Energy Networks Innovation Process (ENIP)

Overview and Governance Document

The voice of the networks

Document Control

Authorities

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Reference 2	

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1 Introduction

1 Introduction

1.1 About ENA

Energy Networks Association (ENA) represents the owners and operators of licenses for the Transmission and/or Distribution of energy in the UK and Ireland. Our members control and maintain the critical national infrastructure that delivers these vital services into customers' homes and businesses.

ENA's overriding goals are to promote UK and Ireland Energy Networks ensuring our networks are the safest, most reliable, most efficient and sustainable in the world. We influence decision-makers on issues that are important to our members. These include:

- Regulation and the wider representation in UK, Ireland and the rest of Europe
- Cost-efficient engineering services and related businesses for the benefit of members
- Safety, health and environment across the Gas and Electricity industries
- The development and deployment of smart technology
- Innovation strategy, reporting and collaboration in GB

As the voice of the Energy Networks sector, ENA acts as a strategic focus and channel of communication for the industry. We promote interests and good standing of the industry and provide a forum of discussion among company members.

We undertake a range of innovation activities, and host a range of innovation events and conferences, including our annual Energy Networks Innovation Conference (formerly known as Low Carbon Networks & Innovation Conference).

1.2 ENA Members

Figure 1.2 – ENA members

1.3 Innovation at ENA

Innovation at ENA is governed by two key working groups; Electricity Innovation Managers (EIM) and Gas Innovation and Governance Group (GIGG).

- **Electricity Innovation Managers (EIM)**: represents all Electricity Networks across Transmission and Distribution, as well as the Electricity System Operator (ESO); and
- **Gas Innovation Governance Group (GIGG)**: represents all Gas Networks across Transmission and Distribution

These working groups will own this “Energy Networks Innovation Process” document, including creation, maintenance, updates and associated stakeholder engagement.

ENA’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 ENA members but with wider industry innovation across relevant sectors and bodies such as the Energy Systems Catapult (ESC), Energy Innovation Centre (EIC), Innovate UK and relevant BEIS Innovation Teams (Smart Systems, Modernising Energy Data, etc). A joint EIM and GIGG working group has also been formed to further collaborate and facilitate cross-vector innovation. These groups typically meet on a monthly basis, either via teleconference or in-person at ENA’s office in London.

Below is a non-exhaustive list of collaboration areas undertaken by the ENA innovation working groups:

- Create, maintain and update the Energy Networks Innovation Process (ENIP) (this document)
- Create, maintain and update industry wide Innovation Strategies (see section 1.4)
- Disseminate learning from innovation projects publicly. This includes organising the yearly Energy Networks Innovation Conference (ENIC), formerly known as the Low Carbon Networks Innovation Conference (LCNI)
- Share learning and outputs of innovation projects
- Explore innovative projects which suit the future needs of the Networks
- Operate and maintain the Smarter Networks Portal[1]
- 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] Smarter Networks Portal - https://www.smarternetworks.org/

1.4 ENA Electricity/Gas Network Innovation Strategies

The Energy Network Innovation Strategy, published in March 2020, 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.

This strategy is centered around our three overarching objectives, which are reflected in five key principles and five network innovation themes.

Figure 1.4 – The Energy Network Innovation Strategy

1.5 Types of Funding

1.5.1 Network Innovation Allowance

As part of the RIIO-1 price controls, Ofgem introduced the Network Innovation Allowance (NIA). The NIA is a set allowance each Energy Network receives as part of their price control allowance. It provides limited funding to Energy Networks to fund smaller technical, commercial, or operational projects directly related to the licensees' network. These should have the potential to deliver financial benefits to the licensee and its customers. As part of the RIIO-2 network price control commencing 1 April 2021, Gas and Electricity Networks companies and the Electricity System Operator will have ongoing access to NIA to fund innovation projects to March 2026. The RIIO-1 price controls remains in place for Electricity Distribution Networks until March 2023.

1.5.2 Network Innovation Competition

As part of RIIO-1 price controls, Ofgem introduced the Gas and Electricity Network Innovation Competition (NIC). This is 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. Funding is provided for the best innovation projects which help all network operators to understand what they need to do to provide environmental benefits, cost reductions and maintain security of supply as Great Britain (GB) moves to a net zero economy. Up to £40m per annum is available through the Electricity Distribution NIC, which will run until 2023 (the end of RIIO-1 for Electricity Distribution Networks). Up to £20m per annum was available for Gas network and £30m for Electricity Transmission projects until March 2021 (the end of RIIO-1 for Gas Distribution, the Electricity System Operator and Gas/Electricity Transmission companies).

1.5.3 Strategic Innovation Fund

As part of RIIO-2 price controls, Ofgem is introducing the Strategic Innovation Fund (SIF) to support transition to net zero. This fund supports large-scale transformational research and development projects and will be available to Gas Distribution (GD), Gas Transmission (GT), Electricity Transmission (ET) and the Electricity System Operator (ESO) in the first instance. Access to this fund will also be made available to Electricity Distribution in 2023. The exact details of how this fund will be facilitated are still under discussion with Ofgem.

1.6 Innovation Portals

ENA currently hosts two innovation portals to facilitate learning and collaboration in the industry. Currently, these portals are being redeveloped to bring them up to a modern specification, and fully support all of the aspects of the process contained in this document. As of 1 April 2021, ENA will host an enhanced Smarter Networks Portal (SNP) which combines the previous two portals, the NI Collaboration Portal and SNP, and integrates them with the main ENA website.

The SNP acts as a central repository for regulation funded innovation projects and their associated outputs, data, learning, news and associated dissemination events. It focusses on all previous and current Ofgem funded innovation projects.

The ENA website and SNP will contain, as a minimum:

- ENA Innovation Strategy documents
- Project Registration documents including the Project Eligibility Assessment (PEA)
- Project Closedown Report
- Annual Innovation Reports from each Energy Network
- Annual ENA Innovation Report
- Master templates for all reports and data tables[2]
- A place for third party innovators to propose or pitch new and innovative ideas for Energy Networks to consider

1.7 Purpose of this Document

As part of the Ofgem requirement for RIIO-2 price control, an industry-led reporting and collaboration process will be put in place. As such, ENA and its members have developed a new robust 'Energy Networks Innovation Process', and this document to facilitate it. This process will be followed by all Energy Networks. ENA commits to it being formally in place and operational for RIIO-2 on 1 April 2021, and reviewing it at least every two years. This document contains the full details of the end-to-end industry led process for reporting, collaboration, and dissemination of Ofgem funded NIA projects in GB. This process has been presented to Ofgem and external stakeholders, and feedback from these groups have been incorporated.

