Smart Optimisation Output:
Collaboration Plan

May 2025

SP Energy Networks

Contents

1. Who we are

We are SP Energy Networks. We own and operate the electricity distribution network in Central and Southern Scotland (SP Distribution network), and in North Wales, Merseyside, Cheshire, and North Shropshire (SP Manweb network). It is through these two networks of underground cables, overhead lines, and substations that we provide 3.5 million homes, businesses, and public services with a safe, reliable, and efficient electricity supply.

The energy landscape is changing as the way our customers generate, use, and interact with energy evolves. This means that our role – how we plan, design, and operate the network for our customers – must evolve with it. Within a relatively short period of time, we forecast that a significant proportion of transport and heating will be electrified. We anticipate significant growth in distributed generation connected to our networks, with the UK Government targeting carbon-free power generation by 2035. Coupled with the rapid rise of digitalisation, this will precipitate a revolution in how both domestic and commercial customers interact with the electricity distribution system.

These changes will result in higher distribution network utilisation, more dynamic and volatile power flows, more complexity in network operation, and a greater need for whole system coordination. This is a step-change from the historical design and usage of our networks, which were built for an era of passive, predictable consumer demand. If we do not adapt now, these changes will push the system beyond what it is designed for – leading to increased safety risk, higher costs, a poorer service for all customers, and inhibit the Net Zero transition.
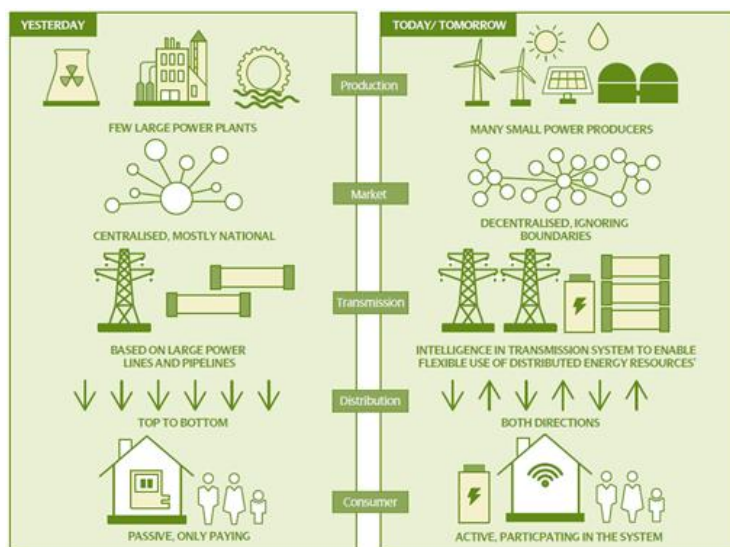
This transformation provides opportunities. Our customers increasingly have increased and varying needs to participate in their energy system, meaning there is an ever-increasing number of parties we can work with to solve network challenges and keep network costs efficient – at SPEN we must continually adapt to their needs. Digitalisation means we can share data and better coordinate with other parties, facilitating new solutions. Through our strong links with our customers, communities and communities, we can quickly understand and respond to their needs, and we have the capability, knowledge, and experience to deliver on time and in a cost-effective way. We look forward to working with Ofgem and our stakeholders to make this happen.

2. Our Approach to Smart Optimisation Output

In RIIO-ED2, Ofgem introduced the "Smart Optimisation Output" to promote effective collaboration between the licensee and its local stakeholders and communities. It is comprised of 2 principal activities:

1. To create and submit a Collaboration Plan which describes how we work with stakeholders to support the development of net zero strategies and how we collaborate with stakeholders through a transparent and user-centric approach to the sharing of data.

2. To develop a System Visualisation Interface that provides access to forward-looking, open and accessible, digital network tools and related information.

Ultimately, their intention was that the Smart Optimisation Output would facilitate meaningful collaboration and partnerships between licensees and their local stakeholders by structuring and packaging network and development data to make them more accessible, transparent, and interoperable.

Achieving net zero at least cost will require a highly optimised and integrated future energy system with a greater number of market participants interacting digitally to determine the configuration of assets on the system. SPEN have a fundamental role to play in enabling this by making data about our network more accessible and, by engaging collaboratively with stakeholders to inform our own strategic planning and to support the creation of least cost decarbonisation pathways for electricity, heat and transport, at a local level, in partnership with others.

By ensuring that licensee data is more accessible, transparent and consistent, this standardised approach across all networks will help stakeholders to gain a greater understanding of the electricity distribution network, acting as a vehicle for a more collaborative approach to the development of local area energy plans (LAEPs) and supporting whole system optimisation across different energy vectors. In this collaboration plan, we provide an insight into many of the digital tools and strategic programmes that we are using to share data and information with our stakeholders, and how these capabilities, principles and tools will be used as a vehicle for more effective collaboration, making it easier for local stakeholders to access and extract data that can be integrated and overlaid with gas, transport, land registry, urban and other datasets, to inform local cross-vector, whole system plans.

In Chapter 3, we outline our approach to sharing data with our stakeholders. We provide an overview of our Open Data Portal, our main data sharing interface with our customers and stakeholders. We provide an overview of how our stakeholder engagement, our capabilities and our digital tools are informing future plans, and how they are supporting the delivery of our RIIO-ED2 business plan.

