, as dictated by their respective governance. The delivery and reporting of Business as Usual (BAU) funded innovation is at the discretion of the relevant energy network company.

1. Introduction

1.3 About FEN

Having previously been members of the Energy Networks Association (ENA), in Jan 2025 the 5 GB gas networks separated and formed a new membership bod, Future Energy Networks (FEN).

Whilst the ENA will continue to represent the UK's electricity networks, FEN represents those in the energy industry seeking to understand and enact the changes needed to deliver the energy networks of the future.

Our membership own, maintain and operate the GB's 5 major gas networks, Cadent, National Gas, Northern Gas Networks, SGN and Wales & West Utilities, although this membership may evolve over time. These 5 major networks reach for over 230,000km across Great Britain, delivering over 900TWh of energy every year to over 22million homes and businesses.

Technical

- Running joint working groups to maintain the safe and efficient running of the networks
- Coordinating cross-industry efforts to enable growth of biomethane injection into the network
- Managing governance process around updates to industry standards

Regulatory

- Supporting our members through the GD3 business planning process
- Coordination of our members' collaborative innovation activities, including a new online portal for innovation projects
- Running the 'National Gas Incident Reporting Site' – a key regulatory requirement

Policy

- Coordination of the delivery of evidence for the DESNZ Hydrogen Heating Programme
- Engaging with key policy-related stakeholders – NESO, NIC, CCC etc.
- Shaping policy outcomes from the new government through consultation responses and targeted engagement efforts

Strategy

- Leading our members to consider their strategic approach in response to political, policy and market change
- Delivery of joint pieces of research/analysis in support of this strategy
- Positioning the gas networks as key enablers of Net Zero

On behalf of our members, FEN acts as a strategic focus and channel of communication between industry, government, trade bodies and innovators. We promote the interests and good standing of the industry and undertake a range of innovation activities to bring together experts and innovators to progress the industry's contribution to Net Zero Carbon by 2050.

1.4 FEN Members

Figure 1.4 – FEN members

Members of FEN are shown below:



1. Introduction

1.5 Innovation Across the Energy Networks

- Innovation across FEN's membership is governed by the Gas Innovation Governance Group (GIGG), which is hosted by FEN, but chaired by one of the members.
- We hold regular, cross industry meetings with the Electricity Networks Associations (ENA) equivalent group to ensure effective collaboration across the 2 industry's,
- GIGG owns this "Future Energy Networks Innovation Process" document, including creation, maintenance, updates and associated stakeholder engagement.
- FEN's innovation working groups ensure successful collaboration to support the delivery of innovation projects, minimise duplication of projects and disseminate and share learning from innovation projects.
- This collaboration is not just amongst FEN members but with wider industry innovation across relevant sectors and bodies such as the Energy Systems Catapult (ESC), Energy Innovation Centre (EIC), Innovate UK – UKRI and relevant Government Innovation Teams (Smart Systems, Modernising Energy Data, etc).
- A joint ENA and GIGG working group has also been formed to further collaborate and facilitate cross-vector innovation. These groups typically meet on a quarterly basis.

To give an indication of the FEN's role in innovation, below is a non-exhaustive list of collaboration areas undertaken by our innovation working groups:

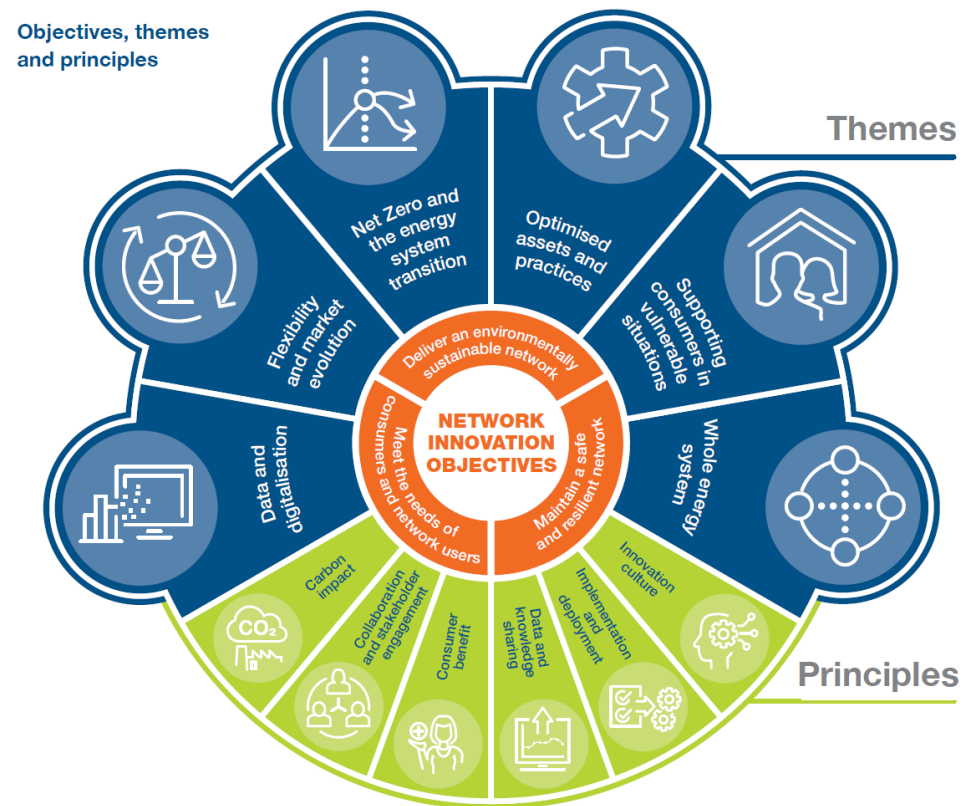
- Create, maintain and update the FENIP (this document)
- Create, maintain and update an industry wide innovation strategy ([see section 1.6](#))
- Disseminate learning from innovation projects publicly. This includes attendance at and/or organising of conferences and events
- Share learning and outputs of innovation projects
- Explore innovative projects which suit the future needs of the networks
- Operate and maintain the FEN [Smarter Networks Portal](#)
- Collaborate and co-ordinate with wider industry innovation initiatives and partners, helping them to get involved in innovation projects across funding streams
- Facilitate collaboration between energy networks and roll-out of innovation GB-wide.

