

RIIO-ED2 Investment Decision Pack

Open Door

Investment Reference No: 34_SSEPD_IT_CONNS_OPEN_DOOR CE



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Definitions and Abbreviations

BPDT	Business Plan Data Table
CAPEX	Capital Expenditure
CEG	Community Energy Group
CIM	Common Information Modelling
DER	Distributed Energy Resources
DG	Distributed Generation
DSO	Distribution System Operator
EJP	Engineering Justification Paper
EV	Electric Vehicle
FTE	Full Time Equivalent
ICP	Independent Connection Provider
IDNO	Independent Distribution Network Operator
IDP	Investment Decision Pack
LA	Local Authority
LCT	Low Carbon Technology
MDM	Master Data Management
NPV	Net Present Value
OPEX	Operational Expenditure

1. Executive Summary

Open Data is a major requirement of Stakeholders and a regulatory obligation. Whilst data could be provided manually on demand, this is expensive and will not offer the speed, coverage or privacy required by Stakeholders, nor will it meet their demands for autonomy. This project will deliver the Open Data requirements, satisfying the presumed open requirement (subject to triage), via a searchable and selectable web portal.

2. Investment Summary Table

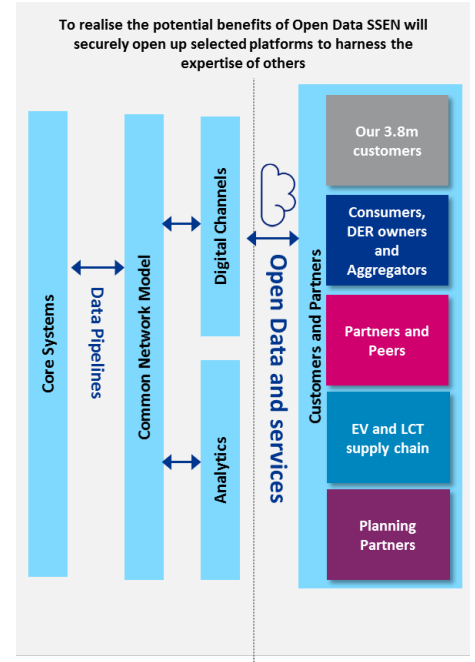
Summary Table			
Name of Scheme / Programme	Open Door		
Primary Investment Driver	Trusted and Valued Service		
Scheme Reference / Mechanism or Category	34/SSEPD/IT-CONNS/OPEN_DOOR		
Output References / Type			
Cost (CAPEX)	■		
Delivery Year	RIIO ED2		
Reporting Table	C4		
Outputs Included in RIIO ED1 Business Plan			
Spend Apportionment	ED1	ED2 ■	ED3

3. Introduction and Background Information

As set out in our Digital Strategy, our digital vision is to be a progressive network owner, using digital to enhance social and economic value, deliver a leading experience for our customer and to enable the energy system to support net zero carbon emissions. To achieve this vision, we will need to build on the fundamental changes we made to our IT systems in RIIO-ED1, and ensure we can deliver this vision, through:

- Business Automation, to enhance efficiency and deliver information effectively.
- Open Data, delivered through simple to use mechanisms
- Tailored Insights, for specific groups and individuals.

Open Door delivers on the second part of the elements above, namely open data through simple to use mechanisms. Building on the ENA Open Data principles, this platform will enable all users, external or internal, to access the information they need through a simple to use mechanism. These tools will have straightforward interfaces, such as maps to quickly find network information, ‘Google’ type search, and simple forms for entering information, so that any user will be able to access all of our data, constrained only by security, privacy and commercial considerations. Data will be provided in standard formats, such as Common Information Modelling (CIM) format, and be available to download by users, subject to the above constraints. The aim is to allow all our Stakeholders, external or internal, to quickly find the information they need. It will also allow any third party to be able to offer services based on this data, to provide better value to our customers, as well as speed the journey to Net Zero.



4. Business Plan Fit

This project can be mapped to following strategic themes:

Progress to Net Zero	Safe, resilient and responsive networks	A trusted and valued service to customers and communities	Positive Impact on Society
✓		✓	

5. Optioneering

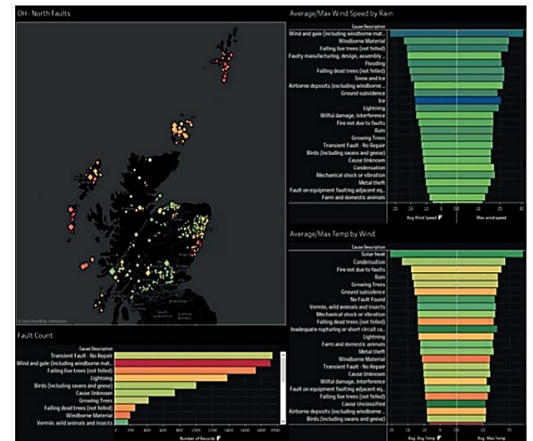
Open Door will be a platform that provides simple to use access to all of our data, subject to security (e.g. as set out in standards such as ISO 19650-5), privacy (e.g. GDPR) and commercial considerations. That access must be available through multiple platforms, both existing and those developed during the RIIO-ED2 period. For our Stakeholders this must include all mainstream platforms (e.g. PCs, phones, tablets, wearables, personal assistants), operating systems (e.g. Windows, iOS, MacOS, Android) and browsers (e.g. Chrome, Edge, Firefox, Safari), and ideally avoid them needing to download apps, unless there is a demand for these in particular areas. For our staff, access must be securely available in our offices and depots, in the field, and increasingly in the post-Covid world in their homes. It will be a 2-way exchange, allowing users to both gain and provide information: note that more individual information exchange would be via our Tailored Insights project, and be based on their user profile.