In Chapter 4, we describe our Whole System mission, our approach to Whole System, and where you can access further details.

In Chapter 5, we describe how we are collaborating with our stakeholders in the co-development of strategic regional plans. We outline how we are Strategic Optimisation support to our Local Authorities in the development of their Local Area Energy Plans (LAEPs) in Wales and England, and their Local Heat and Energy Efficiency Strategies (LHEES) in Scotland. We also outline how we are providing Low Carbon Technology (LCT) optioneering to support the deployment of Electric Vehicles, Heat Pumps and Renewable Generation.

In Chapter 6, we provide insights into how we are supporting regional Net Zero ambitions within our Licence area, including specific examples for planning, heat, transport and industrial clusters.

In Chapter 7, we describe how we take account of local stakeholder plans and requirements, including anticipated and forecast changes in demand, generation, storage, or services, to inform our own network planning and optimisation activities.

In Chapter 8, we provide an overview of our teams and their relevant contact information to enable you to access people and information from within our organisation to support such collaborative projects.

3. Sharing Data and Information

3.1 Our Data Strategy

Our Data Strategy, published for the RIIO-ED2 period, outlines how we will enhance our data and analytics capabilities and underlines our commitment to sharing data with our customers and stakeholders on a "presumed open" basis. Easy access to comprehensive, high-quality data is crucial for supporting our customers and stakeholders with a wide range of use-cases, including efficient whole system planning and operation, and the development of new markets. Our customers and stakeholders have emphasised – through open data requests and engagement with our teams – the need for access to data about our network to develop accurate plans, enhance project proposals, and to understand their impact on our network.

Our goal is to provide our customers and stakeholders with seamless access to a comprehensive suite of secure, high-quality data and information aligned with their needs. Our Network Data and Intelligence function, which oversees our Data Strategy, comprises specialists in data science, data governance, data engineering, and data architecture. We ensure the effective governance, mastery, and utilisation of our data, establishing a robust foundation for sharing our data with customers and stakeholders. Through our Open Data Portal, used by over 2,000 users, we publish 24 datasets, comprising 98 data tables. Over the last 12 months our dedicated Open Data team has responded to over 180 bilateral requests for access to our data, and we treat each of these engagements as an opportunity to learn our stakeholders' needs.

We recognise that provision of our data and information must be aligned with industry standards. It is important that the industry remains aligned to ensure all customers and stakeholders benefit from improved availability of data and information in a standardised format. One of the main enablers of industry standardisation is compliance with Ofgem's Data Best Practice Guidance; 11 principles that set out how organisations should manage their data. SPEN are fully committed to compliance with Ofgem's guidance and have built our teams and framework to ensure clear accountability for each of the principles. The main forum within the industry for stewarding a standardised approach to Data Best Practice is the ENA's Data and Digital Steering Group (DDSG) which is chaired by SPEN. Through our leadership role in this forum, we take an active role in delivering real change, enabling the industry to work together towards enhancing maturity of compliance with Data Best Practice.

The energy data sharing landscape continues to evolve, with increased scrutiny on data security from the Department for Energy Security and Net Zero (DESNZ) and the National Protective Security Authority (NPSA). We engage regularly with Ofgem, DESNZ and the NPSA, and our comprehensive Data Triage framework is aligned with the ENA's Data Triage Playbook, and the NPSA's Triage Process Guidance. Our aim is to ensure that we make data openly available for our customers and stakeholders. Where this is not possible, due to exposure of sensitive information, we work with our customers and stakeholders to identify appropriate controls. For transparency, we also publish our Data Triage Documentation including our methodologies which enable our customers and stakeholders to understand how our datasets are produced, our risk assessments which outline any controls that have been implemented prior to publication - such as redaction - and our quality assessments which provide insights into the completeness, validity and uniqueness of our data.

We adopt a stakeholder-led approach to developing our plans for future publications. We conduct monthly trend analysis on the most requested and utilised datasets to understand the needs of our customers and stakeholders. The insights from this analysis inform the development of our annual roadmap, which we publish on our Open Data Portal for transparency. As an example of our stakeholder-led approach, we recently expanded our data provision directly in response to Local Authorities' needs by supplying tailored GIS shapefiles relevant to their specific geographical areas. By leveraging third party datasets such as the Ordnance Survey Boundary Line map, we've reconfigured our GIS shapefiles, eliminating the need for manual data requests from Local Authorities and reducing the volume of data they need to process.

Over the last 12 months, we have expanded our data provision to publish an additional 10 datasets on our Open Data Portal. Summaries of these datasets are included in the table below:

Role	Dataset	Description
Planning & Network Development	Aggregated Smart Meter Consumption Data	A timeseries dataset containing the aggregated sum of each of the smart meter's energy data grouped by substation, where SPEN currently collects this data. Datasets currently published for our mid-Cheshire, Wirral, Merseyside and Ayrshire and Clyde-South geographical areas.
	Smart Meter Penetration Data	Summary information on the level of Smart Meter penetration in the SPEN distribution licence areas.
	Aggregated LV Monitoring Data	Provides a summary of the capacity utilisation of secondary substations with LV monitoring coverage on a monthly aggregated level in the SPEN distribution licence areas.
	Network Development Plan	Explains how we plan to deliver the capacity our customers need to decarbonise and sets out where our network has capacity headroom to accommodate demand and generation growth.
Network Operations	GIS Shapefiles for Local Authorities	Provides SPEN asset data in GIS format for the network assets across our Distribution and Transmission business licence areas. These shapefiles allow users to download the relevant network assets for their Local Authority area and to map them using GIS software.
	Historic Faults	Details all unplanned occurrences / interruptions of 3 minutes or longer on the SPEN network from 1st April 2014.
	SPM Technical Limits	Provides information relating to the network constraints imposed by the Transmission / Distribution boundary.
Market Development	Flexibility Market Prospectus	Provides an indication of potential short- and longer-term flexibility requirements on the SPEN distribution licence areas' network in upcoming years. This allows potential customers and flexibility service providers to interactively view the estimated overall MWh opportunity available in specific constrained areas to evaluate their eligibility for flexibility tender.
	Single Digital View	SPEN's Digital View of Distribution Connections provides greater transparency of major connections pipelines (1MW and above) at SPM and SPD Grid Supply Points (GSP) for existing and new customers looking to obtain a generation connection.
	Flexibility Bids, Competitions and Registered Assets	Provides details on all assets registered, bids received, and competitions facilitated through the Flexibility Procurement Dynamic Purchasing System (DPS) Piclo Platform.

We are continuously enhancing our Portal and its' content to expand on the available datasets and enhance stakeholder experience. By collaborating with other industries and stakeholders, we aim to refine our digital tools, services, and capabilities. We are committed to the ongoing review and enhancement of the data we publish, ensuring it meets stakeholder needs through proactive engagement, industry leadership, and a personalised approach. Our data roadmap, which outlines the data and digital tools we plan to release on our Open Data Portal throughout 2025, has been developed based on stakeholder requirements and regulatory requirements. You can view our data roadmap on the Open Data Portal – SP Energy Networks 2025 Data Roadmap.
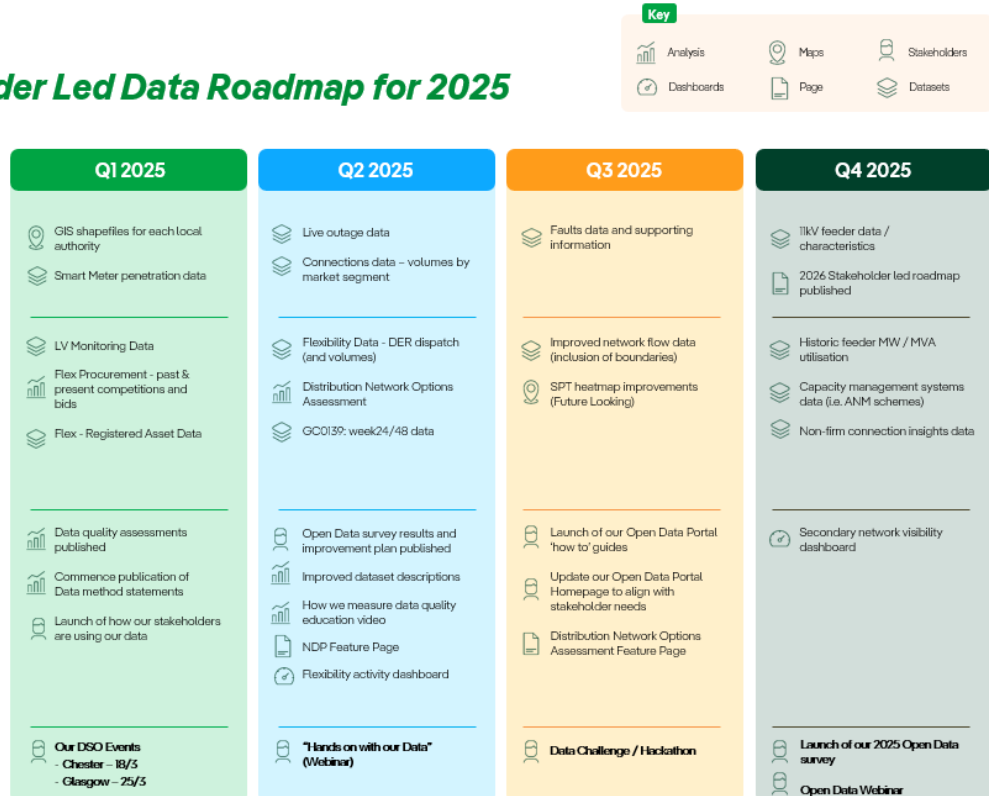
A snapshot of our current 2025 Data Roadmap

3.2 Our Open Data Portal

We make it easy for our stakeholders to access our data, with all our openly published, and shared, datasets hosted on our Open Data Portal, accessible via our website. We publish 21 datasets on our Portal under an Open Data licence and 3 datasets under a Shared Data licence.