The process incorporates an Innovation Measurement Framework (IMF). The IMF contains a benefit tracking methodology to report on a broad range of benefits from innovation projects, including Cost-Benefit Analysis (CBA), collaboration and partnership, and technology progression in a transparent and consistent manner. The IMF was trialled and tested by Energy Networks and external stakeholders. This and the ENIP will continue to be iteratively developed in collaboration with Ofgem and Stakeholders.

Hence the purpose of this document is to:

- Set out the principles and governance of the ENIP
- 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 3rd party innovators and with wider industry innovation schemes
- Facilitate sharing of learning and outputs from innovation

This process formally covers NIA funded innovation projects, from project inception through to project rollout, however similar processes will be followed for NIC and SIF projects, 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.

[2] Document templates - https://www.smarternetworks.org/document-templates

2 Principles & Governance

2 Principles & Governance

2.1 Principles

The principles of the ENIP are to help ensure that NIA 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 EIM and GIGG working groups and will be aligned with the NIA Governance Document requirements.

The guidance in this document may need to take into account the differences between sectors to reflect the difference in timing for RIIO-2 between Electricity and Gas Transmission / Gas and Electricity Distribution.

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 Governance and every two years at a minimum, in alternate years from the ENA Innovation Strategy. Smaller evolutionary changes may be made at any time.

Any changes shall be governed by the following process:

i. Proposed changes shall be circulated to all Energy Networks with clear reasons evidenced by stakeholder feedback or a clear business need.
ii. A joint EIM and GIGG meeting shall be called to discuss 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.
iii. 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 SNP. ENA will be responsible for making these changes. 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 ENIP and all associated documents. This will ensure that data and documents can be clearly labelled and tracked.

ENA 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 SNP.

Each Energy Network will be responsible for retaining copies of their own documents and data.

2.4 NIA Governance Integration

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

3 Quality Assurance of Innovation Projects

3 Quality Assurance of Innovation Projects

3.1 Introduction

The RIIO-2 framework has introduced new Quality Assurance (QA) requirements for all Energy Networks that use NIA funding for innovation projects. They require Energy Networks to undertake processes and QA activities to reduce and manage the risk of any inaccurate or incomplete reporting of project information.

As this is a new requirement, the approach will evolve as it is tested and used. In the early stages of development, the Energy Networks will consider whether the processes are adequately supported, resourced and managed and that opportunities and risks are identified by Energy Networks and Ofgem. Any future changes to this document will be made in accordance with Section 2.2.

This chapter details the QA measures that are being developed to test the robustness of research undertaken using NIA funding. It provides guidance of a structured process of assessing project quality risk and defines methodologies for managing those risks using the principles of the Data Assurance Guidance for Electricity and Gas Network Companies, 2016.[3]

Energy Networks are required to follow common rules and principles around Data and Measurement Quality. In the event that Ofgem considers that the project does not comply with the requirements of the Governance Document, it will explain why and ask the Energy Network to resubmit necessary documentation. If Ofgem considers that the resubmitted information still does not comply with the Governance Document, Ofgem retains the right to examine project processes and may reduce the Energy Network's revenue by an amount up to the level of funding allowed for the project using the mechanism set out in the NIA Licence Conditions.

3.2 A Common Risk Assessment Methodology

To ensure a consistent approach in assessing the quality of projects, Energy Networks are developing a common risk assessment methodology. This will assess different project parameters and will convert them into a risk score using the categories shown, based on the initial principles set out in this section.

The categories chosen represent a balance of the impact and the probability of the risk, presenting a compiled score for risk. These will be reviewed and the thresholds revised by Energy Networks with input from Ofgem for future issues.

- **Technology Readiness Level (TRL) change** – the number of TRL steps covered within the project, i.e. the difference between the start and finish TRLs of the project. A greater number of steps in one project brings a higher likelihood that something will not go according to plan along the way.
- **Cost** – the higher the cost of a project, the higher the impact should anything not go to plan. Note that the aim is to sufficiently cover the portion of value of the NIA portfolio with cost rather than the volume of projects.
- **Number of suppliers** – a project bringing a higher number of suppliers together carries a higher risk of interactions causing problems within the project. This does not include partnering Energy Networks or intermediaries such as EIC.
- **Data –** this measures the understanding of the data to be gathered in the project and the assumptions involved. This provides a measure of the likelihood of issues associated with the gathering and assessment of data within the project.

Innovation projects by their nature involve a level of risk-taking to develop new products, solutions or discover new findings that address identified challenges and problems. This type of risk-taking should not be confused with the risks associated in this section, that examines the robustness of the methodology to develop and capture the results from the project and enable learning to be disseminated to other Energy Networks and third parties.

[3] https://www.ofgem.gov.uk/ofgem-publications/98746

The following table sets out the categories and risk thresholds which will be used for risk assessment. Scores will be assigned based on the risk assessed in each category.

	Risk Threshold		
Category	**High (Score 3)**	**Medium (Score 2)**	**Low (Score 1)**
TRL change	6	3-5	1-2
Cost	>£1m	£500,000 - £1m	< £500,000
Number of suppliers (based on direct agreements)	5+	3-4	0-2
Data	Assumptions unknown to be explored and validated within project	Assumptions known but will be defined within project	Defined assumptions & principles

Figure 3.2 – Risk Thresholds

3.3 Review and Reporting Requirements

Each Energy Network is expected to assess the overall risk for each NIA project before, during and at project close. For all projects, the quality assurance activities are informed by the results of the risk assessment. The assessment should be made for each individual NIA project registered, and as part of any change control process within a project.

The rules will be based on the principle that a higher risk score should result in a stronger level of quality assurance activity to be applied to a project.

Score	Assessed Risk Score	Assurance approach	Requirements
4 - 6	**Low (L)**	Internal assurance	As set out in NIA Governance and ENIP
7 - 9	**Medium (M)**	Peer review/ Independent review	Statement from another Energy Network (explicitly appointed if all Networks in a sector are collaborating) that the project has followed ENIP at registration and closedown. Alternatively, the independent review assurance approach may be followed, to be published at project closedown, at the discretion of the lead network.
10 - 12	**High (H)**	Independent review	Independent review of processes followed to be published at project closedown.

Figure 3.3 – Review and Reporting Requirements

If necessary, the Energy Network will select sufficient low risk projects each year for peer or independent review to ensure that:

- At least 10% of their projects that year have had either peer or independent review, and
- At least one project has been subject to independent review.

The peer or independent review will consider how the project has been managed against the processes set out in ENIP, and a common approach for this will be developed. Energy Networks will publish the outcome and any observations, improvements or significant revisions that become evident from the completed assessments.

In some circumstances, it may be necessary to revise the project closedown report and these shall be published on the SNP as detailed in Section 4.4.