1. Introduction

• 1.6 Energy Networks Innovation Strategy

- This updated Future Energy Networks Innovation Strategy builds upon the strategy, published by ENA in March 2022, shares its principles and themes across both the gas and electricity networks, moving towards producing a shared strategy for the future. The strategy sets out how energy networks want to work with Innovators on new solutions that can help deliver safe, resilient networks that facilitate the net zero transition and meet the needs of our customers.
- The strategy is centred around three overarching network innovation objectives. These are the three consumer-facing outcome categories set by Ofgem that underpin all network innovation activity and should be considered at all stages of an innovation project. The shared network innovation themes are the priority innovation areas for all networks and ensure a shared strategic direction. Network innovation projects must fit under one of these themes to ensure they are focused on solving our biggest challenges.

Figure 1.6 – The Energy Network Innovation Strategy: Objectives, themes and principles



1. Introduction

• 1.7 Innovation Funding Available

- Ofgem introduces funding mechanisms for innovation as part of the network price controls, the current mechanisms include:

• Network Innovation Allowance (NIA)

- As part of the RIIO-1 price controls, Ofgem introduced the [Network Innovation Allowance](#). The NIA is a set allowance each energy network receives as part of its price control allowed revenue. The NIA provides limited funding to energy networks to fund smaller technical, commercial, or operational projects directly related to the licensees' network. The innovation projects should have the potential to deliver benefits to the licensee and its customers. This funding will continue for gas and electricity networks companies and the Electricity System Operator as part of the RIIO-2 network price control, which commenced 1 April 2021, and will extend until March 2026. The RIIO-1 price controls remains in place for electricity distribution networks until March 2023.

• Network Innovation Competition (NIC)

- As part of RIIO-1 price controls, Ofgem introduced the [Gas and Electricity Network Innovation Competition](#). This was an annual opportunity for network companies to compete for a limited pot of funding for the development and demonstration of new technologies, operating and commercial arrangements. The NIC is now closed to new proposals with the ending of RIIO-1, although some of the projects that were awarded funding are still in the delivery phase.

• Strategic Innovation Fund (SIF)

- As part of RIIO-2 price controls, Ofgem introduced the [Strategic Innovation Fund](#), in replacement of the NIC, to support the transition to net zero. This fund supports large-scale transformational research and development projects. Funding is provided for projects which can address the Innovation Challenge set by Ofgem. The funding rounds are based on a strategic need, as declared by Ofgem, and so there may be multiple or no funding rounds each year. The fund is expected to make £450 million available over the course of RIIO-2.

1.8 Differences between the NIA and the SIF

The networks are funded for NIA projects as part their RIIO price control allowed revenue. The SIF is an additional funding mechanism which network licensees are able to apply for, under a competitive process organised by Innovate UK – UKRI. These projects are focused on achieving net zero and supporting the energy system transition. SIF funding is typically for larger-scale demonstration projects and may involve wider industry participation.

In contrast to the NIA, the SIF adopts a three-stage approach for project funding, namely: Discovery phase (for feasibility studies), Alpha phase (for experimental development) and Beta phase (for building, operating and/or demonstrating).

Ofgem is the decision-maker in relation to the SIF whereas for the NIA innovation funding allocations are made by the networks. Innovate UK - [UKRI](#) is responsible for delivery of the SIF (administering the funding, monitoring the delivery of projects and supporting third-party innovators), in line with [the SIF Governance Document](#).

1.9 Innovation Portals to Share Learning

Historically, all innovation projects have been held in the ENA [Smarter Networks Portal](#),

However, since Jan 2025, FEN has hosted all newly raised innovation projects which focus on gas on it's own [FEN Innovation Portal](#).

Both portals act as central repositories for regulation funded innovation projects and their associated outputs, data, learning, news and associated dissemination events and provide a place for third party innovators to propose or pitch new and innovative ideas for energy networks to consider. :

FEN Innovation Strategy documents	Project Registration Documents	Project Closedown Reports
Annual Innovation Reports from each energy network	Annual FEN Innovation Report	Master templates for all reports and data tables
A place for third party innovators to propose or pitch new and innovative ideas for energy networks to consider		

Principles & Governance

Section 2

2. Principles & Governance

2.1 Principles

The principles of the FENIP are to help ensure that NIA and SIF funded innovation is:

- **Beneficial** – delivering customer benefits, and rolled out where applicable with benefits tracked
- **Accessible** – defining clear routes to funding for third parties with suitable guidance available
- **Transparent** – providing clear public visibility about what is being done in the innovation projects and how they fit together
- **Collaborative** – facilitating collaboration between energy networks and third parties.

2.2 Ownership and Process

- This document will be formally owned and maintained by the GIGG working group, with close collaboration with the ENA and their equivalent document, and will be aligned with the NIA and SIF Governance Document requirements.
- The process to manage any changes to this document will need to be agile and able to adapt and change over time, both to respond to learning from initial rounds of reporting and also to changing areas of focus e.g. renewed Innovation Strategies.
- This process will be formally reviewed as required by NIA and SIF Governance and every two years at a minimum, in alternate years from the Gas Networks Innovation Strategy. Smaller evolutionary changes may be made at any time.

Any changes shall be governed by the following process:

- Proposed changes shall be circulated to all energy networks with clear reasons evidenced by stakeholder feedback or a clear business need
- Joint EIM and GIGG meeting shall be held quarterly to discuss any the proposed changes, rationale and actions. Smaller changes (outside of formal review cycles) can be made with the agreement of EIM and GIGG, without the need for a joint meeting

- All energy networks shall agree the change, with this captured within the minutes of the meeting. Major updates will be published to stakeholders with an opportunity to provide feedback.
 - A new version of this document will be published at least every two years, and agreed changes shall be reflected in the structure and layout of the information on the FEN Innovation Portal. Both ENA and FEN will be responsible for making these changes to their respective documents. Once a change has been agreed, it will apply from the start of the next reporting period (unless clearly stated otherwise).