A snapshot of our Open Data Portal

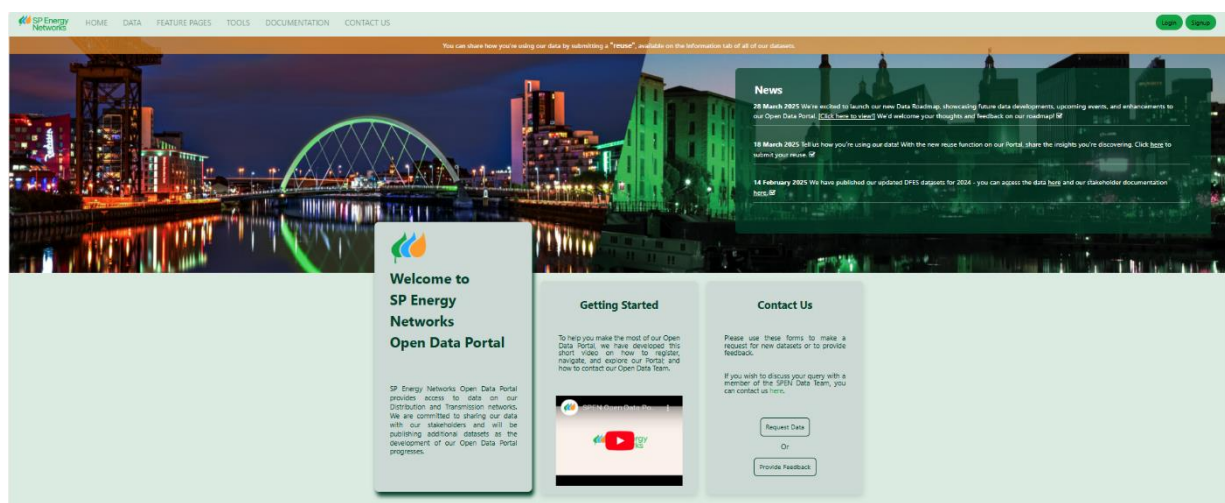Our Open Data Portal provides a single, easy-to-access interface for users to explore, filter, view, download and consume our available data. Through our Portal, stakeholders can:

- **Search our Open Data catalogue;** we offer various ways to group and filter datasets. For example, the Portal now groups datasets under themes for contextual clarity and offers sophisticated filtering options, allowing stakeholders to search via keywords.
- **Download data in multiple formats;** our datasets are downloadable in multiple formats, including XLSX, CSV, XML, RSS, and more.
- **Consume data via an API;** all our published datasets can be accessed via a common API.
- **Review detailed descriptions;** we publish detailed metadata for all our datasets, in line with industry standards, to help stakeholders understand the content.
- **Provide feedback;** stakeholders can provide feedback on specific datasets or the Portal through using our enhanced feedback forms. Feedback is reviewed and incorporated into relevant improvements plans.
- **Share how they use our data;** our "data re-use" functionality allows stakeholders to showcase how they use our data, creating opportunity for other stakeholders to use their developments and providing learnings and guidance to stakeholders who are looking for support in how to use the data available.
- **Request access to new datasets;** stakeholders can request access to new datasets through our "request data" form. Requests are reviewed via our data triage process.
- **Review our Data Roadmap;** provides stakeholders with visibility of our planned future publications, providing them the opportunity to feedback on whether they align with their needs.
- **Access our Data Triage documentation**; allowing our stakeholders to understand the controls implemented to protect sensitive information and the methodologies used to compile the datasets.

### 3.2.1 Development of New Feature pages

Responding to stakeholder feedback, we have developed and published five feature pages on our Open Data Portal this year. These feature pages take a dashboard approach, transforming raw data into simple visualisations and high-level tabular formats for users to understand and engage with.

Each feature page includes custom visualisations designed for user experience and storytelling, saving users time while maximising insights. Our current feature pages cover data on grid supply points, DFES, and flexibility market development, with further feature pages planned in line with our published roadmap.

As an example, our Flexibility feature page, launched in November 2024 and available for our SPD and SPM licenses, aggregates multiple flexibility-related datasets from the Open Data Portal to offer these features:

- **Heatmap of flexibility opportunities** – Allows users to explore forecasted requirements by type across our network.
- **Expected contract volumes and pricing forecasts** – Provides detailed insights into anticipated procurement over the next three years.
- **Interactive data functionality** – Users can explore procurement volumes and contract value by locality, specific substation, and financial year.
- **Graph view of flexibility procurement** – Users can visualise estimated volumes of flexibility required over the entirety of ED2, broken down by year, voltage, and substation.
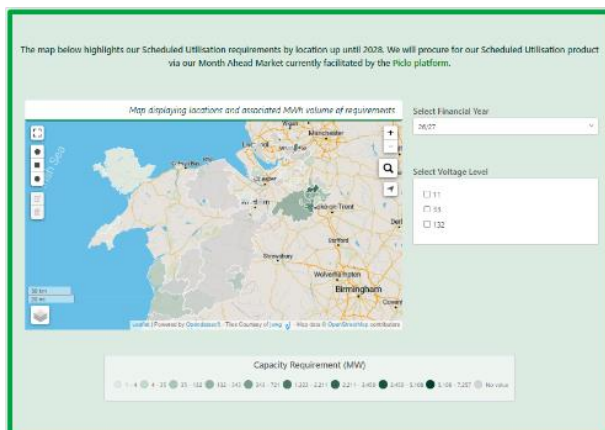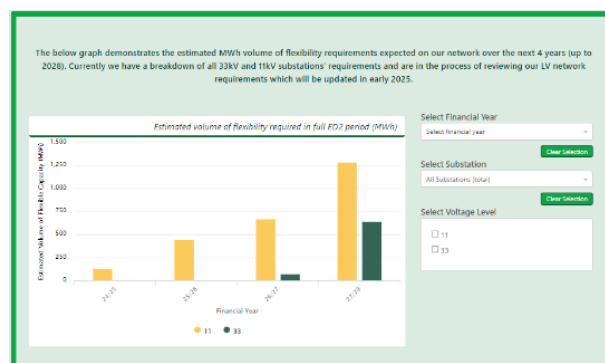
| (a) Heatmap of flexibility opportunities | (b) Expected contract volumes and pricing forecasts |

Example Views from Flexibility Feature Page

Across our five feature pages we have over 600 unique users interacting with them, with 158 of those users accessing the Flexibility feature page. We are continuing to develop feature pages and welcome feedback from our users and stakeholders to drive continual improvement.