3.4 Data Quality & Measurement Quality Statements

For each NIA project, the Energy Network will set out in the Project Eligibility Assessment (PEA, see Section 4.2) 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.

Data Quality Statement

Within the 'Method' section of the PEA, the Energy Network will set out:

- How the project will ensure that data used is of sufficient quality to deliver project objectives
- Where relevant data will be stored for future access

This should include provisions around both data and background information (metadata).

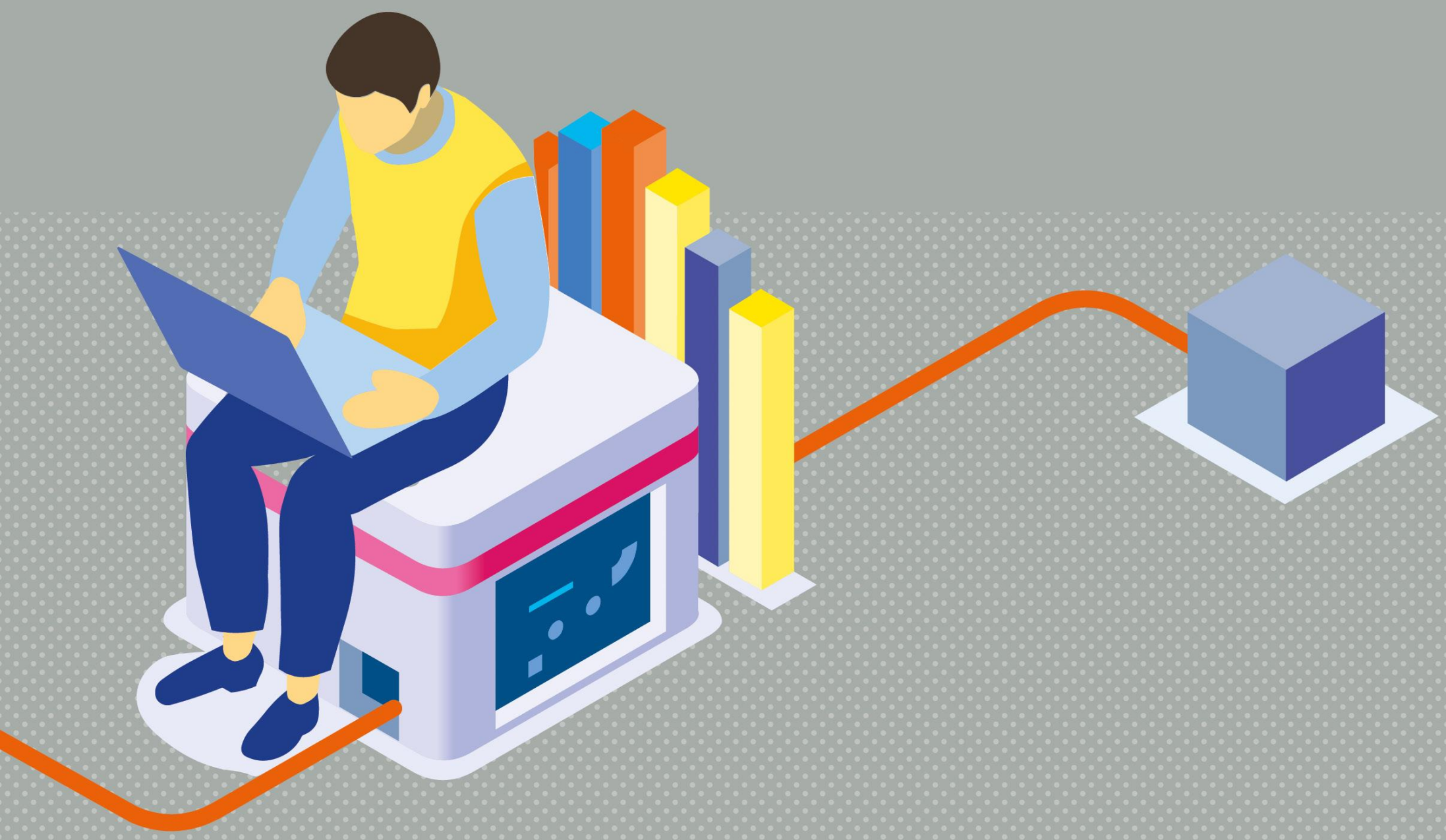
Measurement Quality Statement

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 Quality and Measurement Quality statements is expected to be included in future versions of ENIP.

4 NIA Project Process



4 NIA Project Process

The diagram below is a simplified, high-level overview of the process to be undertaken by Energy Networks for NIA funded projects.

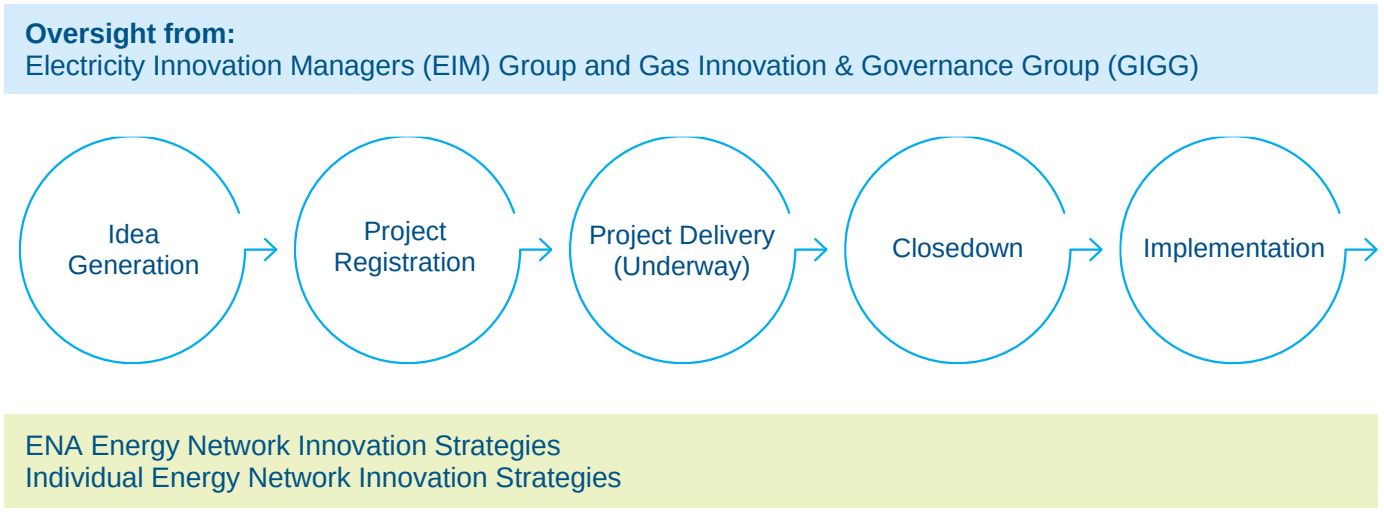


Figure 4 – NIA Project Process

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.