We will build a system that allows interaction with data from all core applications via a touch screen facility and other simple interfaces. This will equate to a ‘network on your phone’, allowing all our staff and Stakeholders to access up to

date information about our network via a simple to use graphical interface, with maps at its heart. This facility will not only be made available to our staff, but much of it to our Stakeholders, such as Connections Customers, Flexibility market participants, Third Parties and Regulators. Users will not only be able to see current network information, but interact with that information, and ‘drill down’ to details they need to understand the network, and to find the information they require. There will be simple interfaces to allow users to provide information, from reporting issues in their locality (including providing photos), making applications and updating network information. We will also install large touch screens at our depots and offices, allowing teams to interact with live representations of our assets, giving history, planned interactions, live status and future predictions.

For our Stakeholders this would include:

- Contextual data that is easily discoverable.
- Provide value adding intelligence from sophisticated data tools (sourced from the output of our Analytics project).
- Self-serve platforms that show EV uptake, charging infrastructure and forward network growth.
- Joint platforms for co-creating and maintaining investment plans across energy sectors on a regional basis.
- Detailed and near real time demand heat maps.
- EV charge point map provision.
- Support Market Stimulation via an Open Data Portal.
- Support environmental reporting and provide opportunity for input.
- Surfacing of pertinent information (e.g. standing network data, embedded capacity), as well as forecasting data.
- Make data easy to find and use, e.g. Regional development plan.
- Be a collaboration platform (shop front).
- Further automation of our customer service processes, allowing many actions to be self-service, making use of ‘bots’ and other aides.



The facilities above would be freely available to all via our website, subject to data Triage. More detailed data would be available to users via our Tailored Insights project, where the security of user login would mean that Customers and Stakeholders could access more confidential information specific to them.

The data would also support many facilities for our staff, that will be delivered to them via the Business Automation project:

- Allow them to access a far wider range of information without knowledge of particular applications (e.g. asset health and criticality without needing to go through our Asset Management applications).
- Check asset details in the field, and easily provide updates should anything has been changed, such as linkbox configurations, or be missing, such as customer service routes.
- Access core HR facilities through the single interface, allowing simple completion of basic functions such as leave application, as well as training aids and support facilities.
- Enable quick checks of stock locations and levels, without having to access the main logistic and procurement applications.

The facilities provided in our Business Automation project would ensure that information could be taken from source and passed to the end user with as little manual intervention as possible, other than appropriate quality checks where necessary. For example, changes to the network in the field should be added to all using applications (Asset Management, GIS, Regulatory Reporting, Flexibility Market Management) with just one level of appropriate checks (validation) from a ‘field sketch and form’ to updated network records. The processing for this automation will likely be one or more of our core applications (in this case Electric Office GIS), however this should be ‘invisible’ to the user. Similar mechanisms would be developed for our Stakeholders to both obtain information and pass information back to us in a simple mechanism.

This area will be subject to many industry developments during the RIIO-ED2 period, so we will work with our supply chain and Stakeholders to ensure that we continue to employ the best tools and processes for automation. This area is one where Digital Partners may be able to provide additional benefits, and we will also work with other DNOs where possible to further drive efficiencies. We would also provide as much data and information as possible to third parties so they could develop their own tools. As this facility will have access to increasingly granular information as the period progresses, we would deliver functionality on an iterative basis.

5.1.1 Alternative Options

As Open Data is a core ED2 deliverable, a 'do nothing' option would not be acceptable.

The main alternative to an IT based solution would be a manual provision of data. Not only would this be expensive (see Benefits), it would also add a delay to the provision of data, and moreover would not meet the expectation of Stakeholders in terms of their simple access to data (e.g. self-search, self-select, etc.).

The proposed solution has been based on the best value IT solution that is currently available. However, given the pace of IT development, the market will be re-examined throughout the project lifecycle to ensure the best value solutions at that time are chosen for delivery.

6. Stakeholder Evidence

We have held several connections stakeholder events with groups of our large customers from the following stakeholder groups:

- Distributed Generation (DG)
- ICP's & IDNO's
- Housing Developers
- Local Authority (LA) and Community Energy Groups (CEG)
- Industrial, Commercial and Consultants

These sessions were structured to allow our stakeholders to provide suggestions and ideas on what we need to do to support them throughout the RIIO-ED2 period. Within these sessions we received several requests to provide more granular data on our network configurations, assets and capacity levels.