3.3 Working with stakeholders

Recognising the importance of comprehensive and high-quality data for our customers and stakeholders, we continue to place engagement at the heart of our efforts to enhance data and information provision. We work directly with stakeholders to ensure that we understand and meet their needs, and to identify opportunities for improvement. Recognising the diverse ways in which different stakeholders derive value from data, in 2024/25 we created opportunities for our Open data team to personally collaborate with over 220 stakeholders to improve our data practices, support their bespoke needs, and to develop new and improved offerings.

Examples of our stakeholder engagement activities over the last 12 months include:

- **Our annual Open Data survey:** we engaged 1000 users and received 42 responses via our annual Open Data stakeholder survey, hosted on our Open Data Portal. The survey provided the opportunity for stakeholders to feedback their views of our Open Data Portal, how they interact with our data, and what more they would like to see from us.

- **Data request and feedback forms:** we responded to over 180 requests for access to our data - comprised of requests for new datasets to be published, access to our shared datasets or feedback on existing datasets. All requests were fulfilled with an average turnaround time of 11 working days and fed into our Open Data roadmap where required.

- **Open Data Portal "Re-Use" functionality:** we implemented our "re-use" functionality on our Portal, providing stakeholders opportunities to showcase how they are leveraging our data to develop use-cases. We've started to reach out and engage with our stakeholders to support this functionality and have already identified stakeholders keen to share their use cases and will begin publishing these examples during 2025.

- **External events:** our Open Data and Data Transformation teams attended our North and South DSO events to engage with stakeholders directly on what data they would like to see published, and how we can improve the accessibility of our data.

- **Powering Wales Renewably (PWR) Project:** under the NESO's leadership and working with several principal partners and the Welsh Government, PWR will deliver a digital twin of the whole energy transmission and distribution networks across Wales. The Welsh Government has ambitious decarbonisation plans to identify suitable locations for economic and timely connections of renewable

generation and further evaluate potential use of flexibility. We are working together to inform and demonstrate the value of digitalisation and data accessibility to accelerate the energy transition and deliver a decarbonised energy system through a core data model, a collaborative approach to informing strategic future plans, and enabling a co-ordinated view of flexibility across the country, providing insight on efficient planning and enactment of flexibility resources.

- **Academic Partnerships:** we are working with academic institutions to better understand the ontology of energy data sharing and to allow effective challenges to our roadmaps, to increase the number of studies using our data whilst promoting opportunities for feedback. Of particular relevance is in working with our academic partners in ENSIGN and TransiT, where we work closely with multiple universities who bring valuable feedback from their research.

The feedback gathered via our engagement programme is regularly reviewed by subject matter expects across the business to transform it into actionable insight. Some direct actions from our Open Data survey that have been included in our plans are:

1. **Requests for additional datasets,** including data on networks outages, connections activities and flexibility opportunities.
2. **More interactive options within the Portal**; expanding our recently developed data visualisations across all datasets and developing more interactive charts, tables and maps that can be filtered to suit stakeholder needs.
3. **Additional support in understanding our data** and how our data can be used to support their needs. We have a planned programme in place for videos and webinars to address this requirement.

Additionally, our teams conduct trend analysis on the datasets that are most frequently requested and most utilised on our Portal to better understand the needs of our customers and stakeholders. The output of this trend analysis forms the foundation of our ongoing plans to expand our data and information provision and improve data accessibility. Our teams have expertise in how to understand and use our data for the purposes of planning, project development, and in identifying opportunities and we make our technical teams available to support stakeholders and to ensure that the data and information we provide is fit for purpose. Additionally, building on the feedback received from our survey where stakeholders have asked for more support, we have commenced the development and publication of a series of "how to" guides, videos and webinars to help users get what they need from our data and our Portal.

4. Our Whole System Approach

By adopting a Whole System Strategy, we will take a holistic approach to identifying and creating value for customers, our business, and the Whole Energy System - enabling a more efficient and just transition to Net Zero. We all need to work together to achieve Net Zero. With that in mind, we know that we're a central organisation in the energy landscape and have a responsibility to put Whole System solutions at the heart of a just transition to Net Zero. To do this, our Whole System approach will help deliver the energy network of the future.

4.1 Our Whole System Mission

Our mission is to unlock the full value of Whole System thinking by collaborating not only with other electricity companies, but also key stakeholders including gas and water networks, innovators, network users, non-regulated companies, local areas and communities. This is to ensure efficient investment in the electricity network and to achieve a just transition to Net Zero.