The following sections provides the details for each step in the process. Internal processes to Energy Networks and ENA will be denoted in red and external processes are denoted in green.

4.1 Idea Generation

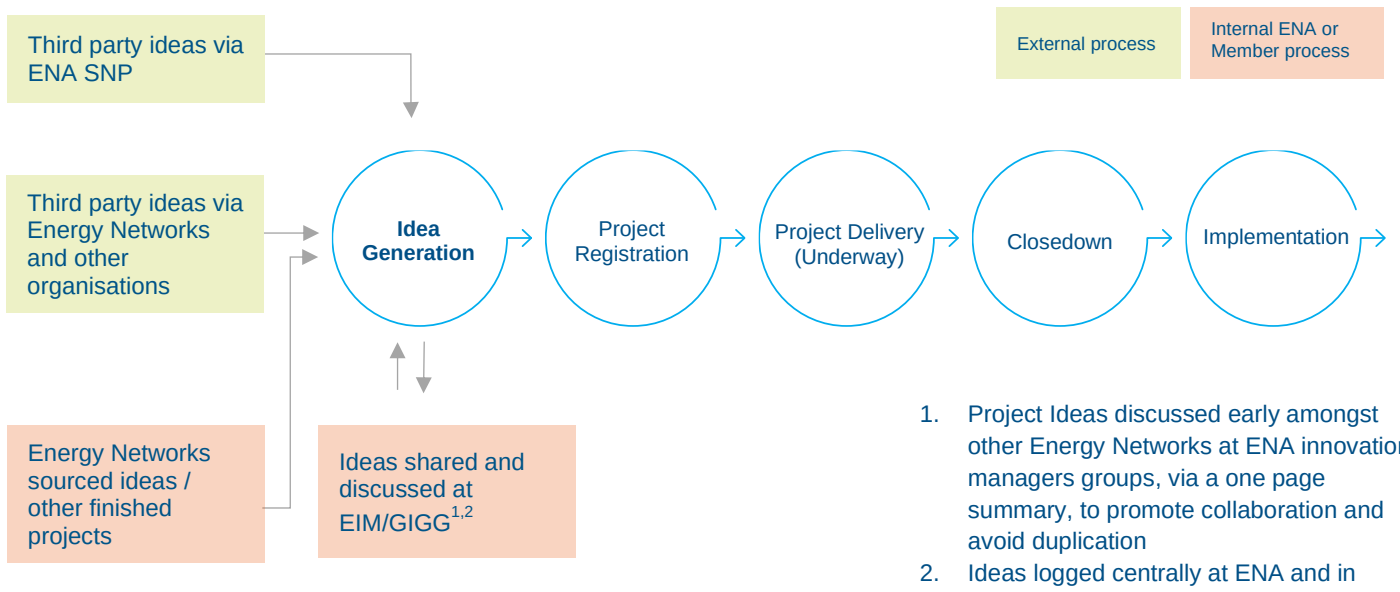


Figure 4.1 – Idea Generation

Ideas can be generated from a variety of sources:

1. Third party ideas submitted to the ENA SNP[4] - these ideas will be discussed at the next relevant working group meeting following which a formal decision response will be sent by ENA on behalf of the Energy Networks.
2. 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.
3. ENA led call for ideas – this is currently an annual call looking specifically for ideas suitable for the NIC and is normally issued early Autumn. The ideas will be discussed at ENA's innovation working group following which a formal decision response will be sent by ENA on behalf of the Energy Networks.
4. Energy Network internally sourced ideas - these ideas are normally generated in response to a business need.
5. Follow on work from other projects.

Ideas submitted to ENA portal will be logged centrally at ENA. Ideas received through Energy Networks will be logged by their own organisation and reported in their individual Innovation Benefits tables (see section 5).

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 Document, capability to implement, funding availability. Historically, the proportion of ideas developed into a project has been 10 - 25%, going forward this will be measured in the framework.

Prior to the development of the draft 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 ENA 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 5.4.2.

4.2 Project Registration

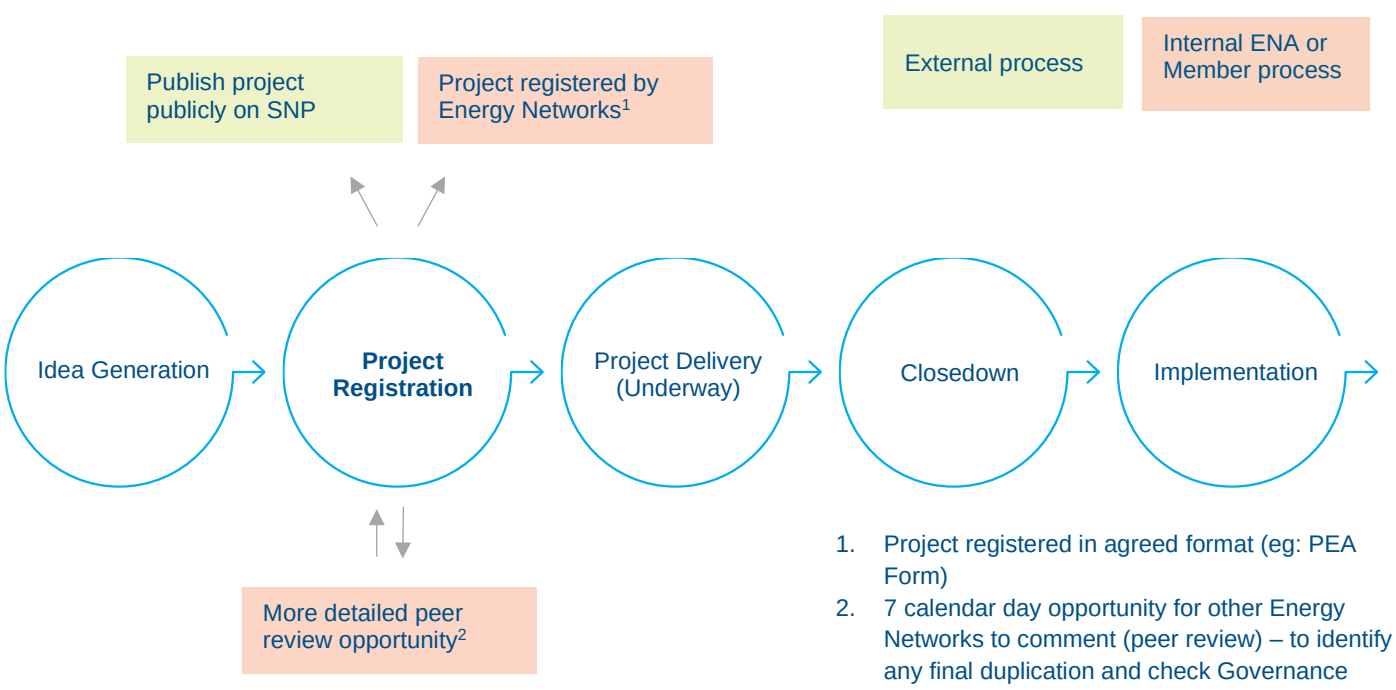


Figure 4.2 - Project Registration

Ideas to be taken forward as NIA projects will then be registered on the SNP by the relevant Energy Network. The Energy Network will complete and upload the PEA form (see Appendix A).