2.3 Version Control

There will be a strict version control of the FENIP (detailed on page 1) and all associated documents. This will ensure that data and documents can be clearly labelled and tracked.

FEN will be the owner of all the master documents and will store them in a suitable online file sharing platform, accessible to all members, and will retain iterations of any changes to associated documents. New documents will be uploaded to FEN Innovation Portal.

Each energy network will be responsible for retaining copies of their own documents and data.

2.4 NIA and SIF Governance Integration

This document has been delivered as required by the Ofgem NIA and SIF Governance and we will be amending this document in line with any future governance changes.

Project Process (NIA and SIF)

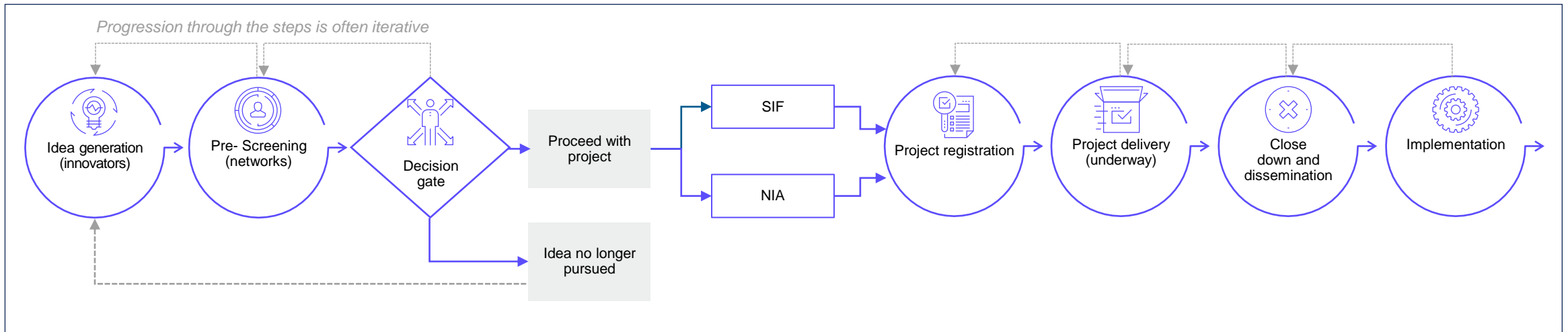
Section 3

3. Project Process

3.1 Innovation Project Process Overview

- Innovation is incremental, iterative and builds on earlier projects, as well as learning within projects. There are various feedback loops in the innovation process (within and between projects), which are essential for sharing of learning from a range of sources and experience, as well as allowing an informed decision on whether to implement solutions. Not all projects will progress from idea generation through to implementation, and the process is often not as linear as the below diagram represents.
- The following sections provides the details for the main steps in the process. Grey arrows in the figure below denote feedback loops and represent that this is often not a linear process; progression through the steps is often iterative. Where SIF and NIA projects may differ in process, this is described in the appropriate sections.

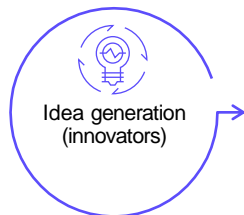
- *Figure 3.1 - Innovation Project Process Overview – Indicative project process (click on the individual stage for more detail)*



3. Project Process

[\(Return to project process overview\)](#)

3.2 Idea Generation



- Ideas can be generated from a range of internal and external sources:
- Third party ideas submitted to the FEN Innovation Portal - these ideas will be discussed at the next relevant working group meeting following which a formal decision response will be sent by FEN on behalf of the energy networks
- Third party ideas submitted directly to an energy network – each energy network has different processes for accepting third party ideas; some issue calls, some are open for ideas at any time, some work with intermediaries (e.g. EIC). It is recommended that the third party contacts the relevant energy network to understand how to submit ideas which may be relevant to them
- FEN led call for ideas – this is currently an annual call looking for innovative ideas or solutions to the challenges set out by the energy networks. The proposed solutions will be discussed at FEN’s innovation working group which a formal decision response will be sent by FEN on behalf of the energy networks
- Energy network internally sourced ideas - these ideas are normally generated in response to a business need
- Follow on work from other projects. This will be of particular importance for SIF projects progressing from one stage to the next
- Co-created ideas across multiple project partners where synergies are identified
- Ideas shared and discussed at EIM/GIGG^{1,2}
- SIF innovation challenges, as issued by Ofgem, which set the strategic direction for funding applications.

Ideas submitted to the FEN Innovation Portal will be logged centrally at FEN. Ideas received through energy networks will be logged by their own organisation and reported in their individual Innovation Benefits tables ([see Section 6](#)).

The evaluation of an idea varies between energy networks and can be based on a range of criteria including, but not limited to: value for money, compliance with NIA Governance Documents, capability to implement, funding availability. The ideas that are generated will also vary depending on the internal network/customer/net zero strategy of the energy network. Historically, the proportion of ideas developed into a project has been 10 - 25%, which is measured in the framework.

Prior to the development of the draft Project Eligibility Assessment (PEA), project details will be shared as a project notification (provided as a single page summary) amongst the energy networks and discussed at the relevant FEN innovation working group. The energy networks take this opportunity to check for any duplicated ideas and collaboration opportunities, note that until the project is formally registered on the portal all discussions regarding the ideas are confidential. The information to be shared and the timing is detailed in [Section 6.4](#).

SIF project idea generation will differ from the process and idea sources described above, due to the funding rounds being initiated by an ‘Innovation Challenge’, as set by Ofgem. Ideas will need to meet the Innovation Challenge-specific requirements, as well as the required project scope and project partner conditions. [Section 3.5](#) provides more detail on how the SIF application will differ, based on the three phase approach.

Note:

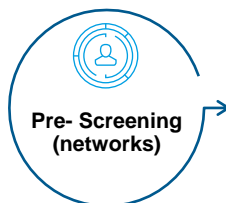
¹ Project Ideas discussed early amongst other energy networks at FEN innovation managers groups, via a one page summary, to promote collaboration and avoid duplication.

² Ideas logged centrally at FEN and in individual FEN Innovation Measurement Framework Tables.