4.2 Whole System Concept

Whole System Thinking is a method used to understand how elements and systems are related, and how they influence one another. Whole System Thinking helps us to understand linkages among elements, cause and effect, feedback loops and to identify leverage points.

As we decarbonise the energy sector to meet climate change targets, we must develop our networks to create additional capacity that will facilitate the connection of low carbon technologies and the electrification of sectors like heat, transport and gas. Enabling this future is dependent not only on the role that network companies play, but also on effectively harnessing the contribution that can be made by other parties.

4.3 Our Whole System Approach

Our Whole System approach is centred on bringing a more outward-looking approach into how we plan, operate and develop the network. Our Whole System approach is underpinned by our strategic pillars:

1. Develop a network that is ready for Net Zero	2. Be a trusted partner for customers, communities, and stakeholders	3. Ready our business for a digital and sustainable future
Think beyond the electricity sector to support other energy vectors including heat, transport, and hydrogen by using innovation, markets, and smart grid networks to push the boundaries of Whole System thinking.	Use Whole System thinking to support a just transition to Net Zero and establish Strategic Partnerships and deliver Strategic Optimisation to enhance our approach and achieve better Whole System outcomes.	Embed Whole System thinking in our organisation, culture, and ways of working to deliver better Whole System outcomes while also considering appropriate Open Data that can support Whole System solutions.

Our Whole System Strategy & Optimisation team will have accountability for:
- Maintaining key external whole system relationships
- Maintaining a view of stakeholder plans and ambitions
- Identifying opportunities for whole system solutions
- Ensuring stakeholder plans are incorporated in our forecasting and decision making.

You can find out more about our Whole System Strategy and Activities on our Whole System Website

5. Supporting our Local Authorities

5.1 Our Strategic Optimisation Team

Our Strategic Optimisation team work pro-actively with central and devolved Government in Scotland, England, and Wales, and have built Strategic Relationships with all 40 Local Authorities across SP Distribution and SP Manweb, along with 12 Regional Growth Deals / Regional Bodies, three Regional Transport Partnerships and the three large scale Industrial Clusters within our two licence areas.

We aim to be the strategic interface between local and regional government bodies to support and facilitate the development of local, regional and national energy plans (such as LHEES and LAEPs) that are aligned with our future network development plans.

We foster relationships that enable us to understand each regions specific requirements, needs, and aspirations to input into our network planning process to support the development of future infrastructure requirements that can help facilitate each local area's industrial, commercial, and domestic decarbonisation plans.

We support Local Authorities, Regional Growth Deals / Regional Bodies, Regional Transport Bodies and Industrial Clusters by:

- Identifying and developing Strategic Relationships

- Supporting the development of energy strategies, scenarios, and decarbonisation programmes

- Providing guidance, support, and optioneering to develop co-ordinated energy plans

- Analysing network project viability by determining future decarbonisation scenarios

- Recognising whole system opportunities and feeding into appropriate plans and registers
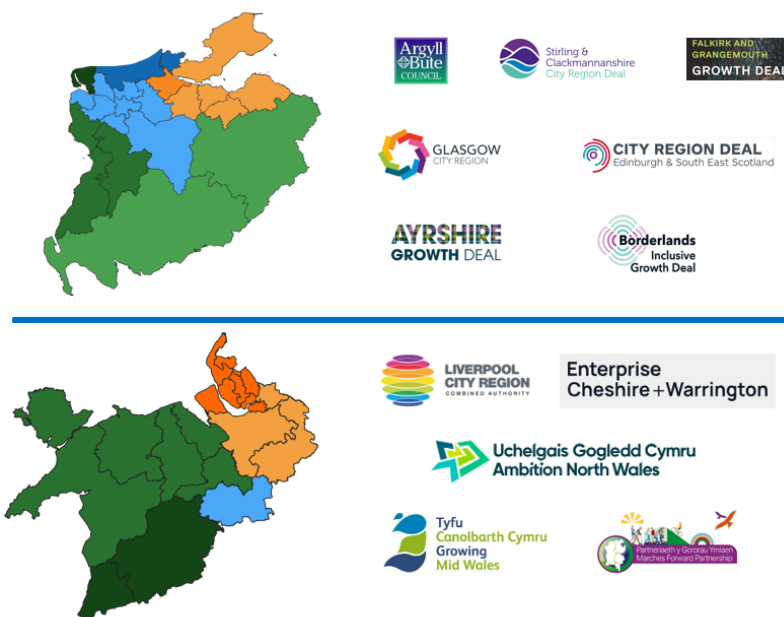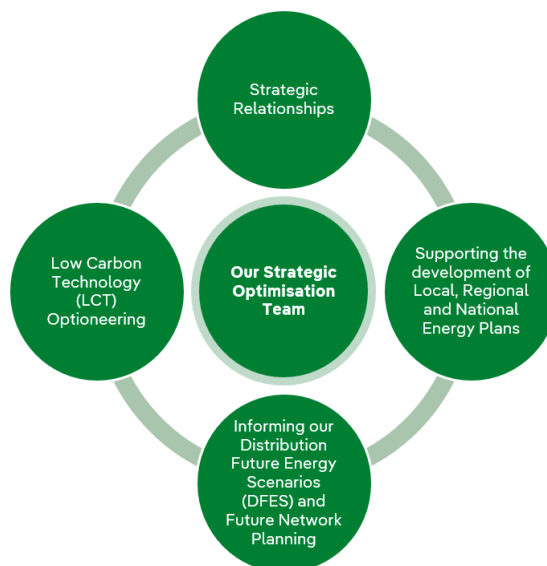
5.2 Low Carbon Technology (LCT) Optioneering

Low Carbon Technology (LCT) is critical to the transition to Net Zero. We have the knowledge, the tools, and the resources to support Local Authorities in understanding how to optimise LCT opportunities which are available in their area of the network, and we can support the realisation of proposed decarbonisation projects.