[4] SNP - https://www.smarternetworks.org/

Once the project has been registered on the SNP, an automatic 7 calendar 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 will have been discussed at the relevant ENA innovation working group during the previous stage majority of the projects pass through this stage.

The newly registered project will be presented again at the relevant ENA innovation working group for any further discussion.

Assessing the impact of innovation upon consumers in vulnerable situations

Under Ofgem's NIA Governance for RIIO-2, Gas Transporter and Electricity Transmission 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.[5]

As this is a new requirement for RIIO-2, the approach to conducting this impact assessment remains in development and will be refined and updated. Energy Networks will follow common principles in undertaking the impact assessment:

- Projects which may have a financial impact on consumers should assess the impact in terms of equity.
- Where potential impacts are identified, the assessment will consider consumer capabilities. This may use definitions developed under the Centre for Sustainable Energy's Smart and Fair project,6 or similar frameworks, to assess whether the impact of a method or solution is dependent on the following factors:
    - Dwelling and location (potentially including tenure)
    - Energy technology and usage profiles (for example, heating technology used)
    - Readiness for digital technology
    - Financial (for example, whether a household uses a prepayment meter)
    - Personal and social factors (for example, households with disabilities and medical conditions, or which speak English as a foreign language)

The examples provided are not exhaustive. Evidence of the impact of a method or solution may develop through the innovation project and where this is the case, the Energy Network will report the outcomes in line with the processes in this Section.

The approach and tools used to assess the impact of innovation upon consumers in vulnerable situations are expected to evolve and this section will be updated in accordance with the process set out in Section 2.2.

[5] https://www.ofgem.gov.uk/publications-and-updates/consumer-vulnerability-strategy-2025
[6] https://www.cse.org.uk/downloads/reports-and-publications/policy/energy-justice/smart-and-fair-phase-1-report-september-2020.pdf

4.3 Project Delivery

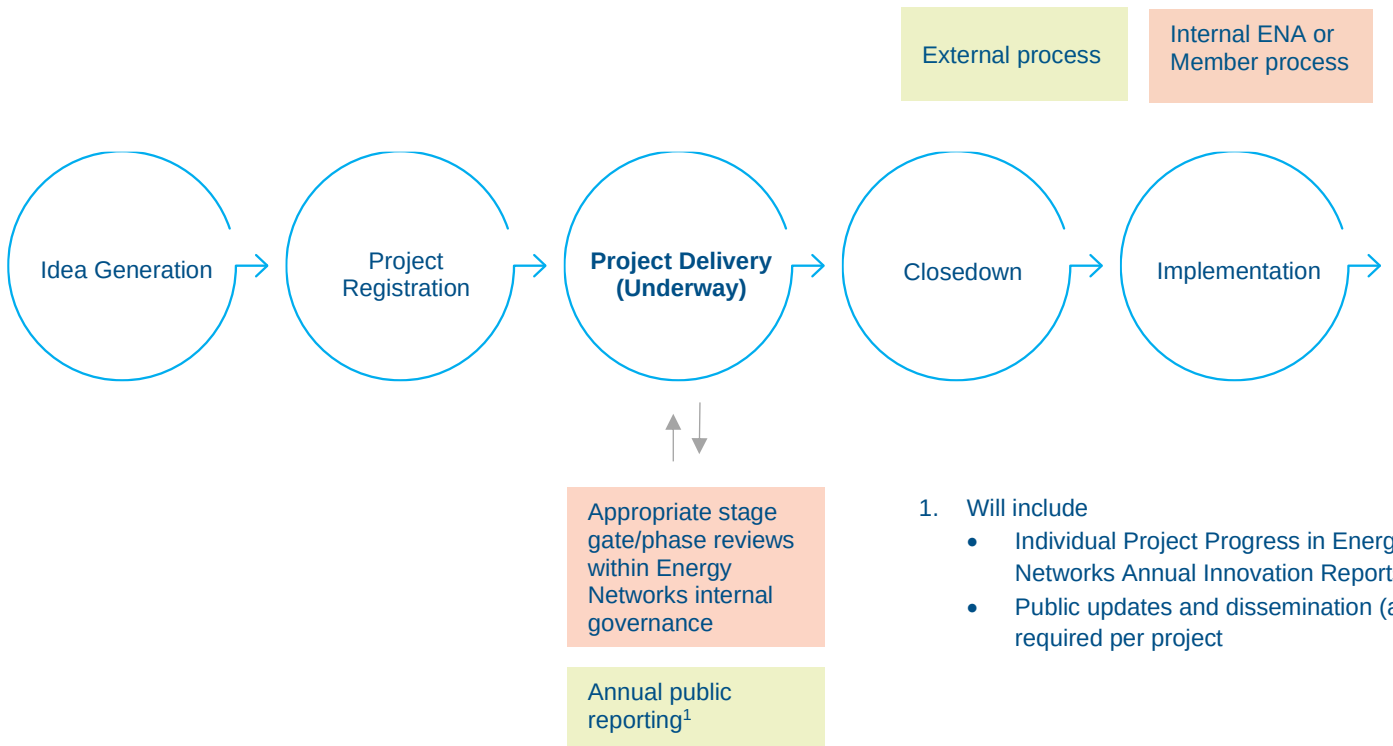


Figure 4.3 – Project Delivery

Once a project has been registered it will progress swiftly 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 5.

Most Energy Networks will provide further details and more frequent updates of their projects on their websites and through events or their social media.