3. Project Process

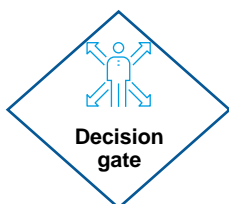
[\(Return to project process overview\)](#)

3.3 Pre-screening



Gas networks will undertake pre-screening triage to identify the correct funding mechanism for the innovation. This will consist of checking that the NIA or SIF eligibility criteria can be met, as defined in the respective Governance documents and any other relevant requirements.

3.4 Decision gate



Gas networks will follow internal processes for approvals to reach a decision on progressing with the project and funding. This may involve pitching the project to internal groups and decision makers. Not all ideas are approved at this stage. If the idea is not taken forward at this stage then that will mark the end of the process and feedback will be provided.

3.5 Project Registration



NIA applications

Ideas to be taken forward as NIA projects will then be registered on FEN Innovation Portal by the relevant gas network. The energy network will complete and upload the Project Eligibility Assessment form (PEA), see [Appendix A](#).

Once the project has been registered on the FEN Innovation Portal, an automatic 10 working day review period will be triggered. This provides the opportunity for a more detailed peer review to be undertaken to check for idea duplication and compliance with governance requirements.

As these ideas have been discussed at the relevant FEN innovation working group during the previous stage, the majority of the projects pass through this stage. The newly registered project will be presented again at the relevant FEN innovation working group for any further discussion.

SIF applications

Where a network decides to proceed with a SIF project, the SIF application is then made. These are typically applied for progressively over three phases: Discovery, Alpha and Beta which represent different stages of development as follows:

- *Discovery*: is the first phase in the process, for feasibility studies, which focus on defining the problem and the value in solving that problem
- *Alpha*: this is the second phase, for experimental development, whereby solutions for that problem are tested and prepared
- *Beta*: this is the final phase for SIF project funding. This phase focuses on the deployment of that solution. This is the largest of the three phases.

Not all projects will progress through all three phases. Successful projects do not necessarily proceed to the next phase.

3. Project Process

[\(Return to project process overview\)](#)

3.5 Project Registration (cont.)

More detail on the three phase approach for project funding can be found in the [SIF governance document](#). Further information on the application process for each phase is set out in the Innovation Challenge Documentation and the Innovate UK – UKRI portal is used for applications.

Assessing the impact of innovation upon consumers in vulnerable situations

Under Ofgem's NIA Governance for RIIO-2, licensees must include an assessment of the impact of the project method(s) and solution(s) on consumers in vulnerable situations in the PEA.

Energy networks follow Ofgem's approach to define consumers in vulnerable situations, as set out in its [Consumer Vulnerability Strategy 2025](#). Energy networks assess every NIA project to identify any potential technical, financial and well-being related impact, using a consistent tool to assess positive or negative impact on consumers in vulnerable situations. The aim of the tool is to deliver better outcomes for vulnerable customers in the transition to net zero, by identifying potential risks and barriers to success and suggesting mitigations at an early stage of the project.

3.6 Project Delivery



Once a project has been registered, and contracts agreed, it will progress into the delivery phase. The relevant energy network will conduct appropriate stage gate or phase reviews in line with their internal governance requirements.

Reporting of each project is carried out in line with the requirements in [Section 6](#). This will include annual public reporting (as required per project and Ofgem guidance).

Energy networks may provide further details and more frequent updates of their projects on their websites and through events or their social media.

3. Project Process

[\(Return to project process overview\)](#)

3.7 Closedown



As projects close out, energy networks will follow their internal governance processes to carry out reviews, including internal quality assurance checks. These verify the project outcomes against the agreed success criteria and objectives, including whether the solution is appropriate and can progress to implementation.

Reporting and dissemination of project conclusions are carried out in line with the requirements in [Section 6](#). Reporting is on an individual project and portfolio basis, all available on the [PP](#), including:

- Formal project Closedown Report, including final CBA with net benefits statement
- Energy network Annual Innovation Reports, including the Innovation Measurement Framework (IMF).

At the end of a project, the project learning, including recommended next steps will be shared with the other energy networks. This provides the opportunity for all to understand the outcome and start the process of deploying the successful solution into BAU or to give an early opportunity to work collaboratively on any follow up project. The information to be shared and the timing is detailed in [Section 6.4](#). The method and audience for dissemination will be appropriate to the project (e.g webinar, media, event etc).

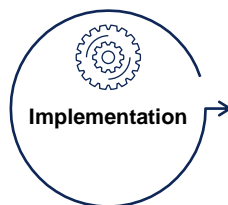
All energy networks commit to reviewing relevant project closedown reports to determine whether they can deploy solutions within their businesses. Any BAU deployment of solutions will be recorded in the Implementation Log as shown in [Appendix B](#) which will be made available on the FEN Innovation Portal.

3. Project Process

[\(Return to project process overview\)](#)

3.8 Implementation

There are a number of possible outcomes at the end of a project:



01 Solutions are implemented by one or more energy network

Where the benefits of a solution lead to a sound technical solution and a positive business case, then the relevant energy network should, where appropriate, roll it out to their BAU (or move to the next phase under SIF). BAU rollout is not eligible for NIA or SIF funding. Implementation rollout will happen within energy networks and across networks. FEN implementation logs will track network internal BAU rollout, as well as “fast following” from other energy networks. Summary logs will be published publicly.

Although each energy network has their own process, the rollout is likely to involve changes to internal policy, processes and procedures, new procurement contracts, and training of relevant staff. This can take time, and open procurement may be required to comply with Utilities Contracts Regulations (2016). Please discuss the process with the relevant energy network if you have questions.

Some projects focused around research or data gathering and analysis will be used to inform policy and decision making by the energy networks. Often these are used to inform UK and international government policy relating to relevant topic areas such as the economic transition to net zero.

Reporting of Benefits from Projects

Results of rollout will be monitored against the project closedown Cost Benefit Analysis (CBA). A summary of the actual solutions deployed and the benefits delivered by each energy network will be reported annually as part of the Innovation Measurement Framework – see [Section 6](#).

02 Solutions that are proven technically but not ready for roll out

Many innovation projects develop technically sound solutions which are not able to be rolled out at the close of the project. This is usually either due to a dependency on another product, solution or system, or due to the solution business case not being viable at the time.