We do this across three LCT technologies: Electric Vehicle (EV) charging, Heat pumps, and Renewable generation. In the last twelve months we have established a repeatable framework to deliver optioneering and are building new partnerships and working relationships to further support Local, Regional and National bodies.

In the last 12 months, we have supported the identification and optimisation of over 2,000 locations across our network. Through this support, we have been involved in optioneering works across most of the Local Authorities in our licence areas. Our initial work in 23/24, has also led to our team supporting larger scale Combined Authorities and transport bodies in an effort to provide a similar level of insight that they can utilise to support the develop of their LCT plans.

Some of the key projects we have supported this year include:
- Over 850 EV Optioneering sites evaluated as part of our work with the South-East Scotland Transport Partnership (SESTran).

- Over 350 EV Optioneering sites evaluated across 6 Local Authorities as part of our wider work with Liverpool City Region Combined Authority.

- Over 300 EV Optioneering sites evaluated across North, East, and South Ayrshire to support their wider growth deal development.
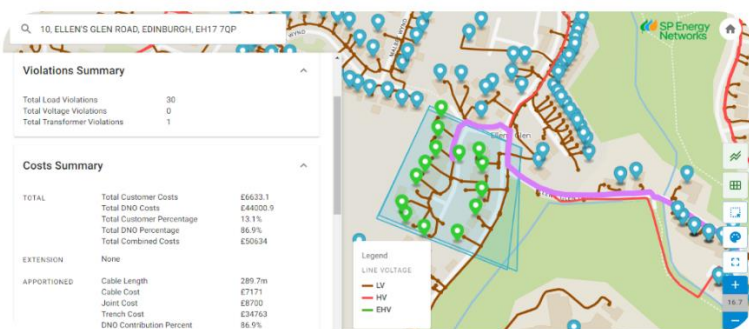
EV Charge Point optioneering
Feasibility studies for the rollout of public EV chargers

Heat Pump optioneering
Analysis and cost / timescale estimates for heat pump rollout in off gas grid areas and social housing
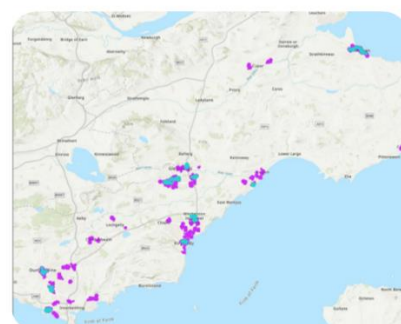
Renewable Generation optioneering
Support and analysis for local energy projects and opportunities

As part of our support for Local Authorities, we also aim to provide tools and services to help develop and inform local and regional energy strategies. Cental to this has been the further development of our Local Authority Network Insight Tool (LANIT). LANIT looks to allow for Local Authorities to have a far greater insight into the existing network conditions and the potential impact of their LCT plans. With built in power flow analysis capabilities, LANIT can give a full evaluation of the potential impact of new LCT connections to the grid along with indicative costs that may be incurred from either a customer side, or as reinforcement works required to enable these new LCT connections.

6. Supporting Regional Net Zero ambitions

Our Strategic Optimisation Team has provided an insight into the electricity network through our optimisation analysis and through sign posting available Open Data on our website. This network analysis and optioneering support has helped stakeholders make informed decisions on their heat, transport and industrial decarbonisation plans. The early engagement with Local Authorities and other bodies also provides our network planning team with evidence on stakeholder ambitions to inform future forecasting and investment planning requirements.

6.1 Supporting Regional Heat Decarbonisation

We have outlined some example heat decarbonisation projects our team has supported:

- **Edinburgh Old Town Feasibility Study:** This study is looking to assess the viability of proposed heat network zones of the Old Town and Southside in Edinburgh. We have supported the study by sharing data on available capacity, potential constraints and future network development plans for the area. Our team continues to be engaged with Edinburgh City Council on their decarbonisation plans to ensure proposed plans are reflected within SPENs future forecasting models and to facilitate our stakeholder's ambitions.

- **Glasgow City Council (GCC)**: GCC have identified 21 heat network zones across the city where heat demand shows there is potential for viable heat networks. We have worked with Glasgow City Council to further understand the feasibility of each heat network zone and provided an insight into potential challenges and opportunities from a network perspective. By reviewing the proposed energy centre locations, our team have provided feedback on the proximity to local substations and constraints in certain areas, allowing the council to make a more informed decision on site locations.

- **Dunfermline and Rosyth Energy Plan**: We are supporting Fife Council with their development of a full heat network vision and Dunfermline & Rosyth Energy Plan. The energy vision prospectus aims to capture the benefits of a low-carbon energy system that maximises the use of local sustainable resources. We are working with Fife Council to identify suitable energy centre locations and providing insight into current DFES scenarios for the area.