4.4 Closedown

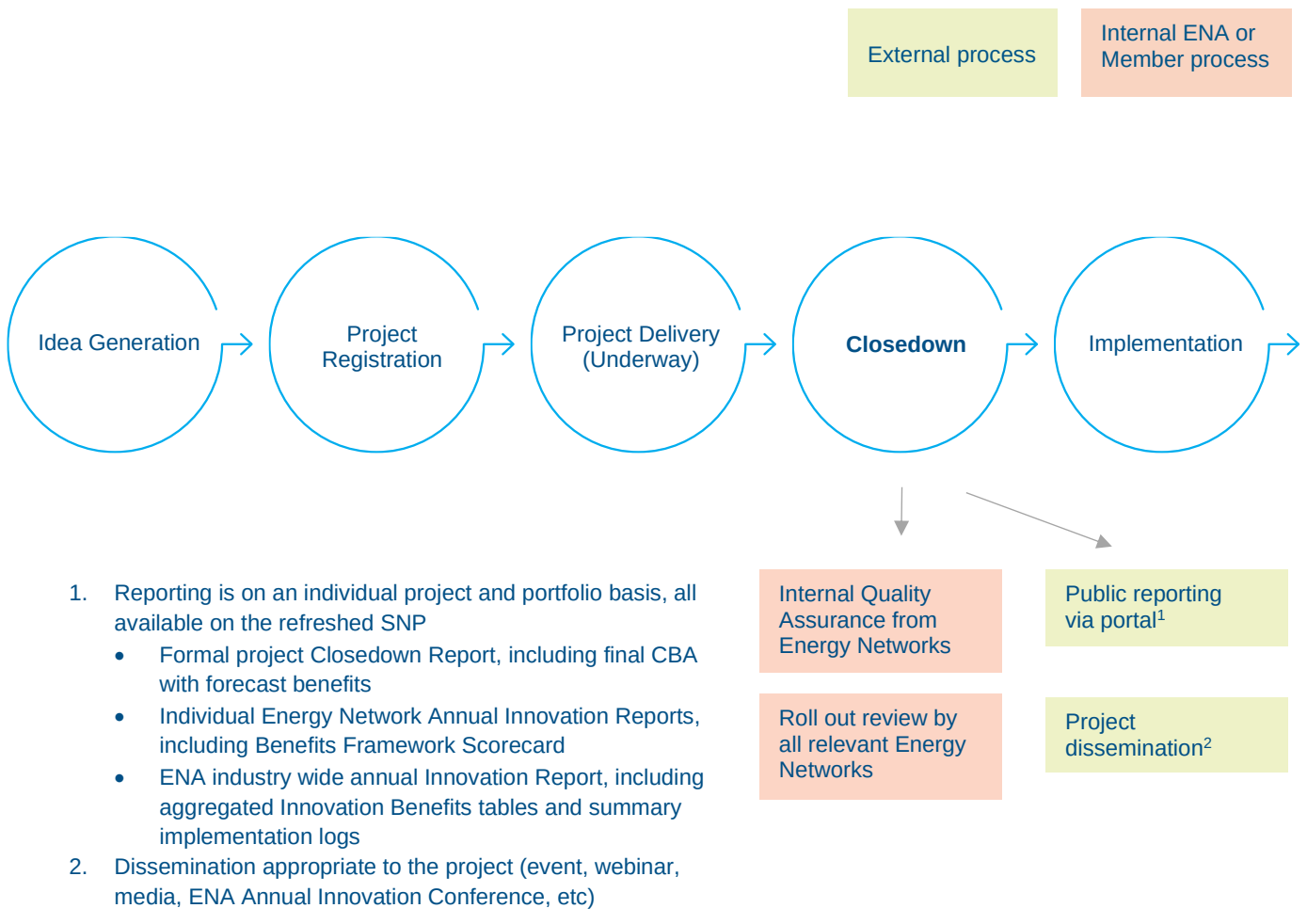


Figure 4.4 – Closedown

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 to roll out to BAU.

Reporting and dissemination of project conclusions are carried out in line with the requirements in Section 5.

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 5.4.2.

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 SNP.

4.5 Implementation

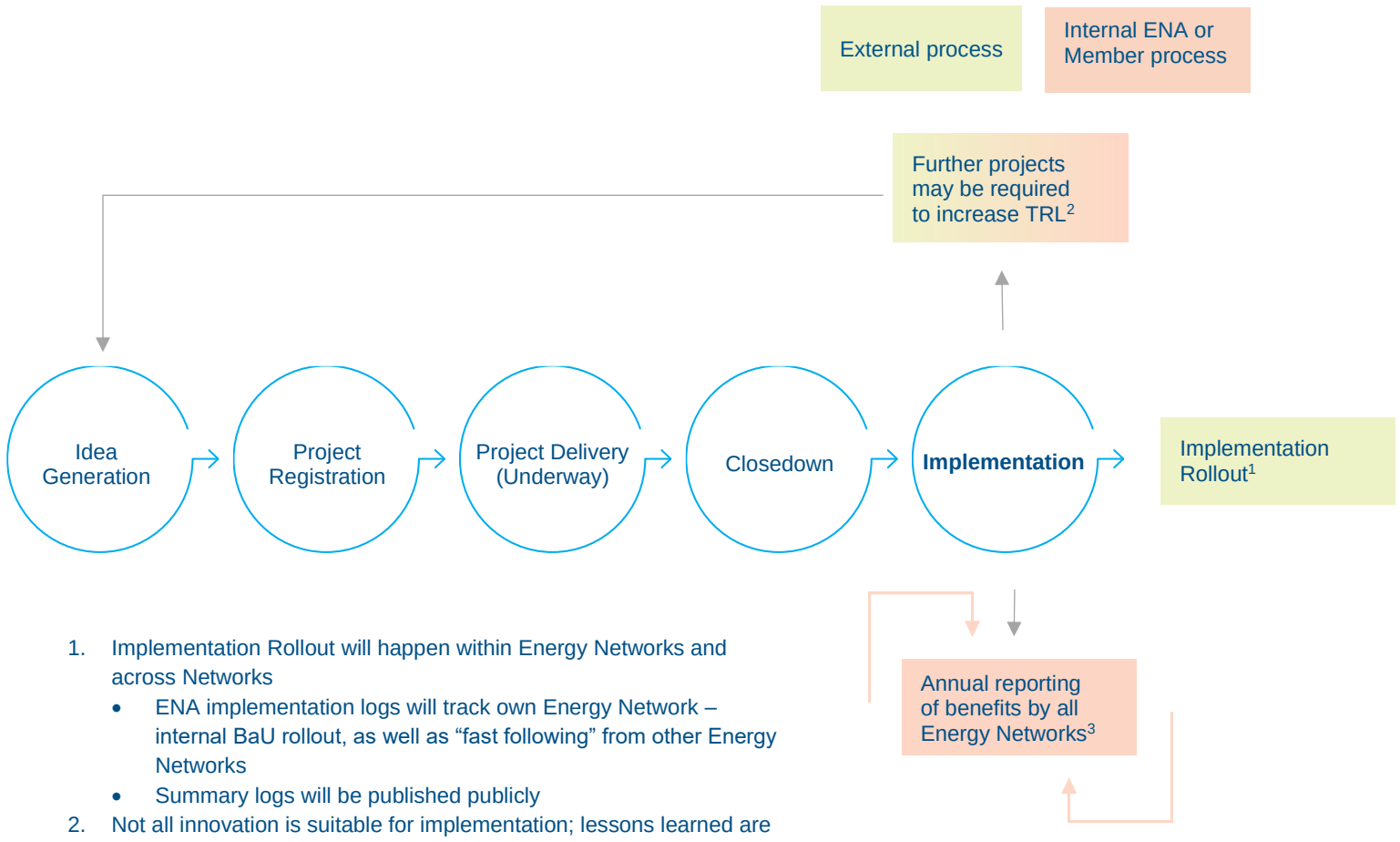


Figure 4.5 – Implementation

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

1. 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.