For example, a new development may have to wait for an internal IT system upgrade before the energy network can carry out the integration work required to deploy it.

In some cases, however, solutions are developed to be ready for external changes such as mass adoption of electric vehicles, smart meters or the transition to hydrogen. In this case the solution is held by the energy network until the uptake of these technologies is of sufficient scale to warrant the deployment of the innovative solution.

03 Solutions not yet ready for roll out (Technology Readiness Level (TRL) 2-7)

For many projects taking a step up the TRL level the output of one project requires further innovation before it can be transitioned to BAU. This can include a further development or demonstration of the solution before it is ready for rollout. Not all innovation is suitable for implementation; lessons learned are continually shared between DNOs and further projects may be required to increase TRL on complex subjects.

04 No further action – proved not technically or commercially viable

Not all projects complete successfully or deliver a solution that can be implemented. This can be due to technical, practical or commercial reasons which manifest during the development or trial of the solution. It can also become apparent during the project that the solution will be more expensive to deploy than alternative products or practices.

In these cases, the energy network will close down the project as soon as it is clear that no further valuable learning is to be gained and the lessons learned will be shared with other energy networks.

Stakeholder Engagement

Section 4

4. Stakeholder Engagement

• 4.1 Purpose of this section

The energy networks have a responsibility to make information relating to innovation in the industry transparent and easily accessible to a broad range of stakeholders. Engagement is encouraged to facilitate useful outcomes and ensure that the value of innovation is utilised to full benefit for all stakeholders.

This section details the approach to engagement with stakeholders that will be undertaken by energy networks. In particular, it covers the strategic approach to stakeholder engagement and how energy networks use stakeholder insight to identify, validate and engage with innovators in the energy industry. This section covers:

- Our engagement strategy and how we work with stakeholders
- How we disseminate knowledge relating to innovation and the opportunities and challenges faced by energy networks
- How we demonstrate the value that is delivered as a result of innovation
- Independent evaluation and stakeholder surveys.

4.2 Our Engagement Strategy

Energy networks follow a collective and strategic approach to deliver purposeful, timely and inclusive engagement to ensure that stakeholders have a strong voice and have a clear role in the innovation process.

Specifically, the areas of focus are:

- Active engagement and ensuring that clarity regarding the key strategic challenges that the industry is facing
- Our approach to idea generation and providing access for third parties to engage and undertake innovation projects

- Our approach to ensuring clear and consistent visibility and reporting of the innovation portfolios across the energy industry
- How we undertake knowledge dissemination and enable comparable and consistent visibility of the benefits unlocked as a result of the innovation that has been delivered.

Underpinning the strategic approach to stakeholder engagement, energy networks are dedicated to the principle of collaboration and that every contact with stakeholders counts. Stakeholder engagement will identify issues that may be present or not yet identified and often not yet experienced as it relates to future energy systems. Energy network engagement will seek continual feedback across a diverse array of stakeholder groups.

To enable ongoing interaction, continuous progression and ensure that innovation projects are progressed in line with industry challenges and stakeholder feedback, energy networks work with stakeholders to test innovation proposals and issue challenge statements. Information gained from engagement is used to facilitate useful and positive outcomes within the industry, as well as facilitating learning and knowledge dissemination.

4. Stakeholder Engagement

- **4.3 Knowledge Dissemination and Demonstrating Value to Stakeholders**

- Section 7 of this document refers to the reporting requirements we have for innovation. As referred to in previous sections of this document, a number of methods are available for stakeholders to engage with energy networks and to view information relating to the innovation projects, the FEN Innovation Portal, the annual innovation conference and the annual innovation summary reports.

- *Figure 4.3 – Stakeholder engagement mediums*



- **4.4 Independent Evaluation and Stakeholder Surveys**

Energy networks undertake periodic surveys to seek the view of stakeholders relating to a range of areas including innovation themes, culture and the pace of innovation as detailed in [Section 7](#) of this document.

This will be linked to the revision of this document and the FEN Innovation Strategy each year. At a minimum, this will ask questions around:

- Ease of engagement with the networks
- Ease of access to project information
- Level of support provided by energy networks
- Energy networks have an open approach to working with others
- Visibility and transparency in the innovation process.

The results from these surveys will be reviewed by energy networks, and where possible, used to improve innovation processes and facilitate useful outcomes for stakeholders.

Quality Assurance of Innovation Projects

Section 5

5. Quality Assurance of Innovation Projects

5.1 Data Quality & Measurement Quality Statements

For each NIA project, the energy network will set out in the Project Eligibility Assessment (PEA, see Section 3.5) the approach which it will take to manage and measure data quality. The requirements for a Data Quality Statement and Measurement Quality Statement are set out in the NIA Governance Document.

01 Data Quality Statement

A data quality statement demonstrates that the project partners:

- a) Make a plan for milestones in the project where data sources need to be created / obtained, associated, merged or consumed
- b) Ensure data (raw and processed) is of sufficient completeness, accuracy and integrity, not only for their current project, but for future projects and users that might benefit from data reuse
- c) Consider how to define, format, structure, and associate their data so that it is easily accessed, consumed and usable (interoperable) for all stakeholders who might find data access useful
- d) Address aspects connected with data sensitivities, such as personally identifiable information (GDPR), intellectual property, etc. and
- e) Follow good practice and relevant standards associated with aspects a-d.

An example data quality statement can be found in [Appendix F](#), which represents good practice for completing data quality statements.

02 Measurement Quality Statement

Within the 'Method' section of the PEA, the energy network will set out the measurement approach used to meet Data Quality objectives.

This will include the procedures and techniques used, and mechanisms to ensure traceability, reliability and comparability of results.

Further guidance on data and measurement quality can be found in Ofgem's [Data Best Practice Guidance](#), as well as Ofgem's [Data Assurance Guidance](#).