Their expectation from us as a DNO is to ensure that they can make the most informed decision possible about what and where they can connect which will reduce the volume of 'speculative' applications that we receive.

During our latest stakeholder engagement event, 100% of our Connections Expert Panel agreed that this output for RIIO-ED2 would be beneficial. More details of overall stakeholder engagement are set out in the ***Digital Investment Plan (Annex 5.2)***

7. Analysis and Cost

Costs have been built up using a bottom up approach and have been based on the best currently available solution. However, IT is a rapidly changing area, so the market will be re-examined prior to delivery, and the best value option to meet the requirements set out above will be chosen. The project has been assessed over a 5-year lifecycle, with both Opex and Benefits equated for that operational period, as IT solutions often need updating after 5 years. NPVs of both 5 and 45 years have therefore been quoted below.

7.1 Cost Profile

This project has the following cost profile. The new self-service facilities are expected to follow a waterfall methodology, whereas the customer tools will be delivered as a series of iterations. As no viable alternative is available that could

provide the same function, in line with guidance no CBA has been completed (and hence no NPV). The full build-up of costs is contained in the ED2 IT Investment Plan (Non-Op Capex) Cost Estimate spreadsheet.

	Total £'M	2023/24 £'M	2024/25 £'M	2025/26 £'M	2026/27 £'M	2027/28 £'M
CAPEX	■	■	■	■	■	■
ED2 OPEX	■		■	■	■	■
ED2 Benefits	■		■	■	■	■
5 Year OPEX	■					
5 Year Benefits	■					
NPV (5 Year)	■					
NPV (45 Year)	■					

7.2 Benefits

7.2.1 Financial Benefits

Benefits are shown for the first 5 years after the project is implemented.

	Total	Year 1	Year 2	Year 3	Year 4	Year 5
Offset of additional staff who would be needed to service speculative queries that would occur if our Stakeholders did not have access to Open Data (15 increasing to 18 FTE, SS07 rate)	■	■	■	■	■	■

The project will increase the efficiency to reduce the increase data processors (number would have to increase significantly to service Open Data without this project). It would also reduce time for operatives sourcing information. It will also improve customer scores.

It will also bring other benefits that are difficult to estimate:

- More effective use of Smart Meter data.
- Increased knowledge of network and touchpoints – better information being provided to customers – understanding our assets better i.e. who is connected where?

Proactively inform customers of available flexibility e.g. PSI due in the future, ensure customers can 'top up' battery – behind the meter equipment.

7.2.2 Non-Financial Benefits

These include:

- Regulator and Stakeholder demand.
- A main source to meet the Open Data driver.
A key support for Net Zero.

7.2.2.1 Foundation to other Projects/Initiatives

This project provides all the core base to Open Data.

7.3 Key Assumptions

The current programme and costings assume that all planned RIIO-ED1 system changes will be complete before the start of RIIO-ED2. If some of the current planned application changes are not completed, this will increase the complexity, and hence cost and timescale, of this project.

Other issues to consider are:

- Data, especially connectivity, is a concern, and will need to be addressed by other projects (e.g. MDM and Data Lake, Connectivity++).
- Data standards across the industry will need to be agreed (e.g. common CIM)
- In terms of forecasting, historic data seems reasonable, however forecasting the future is complex, and needs more research.
- Electralink data availability, checks, surfacing is currently only monthly.
- GDPR issues to be resolved (e.g. MPAN status).

7.4 High Level Dependencies

The project will rely on the data classifications set out in our MDM & Data Lake project, as well as background integration in our Business Automation project, and insights from our Analytics project.

7.5 Deliverability & Risk

Our ***Ensuring Deliverability and a Resilient Workforce (Chapter 16)*** describes our approach to evidencing the deliverability of our overall plan as a package, and its individual components. Testing of our EJPs has prioritised assessment of efficiency and capacity, and this has ensured that we can demonstrate a credible plan to move from SSEN's ED1 performance to our target ED2 efficiency. We have also demonstrated that SSEN's in house and contractor options can, or will through investment or managed change, provide the capacity and skills at the right time, in the right locations. This assessment has been part of the regular assessment of our EJPs, IDPs and BPDTs. Our ***Deliverability Strategy (Annex 16.1)*** and ***Supply Chain Strategy (Annex 16.2)*** are included in the Business plan Submission.

Our deliverability testing has identified a major strategic opportunity which is relevant to all EJPs.

- In ED2 SSEN will change the way Capital Expenditure is delivered, maximising synergies within the network to minimise disruptions for our customers. This is particularly relevant for a Price Control period where volumes of work are increasing across all work types.
- The principle is to develop and deliver Programmes of work, manage risk and complexity at Programme level and to develop strategic relationships with our Suppliers and Partners to enable efficiency realisation.

8. Conclusion

The solution outlined above meets all the requirements of our Stakeholders regarding Open Data. Moreover, it offers better value than alternative (manual) methods. It has therefore been put forward as our preferred ED2 option.