Although each Energy Network has their own process, the roll out 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 focussed 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.

2. 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.

3. 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 roll out.

4. 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.

4.5.1 Reporting of Benefits from Projects

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 5.

5 Innovation Measurement Framework (IMF)

5 Innovation Measurement Framework (IMF)

5.1 Introduction

The Innovation Measurement Framework (IMF) will be used by the Energy Networks to report on a range of innovation outcomes, including collaboration and partnerships, the speed at which successful innovation is transitioned into BAU and the benefits innovation has delivered for network customers. It was developed under RIIO-1 governance, based on an initial project led by EIC and with the support of Baringa.

The IMF covers the following elements:

- The balanced scorecard: The measures to be reported against and where they sit within the innovation framework.
- 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 ENA on behalf of all Energy Networks.

The reported outcomes from the IMF will be published annually by each Energy Network and will provide stakeholders with an accurate and comparable representation of the benefits of investing in network innovation. Reports will be published on SNP.

By 31 October each year, Energy Networks will publish a collective summary of NIA activities.

5.2 Governance

In addition to the process governance detailed in Section 2, ENA 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, with each Energy Networks publishing its performance at the same time
- Ensure individual performance feeds into the overall ENA annual innovation report
- Ensure the relevant detail is available on the SNP
- Ensure any changes to the framework can be implemented efficiently and with the agreement of all parties

5.3 The Balanced Scorecard

The figure below shows the agreed Balanced Scorecard which will be produced by Energy Network to demonstrate their Innovation portfolio:

Higher level enablers of innovation				
		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 extewnt to which innovation trials align with the ENA strategy
	Organisation & Culture (OC)	Number of collaborators involved in innovation projects (including breakdown or partner types)	**2. A culture of innovation** • 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/suggestiuions	**3. A culture of adopting learning from others** • % of successful innovations from other companies implemented as BAU (fast follow)
	Capability & Technology (CT)	Number of innovative ideas	**4. Focus of TRLs** • Heat map illustrating where the % of projects and % of spend sit across TRLs	**5. Speed at which proven innovation is deployed** • 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** • Level of RIIO-2 commited 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** • % 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		

Figure 5.3 – The Balanced Scorecard

5.4 Benefits Tables

5.4.1 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.

5.4.2 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.

5.4.3 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 as set out in Section 4.1.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 ENA strategy themes – the assessment of the project against the ENA 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.

5.4.4 NIA 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. ENA 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 publications7. 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.

5.4.5 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, 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 SNP and discussed at the relevant ENA innovation working group to allow other Energy Networks to raise comments/questions.

5.4.6 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 SNP and shall be discussed at ENA innovation working groups to allow other Energy Networks to raise comments/questions.

5.4.7 Cost Benefit Analysis

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.

[7] RIIO-2 CBA model - https://www.ofgem.gov.uk/publications-and-updates/riio-2-final-data-templates-and-associated-instructions-and-guidance

https://www.gov.uk/government/collections/the-green-book-and-accompanying-guidance-and-documents

The Whole System CBA by ENA - https://www.energynetworks.org/industry-hub/resource-library/open-networks-2020-ws4-p1-user-guide.pdf

5.5 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 ENA 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 ENIP and the Energy Network Innovation Strategies.

Stakeholders identified on the projects or registered on the SNP 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 ENA to all the Energy Networks to be included in the following annual reports:

1. ENA overview and annual report: Aggregate results for all Energy Networks across all network sectors
2. Individual network reporting: the results for the relevant network sector

5.6 Reporting against the Framework

The reporting against this framework shall be in line with the requirements in Section 6.

6 Reporting & Dissemination

6 Reporting & Dissemination

6.1 Individual Project Reporting

6.1.1 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 6.2. 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.

6.1.2 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 SNP by 31 July each year following completion of the project.

6.2 Energy Network Innovation Report

All Energy 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 that 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, or the joint ENA Energy Network Innovation Strategies (see Section 1.4)
- 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 SNP by 31 July each year, and include network innovation benefits tables.

6.3 ENA Industry Wide Innovation Report

The Energy Networks Annual Innovation reports will be aggregated into an ENA industry wide Annual Innovation Report, which will include an aggregated innovation benefits table and implementation log.

This aggregated report will be published on the SNP by 31 October each year.

6.4 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 ENA members and direct stakeholders, as well as with wider industry sectors and bodies.

6.4.1 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 Energy Networks Innovation Conference (ENIC) is a joint event which furthermore 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.

6.4.2 ENA Energy Innovation Forum

The ENA hold 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.

6.4.3 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, the Energy Networks will normally publish information on their innovation portfolio on their company website and / or social media channels.

6.5 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 SNP 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.

7 Intellectual Property (IP) Guide

7 Intellectual Property (IP) Guide

In a standard commercial project, each party negotiates to achieve a strong financial position and to secure exclusive rights to develop any output from that project. However, projects funded through the NIA process are strictly regulated and must comply with Ofgem's NIA Governance requirements. Ofgem expects Energy Networks to collaborate with each other and with third parties on projects as project partners. A key feature is the requirement that learning gained through the projects is disseminated in order that customers gain value for money, for example by ensuring that all Energy Networks are able to roll out successful learning from innovation projects. This supports delivery of network savings, carbon and/or environmental benefits, or valuable knowledge that could result in future savings or benefits.

Ofgem monitors compliance with the NIA Governance requirements through different channels which include auditing and requesting information from the Energy Networks (also known as a RFI). Projects must meet eligibility requirements and produce regular reports. Ofgem may halt a project at any time and may disallow expenditure or require that funds be returned to customers. Energy Networks must comply with the NIA Governance Document as a condition of their licence and so a project cannot progress until it (and the terms agreed amongst the parties) meets the requirements of the NIA Governance Document.