Innovation Measurement Framework (IMF)

Section 6

6. Innovation Measurement Framework (IMF)

6.1 Introduction

- The IMF contains a benefit tracking methodology which enables fair and consistent assessment of innovation projects. It is used by the energy networks to report on a broad range of innovation outcomes and benefits from projects, including collaboration and partnerships, the speed at which successful innovation is transitioned into BAU and the benefits innovation has delivered for network customers.
- The IMF covers the following elements:
 - The balanced scorecard: The measures to be reported against and where they sit within the innovation framework. This may also be a useful reference for idea generation, as well as other project stages
 - The benefit tables: An excel spreadsheet which includes the following:
 - *Definitions and Guidance*: The definition of each data point to be captured and guidance on how to complete the Idea, Project and BAU logs
 - *Idea log*: a record of all innovation ideas received
 - *Project log*: a record of all innovation projects
 - *BAU log*: a record of innovation which has been transitioned into BAU
 - The external stakeholder survey: A survey to be conducted by the FEN on behalf of all energy networks.
- The reported outcomes from the IMF are published annually by each energy network and provide stakeholders with a transparent, accurate and comparable representation of the benefits of investing in network innovation. Reports are published on FEN Innovation Portal. Data processing documentation from the networks will not be published.
- By 31 October each year, energy networks will publish a collective [summary of NIA and SIF activities](#).

6.2 Governance

In addition to the process governance detailed in [Section 2](#), FEN innovation working groups will:

- Manage information sharing to validate that data captured within the benefits tables is consistent
- Manage the annual stakeholder survey
- Ensure reporting is coordinated
- Ensure individual performance feeds into the overall FEN annual innovation report
- Ensure the relevant detail is available on the FEN Innovation Portal
- Ensure any changes to the framework can be implemented efficiently and with the agreement of all parties.

6. Innovation Measurement Framework (IMF)

6.3 The Balanced Scorecard

- Figure 6.3 shows the agreed Balanced Scorecard which will be produced by energy networks to demonstrate their innovation portfolio.
- Figure 6.3 – The Balanced Scorecard

	1. A clear innovation strategy linked to what consumers and stakeholders value		
Strategy & Vision (SV)	A strategy is in place – link to LNO strategy	Innovation projects are seeking to deliver benefits in areas which consumers/stakeholders value (optional)	The extent to which innovation trials align with the FEN strategy
Organisation & Culture (OC)	Number of collaborators involved in innovation projects (including breakdown or partner types)	2. A culture of innovation	
		<ul style="list-style-type: none"> External survey Internal survey (optional) Average time taken to progress an idea through to trial Number of FTEs working on innovation projects % of network company funding in innovation projects % of trials based on external ideas/suggestions 	3. A culture of adopting learning from others
			<ul style="list-style-type: none"> % of successful innovations from other companies implemented as BAU (fast follow)
Capability & Technology (CT)	Number of innovative ideas	4. Focus of TRLs	5. Speed at which proven innovation is deployed
		<ul style="list-style-type: none"> Heat map illustrating where the % of projects and % of spend sit across TRLs 	<ul style="list-style-type: none"> Average time taken to deploy TRL 8 projects
Results & Outcomes (RO)	Percentage of innovation ideas taken forward to projects	6. Forecasting and tracking project benefits	
		<ul style="list-style-type: none"> Level of RIIO-2 committed benefits Tracked net benefits delivered 5 of TRL6-8 projects which conclude with a positive CBA Number of projects with negative CBA failed fast % of TRL 2-6 projects which lead to another project 	7. % of projects moved into BAU
			<ul style="list-style-type: none"> % of completed TRL 8 projects moved into BAU
	Initiation & Evaluation (ideas – I)	Demonstration, Iteration & Learning (trials – T)	Deployment & Optimisations (build – B)
	Progression of innovation over time		

6.4 Benefits Tables

Data Entry Sheets

To enable population of the above framework, a set of data entry sheets has been produced and agreed. Please refer to [Appendix D](#) – Benefits Table. Completed data entry sheets will not be published.

Validating Data for the Benefits Tables

To ensure consistent reporting of data, the energy networks will share data for some key items captured in the benefit tables. This will provide peer review and scrutiny on the information captured under the IMF. The following sections detail what information will be shared and when.

Project Registration

When an energy network is considering registering a new project, they shall share a description of the project and the following information from the project log with all other energy networks within their sector. The following items should be included in the Benefits Tables:

- Project Name*
- Project Precursor* – any idea or previous project which is to be included as the primary project precursor
- TRL and Project type* – the technology readiness level (TRL) at the start of the project and the categorisation of the project e.g. Research, Demonstration
- Alignment to FEN strategy themes* – the assessment of the project against the FEN strategy themes and the primary theme to which the project is linked.

The project description should contain sufficient detail for other energy networks to understand the problem which the project is seeking to solve, and the solution or method being trialled. In addition, a high-level assessment of areas of where the solution being trialled can deliver net benefits shall be provided. A full CBA is not required at this stage but an understanding of any anticipated benefits which might be delivered if the project was successful and solution rolled out.

6. Innovation Measurement Framework (IMF)

NIA and SIF Project Benefits Guide

- Energy networks use consistent methodologies to estimate the net benefit if the project is successful. This may include non-financial benefits (such as environmental benefits, social benefits, or carbon cost) that can have financial value assigned under approved methodologies, as set out in NIA Governance. FEN has published the NIA Project Benefits Guide, approved by Ofgem, which will be updated in line with RIIO-2 NIA Governance Document.
- The Guide uses pre-determined values from Government publications¹. The Guide provides graded ranges of non-financial benefits, as well as worked examples. Research projects (TRL 1-3) are excluded from having to quantify benefits.
- Benefits estimation for projects funded through the SIF will also need to account for the requirements of the innovation challenge, as set by Innovate UK - UKRI.
- **Project Closedown**
- At the end of a project, the following data fields from the project log shall be shared with energy networks in the sector:
 - Recommended next steps: any recommended next steps, i.e. leading to another project, moving to the next SIF phase, move to BAU, no action (positive outcome), no action (negative CBA)
 - Forecast net benefits (project end): the final CBA used to assess the benefits of the innovation.
- It is recommended that this information be shared at least one month prior to uploading the closedown details on the FEN Innovation Portal and discussed at the relevant FEN innovation working group to allow other energy networks to raise comments/questions.
- **Solution Roll Out**

The energy networks shall share the information captured within the BAU log with its sector to provide visibility of the innovative solutions being rolled out.

Where it is known, this information shall be shared at least one month prior to uploading the closedown details on the FEN Innovation Portal and shall be discussed at FEN innovation working groups to allow other energy networks to raise comments/questions.

Cost Benefit Analysis (CBA)

As part of the benefits tables, a CBA for the project and/or solution shall be carried out. As projects and their benefits can vary widely, using a common CBA template is impractical. However, common principles in setting up CBAs and the treatment of costs and benefits can help to track projects in a consistent manner.

Note:

¹ [RIIO-2 CBA model](#)

² [The Whole System CBA by FEN](#)

6. Innovation Measurement Framework (IMF)

6.5 The External Stakeholder Survey

- One of the measures within the reporting framework is an external stakeholder survey; to receive feedback on experiences of working with energy networks across the spectrum of innovation activities.
- The survey will be issued by FEN annually, in time for the results to be used in the annual reporting, using questions agreed by the energy networks, it may be combined with engagement around revisions to FENIP and the Future Energy Network Innovation Strategies. The survey is an important way of facilitating learning and knowledge dissemination and encourages working collaboratively and constructively with stakeholders.
- Stakeholders identified on the projects or registered on the FEN Innovation Portal will receive information about the survey and will be able to respond on a per sector basis if they wish.
- The results of the survey will be sent by FEN to all the energy networks to be included in the following annual reports:

01 FEN overview and annual report: aggregate results for all energy networks across all network sectors

02 Individual network reporting: the results for the relevant network sector

6.6 Reporting against the Framework

- The reporting against this framework shall be in line with the requirements in [Section 7](#).

Reporting & Dissemination

Section 7

7. Reporting & Dissemination

7.1 NIA Individual Project Reporting

Annual Progress Updates (Reports)

Whilst projects are live, an annual progress report for each financial year shall be included as part of the Energy Network Innovation report – see Section 7.3. This shall highlight any key learning to date to provide an early opportunity for other energy networks to build into their projects or BAU processes.

Closedown Reports

- Following completion of a project, a formal closedown project report, including CBA with forecast benefits shall be produced. A template is available in [Appendix C\(ii\)](#).
- If necessary, this report can be supplemented with a further detailed report.
- The closedown and any associated reports shall be published on the FEN Innovation Portal by 31 July each year following completion of the project.

7.2 SIF Individual Project Reporting

In-Project Phase reporting

- In the Discovery Phase of a project, the network may be required to deliver a webinar, open to all stakeholders. During the Alpha Phase of a project, the network must publish progress on its project, outlining the progress and key learning to date. During the Beta Phase of delivery, the network must publish an annual progress report, outlining the key learning and the future direction for the Project. In addition to this, the network must provide an audited schedule of all the memorandum account transactions.

End of Phase reporting

- At the end of each Project Phase, findings must be presented at a public show and tell webinar, with an opportunity for questions from interested stakeholders. Where the project is not progressing to the next phase, an end of Project Phase report to Ofgem and Innovate UK – UKRI is required. End of phase reporting aims to facilitate learning and knowledge dissemination.

The specific reporting requirements at the end of each stage are specified in the [SIF Governance document](#). Innovation Challenge-specific reporting requirements may be set out in the Innovation Challenge Documentation and in the SIF Project Direction. All reporting must be published on the FEN Innovation Portal.

7.3 Energy Network Innovation Report

The Gas networks will produce an annual innovation report for each regulatory year which meets the minimum requirements set out in Ofgem's NIA Governance Document. At present, the Guidance requires that each document includes:

- Summarise the progress of the energy network's NIA activities over the regulatory year
- Summarise how the NIA activities link to that Energy Network's Innovation Strategy ([see Section 1.6](#))
- Demonstrate that the energy network has taken forward a balanced NIA project portfolio that spans a range of Methods and Solutions
- Summarise all ongoing or planned projects for future regulatory years
- Highlight areas of significant new learning
- Be approved by the senior person responsible for implementing RIIO-2 NIA Projects.

These innovation reports will be published on the FEN Innovation Portal by 31 July each year, and include network innovation benefits tables.

7. Reporting & Dissemination

7.4 FEN Industry Wide Innovation Report

- The Energy Networks Annual Innovation reports will be aggregated into an FEN industry wide Annual Innovation Report, which will include a cumulative innovation benefits table and implementation log.
- This aggregated report will be published on the FEN Innovation Portal by 31 October each year.

7.5 Reporting requirements for innovators

- Ofgem determines regulatory reporting requirements, this will include information provided from innovators. Innovators are expected to provide information to support reporting, in line with the NIA and SIF Governance requirements.

7.6 Dissemination

- In addition to the formal reporting, there are opportunities for further dissemination of learning. Dissemination can occur both during and following completion of the project, and is undertaken both amongst FEN members and direct stakeholders, as well as with wider industry sectors and bodies. Timely and wide dissemination is important to ensure that outcomes are shared in a way which maximises the benefit for customers.

Annual Innovation Conference

- Each year, energy networks undertake an annual innovation conference. The conference is a platform for energy networks to disseminate knowledge relating to the innovation projects that have been completed and are in progress. The annual conference presents the energy networks with an opportunity to speak directly with stakeholders, to understand the issues that are important to them, how they want to engage and to further create opportunities for innovation projects. The annual conference is a joint event which enables collaboration to ensure that maximum value can be derived from projects as a direct result of open engagement and the understanding of stakeholder challenges.

FEN Energy Innovation Forum

The gas networks will continue to attend ENA led public Energy Innovation Forums several times per year. These events are normally based around a theme with presentations on a range of projects from across the energy networks. As part of these events a stakeholder survey is conducted to understand areas of interest for future events.

Individual Dissemination Opportunities

Energy networks carry out various individual dissemination activities including:

One day events to disseminate the portfolio

Webinars on individual projects or parts of projects

Articles in trade magazines

Social Media

In addition to the above, energy networks will normally publish information on their innovation portfolio on their company website and / or social media channels.

7.7 Requesting Project Information

In addition to the information and data shared under the processes described in this section, third parties can request project information from the lead network. The energy network will set out Data Access Details as part of the Project Registration (see [Appendix A](#)), and the FEN Innovation Portal contact form provides a common, traceable mechanism to enable requests. Through the form, stakeholders can request data on network innovation in general or specific projects.