The management of Intellectual Property Rights (IPR) for NIA projects is therefore subject to NIA Governance requirements. Section 7 of Ofgem's NIA Governance Document sets out the conditions of NIA funding being provided to Energy Networks for the purpose of innovation funding. The primary objectives of the NIA Governance Document with respect to the treatment of IPR are to:

- Ensure that Energy Networks can disseminate knowledge generated by each NIA project to other Energy Networks; and
- Protect customers against paying excessively for products or approaches (for which they have contributed to the cost of development by providing NIA funding).

Mechanisms to ensure that Energy Networks can disseminate knowledge are provided in the NIA Governance Document. It also sets out the expected ownership and licence conditions with respect to the IPR created through a NIA funded project. The commercial terms, to protect customer monies, are more open to Energy Networks to consider what is appropriate.

7.1 IPR Treatment in NIA Projects

One or more of the collaborating parties to an NIA project may create IPR as part of that project for use by some or all of the collaborating parties during and after the project. A broad variety of rights could be developed for example patents, rights in inventions, rights in registered designs, trademarks, copyrights, database rights, rights in confidential information and unregistered know-how, etc. Restrictive treatment of these rights by a project participant could restrict dissemination of knowledge and prevent or undermine customer value for money. As a result, the NIA Governance sets out default treatment for IPR both created during and required to implement NIA projects in accordance with the NIA Governance The purpose of this default treatment is to meet the above two primary objectives: ensuring the dissemination of knowledge generated by each NIA project and protecting energy customers from paying excessively for products or approaches for which they have already contributed to the cost of development by providing NIA funding.

Ofgem expects NIA projects to conform entirely to NIA Governance with regard to IPR ownership positions and alternative arrangements can only be permitted following an application to and approval from Ofgem in writing justifying any deviation. A deviation might be permitted, for example, if the IPR generated by a project is not required as part of the knowledge transfer or not required to support the wider roll-out of the project into business as usual activities. Any deviation must demonstrate how learning from the project can still be successfully disseminated, must take into account any potential constraints or costs from the deviation and demonstrate the alternative arrangements still provide value for money from energy consumers.

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 within their system royalty free. More details on this are set out below. This is a key element to ensure both of the primary objectives noted above are met.

NIA Governance IPR [default] requirements address two types of IPR: Background IPR and Foreground IPR. Background IPR consists of all the rights in IPR brought to a project by a participant (i.e. owned or licensed IPR prior to the project) or created or acquired or licensed by the participant independently of the project. Foreground IPR is the IPR created by the project. The default IPR ownership position of the NIA Governance requirements applies to Foreground IPR. There are however other requirements relating to Background IPR (albeit not ownership) and to Relevant Foreground IPR (which is a subset of Foreground IPR). These are summarised below.

Background IPR: Background IPR will still be owned by the participant that brought it to the project. There are then a number of mandatory requirements regarding licences of that Background IPR, being:

- licences to use such Background IPR are required by other project participants during the term of any project to enable them to carry out the project;
- following on from an NIA project, if ongoing use of any of the Background IPR is required to enable a project participant to use Foreground IPR, a licence must be granted to that effect on terms to be agreed (such terms to comply with the requirements of the NIA Governance Document);
- following on from a project, if ongoing use of any of the Background IPR is required to roll out the knowledge from the project to other Energy Networks and to allow them to use any Foreground IPR created during the project, then a licence to use that Background IPR is required to be granted to those Energy Networks on terms to be agreed (such terms to comply with the requirements of the NIA Governance Document).

Foreground IPR: The NIA Governance Document sets out three default acceptable positions regarding ownership of Foreground IPR:

- where Foreground IPR is independently created by a project participant it will be owned by that participant;
- where Foreground IPR is created jointly it will be owned by the creating participants in shares that are in proportion to the effort made and the work done in its creation; or
- the Energy Network owns all the Foreground IPR.

As noted above, any deviation from these default positions must be approved in writing by Ofgem, and must meet the above primary objectives.

Licences can then be granted amongst the parties as required and commercially agreed to implement the project and to roll out its results (provided the requirements of the NIA Governance Document are complied with). For example, a licence would most likely be required to use Foreground IPR in order to complete the project.

Relevant Foreground IPR: Foreground IPR which is needed by other Energy Networks to implement the method/processes being developed or demonstrated by the project is Relevant Foreground IPR. Relevant Foreground IPR must be identified as part of the project reporting (more information is provided on reporting below). After completion of the project, all other Energy Networks have the automatic right to use Relevant Foreground IPR within their network royalty-free and to request a limited licence of necessary Background IPR for that purpose.

Energy Networks may enter into a confidentiality agreement in relation to either Foreground or Background IPR. If the IPR is in the commercial product of a project, then the commercial product must be made available for other Energy Networks to purchase. Other parties who are not Energy Networks may request a licence to use Relevant Foreground IPR on a commercial basis.

7.2 NIA Project Contractual Terms

The Energy Network leading the project is required to consider and enter into contractual arrangements (which will be on the Energy Network's terms) that have the potential to provide best long-term value to all energy consumers during, and following the completion of, each NIA project. As well as incorporating the NIA Governance Document's default requirements for IPR, such contracts will also need to comply with the relevant Energy Network's requirements. The contracts will also include other terms regarding IPR. This could be, but is not limited to, requiring project participants to protect Relevant Foreground IPR, for example by seeking to register the rights that have been created where registration is available. Other terms might include allowing academic institutions participating in NIA projects to use the Relevant Foreground IPR for non-commercial teaching purposes. Once agreed for an NIA project, the IPR arrangements cannot be changed without written approval from Ofgem.

7.3 Reporting of Information

In line with NIA Governance, certain information regarding a project must be published. As set out in Section 4 of this document, this includes learnings from the project and data which must be publicised on the ENA Smarter Networks 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 ENA Smarter Networks 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; and
- 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 of the parties is to be disclosed on the ENA 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 ENA Smarter Networks Portal is then referenced in the Energy Network's annual summary of NIA activity, as set out in in Section 6 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 Stakeholder Engagement

8 Stakeholder Engagement

8.1 Purpose of this section

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

- 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

8.2 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 the ensuring that clarity of 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 our 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.

8.3 Knowledge Dissemination and Demonstrating Value to Stakeholders

Section 6 of this document refers to the reporting requirements for innovation. It is essential to make information relating to innovation in the energy industry easily accessible to a broad range of stakeholder. 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 Smarter Networks Portal, the annual innovation conference and the annual innovation summary reports.

8.4 Independent Evaluation and Stakeholder Surveys

Energy Networks will 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 6 of this document.

This will be linked to the revision of this document and the ENA 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

9 Appendices

9 Appendices

A: PEA Form

B: Implementation Log

C: (i) Annual Project Progress Report

C (ii) Project Closedown Report

D: Benefits Tables

E: ENA Annual Innovation Report

[Document under development – not yet published]