Intellectual Property (IP) Guide

Section 8

8. Intellectual Property (IP) Guide

8.1 Intellectual Property Rights (IPR) for SIF and NIA projects

- We recognise that clear protection of intellectual property (IP) is important for innovators. The energy networks sector is different to many sectors in that the industry seeks to secure innovation for the largest number of customers that can benefit from that innovation, while maintaining the relevant IP protection for innovators. As a result of Ofgem's expectation for energy networks to collaborate with each other and third parties on projects as project partners, we manage IP slightly differently to other industries. The management of IPR for NIA and SIF projects is subject to Section 7 and Section 9 of Ofgem's respective [NIA](#) and [SIF](#) Governance Documents. IP terms are specified in the contract with the network that innovators work with and therefore it is important to be familiar with these terms.
- The primary objectives of the NIA and SIF Governance Document with respect to the treatment of IPR are to:
 - Ensure that energy networks can disseminate knowledge generated by each innovation project to other energy networks
 - Protect customers against paying excessively for products or approaches (for which they have contributed to the cost of development by providing NIA or SIF funding).
- The Governance Documents set out the expected ownership and licence conditions with respect to the IPR created through a NIA or SIF funded project. The commercial terms, to protect customer monies, are more open to energy networks to consider what is appropriate.
- In all cases there is a requirement to provide other energy networks access to IPR with which the project must comply. Other energy networks must be able to use Relevant Foreground IPR (generated during a project, which is needed by other energy networks to implement the method/processes being developed) within their system royalty free, but background IPR (generated prior to project commencement) is retained by the innovator. More details on what constitutes acceptable positions regarding ownership of IP are set out in the respective Governance Documents.
- Once agreed for a NIA or SIF project, the IPR arrangements cannot be changed without written approval from Ofgem.

Ofgem monitors compliance with the NIA and SIF Governance requirements through different channels (for example auditing and Requests for Information from the energy networks). Compliance with the governance document is a condition of their licence. Ofgem may halt a project at any time and may disallow expenditure or require funds be returned to customers.

8.2 Reporting of Information

In line with NIA and SIF Governance, certain information regarding a project must be published. This includes learnings from the project and data which must be publicised on the FEN Innovation Portal. This is required to assist other energy networks as they assess if they want to take a licence of the Relevant Foreground IPR, and to assist consumers by sharing benefits from projects more widely.

As a minimum the following information must be published on the FEN Innovation Portal:

- As part of project registration information (see also [Appendix A](#)), details of Relevant Foreground IPR which is expected to be generated in the project. If applicable, this must also explain if Background IPR will be required to use the Relevant Foreground IPR
- By each 31st July, project progress information for the project (which will set out learnings), including the final project progress information following the project's completion. This must include sufficient details of the Foreground IPR to enable others to identify if they need to use it.

Information can be "de-sensitised" as necessary for example to remove commercially sensitive information. As such, no confidential information is to be disclosed on the FEN Smarter Networks Portal. However, if a licence to use a party's Background IPR is required to use the Relevant Foreground IPR, then that detail must be clearly stated.

The detail published in the FEN Innovation Portal is then referenced in the energy network's annual summary of NIA activity, as set out in in [Section 7](#) of this document.

Consumption and network data is to be shared and open to all by default, unless it can be demonstrated that it is not in the consumers' interests to do so or where prevented from doing so by legal or contractual reasons.

8. Intellectual Property (IP) Guide

8.3 Intellectual Property Rights (IPR) Case Studies

- The tables below are examples of how IPR ownership may work under a NIA or SIF innovation project. Example 1 is intended to reflect a research innovation project. Example 2 concerns the development of new software, which the network will use (the innovator is providing software to the network). Note that these examples are to aid understanding, and IPR will differ on a case by case basis.

Example 1 – Research project

Deliverable	Party or Parties Providing	Type of IPR in accordance with Ofgem Governance Documents	Jointly Owned Foreground IPR (Yes or No)	Commercial Product (Yes or No) ¹
Pre-existing equipment / research	Innovator	Background	No	No
Innovator modifications to equipment / asset	Innovator	Foreground	No	Yes
Pre-existing network operation and system	The network	Background	No	No
Modifications to networks operation and system	The network/ innovator	Foreground	No	No
Results for final report / demonstration ²	The network/ innovator	Foreground ²	Yes – jointly owned	No

Example 2 – Software project

Deliverable	Party or Parties Providing	Type of IPR in accordance with Ofgem Governance Documents (Background, Relevant Background, Foreground IPR or Relevant Foreground IPR)	Jointly Owned Foreground IPR (Yes or No; if Yes identify Parties)	Commercial Product (Yes or No) ¹
Pre-existing software system	Innovator	Relevant Background	No	Yes
Innovator modifications to software system	Innovator	Foreground	No	Yes
Pre-existing Network connections	The network	Relevant Background	No	No
Modifications to Network's connections	The network / innovator	Relevant Foreground	No	No
Method for software development ²	ALL (as necessary)	Relevant Foreground ²	Yes – The Network, engineering company, consulting company and software company	No
Pre-existing platform	Software company	Relevant Background	No	Yes
Innovator modifications to pre-existing platform	Software company	Foreground	No	Yes
Software integration	Software company	Foreground	No	Yes

Note:

¹ Something can only be a Commercial Product if it has Background IPR included. Foreground IPR that arises in relation to such a Commercial Product is not deemed Relevant Foreground IPR. However, these Commercial Products still need to be made available by the licensor to other network licensees after the end of the project.

² This is new IPR created entirely by the method/results being developed for the innovation project, which could not be created without that doing. The material learnings obtained are to be freely disseminated as knowledge transfer to other network licensees sufficient to allow them to reproduce the method/results being developed into business as usual.

Appendices

Section 9

9. Appendices

A Project Evaluation, Project and Closedown Report Template

B Implementation Log

C Benefits Tables

D FEN Annual Innovation Report

Please contact gas@futureenergynetworks.org.uk for copies of these templates or access to the live implementation log.