- **Liverpool AZP (Advanced Zonal Plan):** The AZP designed by DESNZ aims to accelerate the construction of new zonal scale heat networks. We supported the feasibility study by providing top line engineering designs, costings and timeframes to support the scheme and will continue to work closely with the project team as further funding is approved.

6.2 Supporting Regional Transport Partnerships

We have outlined some example transport partnerships our team has supported:

- **Transport Scotland:** SPEN have supported Transport Scotland in the development of their Vision for Scotland's Public Electric Vehicle Charging Network to deliver 24,000 additional public EV charge points by 2030. We are continuing to engage with Transport Scotland to determine the full extent of the public charge-point plans across our SPD licence area and will provide additional network analysis and EV optioneering support as required.

- **Transport for the North (TfN):** SPEN also attend the quarterly TfN Regional Partner Group and have supported the development of their ECVI Visualiser Tool and State of Play Report published in December 2024. Forecast EV uptake via the EVCI Visualiser Tool has been reviewed and incorporated into SPEN's DFES February 2025 publication.

- **Transport for Wales:** SPEN have been actively involved in the Zemo Partnership with Welsh Government, looking at decarbonisation of the commercial vehicle sector. Our network analysis and EV optioneering influenced the 'Actions for Electrification' Work package 6. We are supporting Transport for Wales with strategic optimisation analysis for EV Charging Stations at 2 bus depots in Mid Wales.

6.3 Supporting Industrial Cluster decarbonisation plans

We have outlined some example industrial projects and clusters our team is working with:

- **Forth Green Free Port:** Forth Green Freeport is a significant initiative aiming to drive economic growth and support Scotland's transition to a net zero economy. The area around Forth Green Freeport generates 40% of Scotland's industrial emissions today and the initiative will look to deliver a just transition in the area to achieve Scotland's 2045 net zero target. SPEN have been working with the project team to understand future electricity network requirements for future growth in the area, therefore ensuring stakeholder ambitions are captured in our network development plans. We are continuing to engage proactively with the Regional Energy Planning Team and other key stakeholders to establish future electricity network requirements for each proposed site.

- **Net Zero North West:** Net Zero North West (NZNW) Industrial Cluster represents an area that currently emits around 17 million tonnes of industrial CO2 and contains some of the UK's most significant and energy-intensive manufacturing infrastructure. NZNW is in the process of developing a Project Intelligence Platform (PIP) to track the pipeline of industrial decarbonisation projects. This evidence base for current and future industrial energy requirements will be critical to understanding the impact of decarbonisation on the energy system. SPEN are working with NZNW to establish the baseline data set from the PIP which will be used to inform our next DFES and RIIO-ED3 network investment requirements for the region.

- **North East Wales Industrial Decarbonisation (NEWID):** The £1.1million Innovate UK funded project was delivered by Net Zero Industry Wales, SPEN, Wales & West Utilities, Uniper, Bangor University and Net Zero Energy Systems to examine the decarbonisation options of the key industrial carbon emitters in North East Wales.The NEWID Cluster Plan Report published in March 2025 shows the likely impact on the electricity network as well as the future requirements for hydrogen and CCUS. An energy agnostic approach for future energy options were modelled. The electricity pathways from the project have been incorporated into SPEN's DFES 2025 publication. Aggregated data was also shared with NGET who used NEWID as evidence for their three RIIO-T3 Regional Plans for Wales, and the North West and Midlands areas of England.

- **Net Zero Industrial Pathways project:** SPEN are looking to incorporate the learnings and valuable insights from the NEWID project to achieve comparable evidence for our RIIO-ED3 Plan for all of SPEN's licence areas.

6.4 Transmission and Distribution Network Planning

Our distribution and transmission licences work closely with each other to ensure that we are thinking as a Whole System across the transmission and distribution boundaries. Having both transmission and distribution licences gives us an integrated view across our networks. We have outlined some examples of transmission and distribution network planning below:

- **NGET & SPEN:** SPEN have co-ordinated two bi-annual summits with key regional stakeholders and NGET to outline future network investment requirements at both distribution and transmission level. Key representatives from Liverpool City Region Combined Authority, Enterprise Cheshire & Warrington, North West Energy Hub, Net Zero North West & North East Wales Industrial Clusters and Welsh Government have been involved in these sessions. Outputs have informed NGET's RIIO-T3 Business Plan and were included in SPEN's DFES 2025 publication. This opportunity has been replicated in our SPD licence area to support the development of our SPEN T3 Business Plan.

- **Mid Wales:** As well as coordinating developments across our SPD and SPT licences, we are bringing learnings from that Coordination into our engagements between SPM and NGET. We are working closely with NGET, NGED, and Welsh Government to jointly develop a holistic transmission and distribution solution that best meets the long-term capacity needs of all parties in Wales, including communities and network customers.

7. Building our network plans with stakeholders

The primary role of our network planning function is to develop the distribution network capacity our customers need in a safe, efficient, and timely manner. We can only achieve this by engaging our customers and stakeholders to ensure we understand their requirements and incorporate them into our network plans.

The first stage is to understand what customer requirements are over the coming decades. We embed these customer requirements into our DFES forecasts, as these forecasts are the foundation on which we develop our network investment plans. That is why we engage with stakeholders right from the beginning of our network planning process (see right), when we're developing our DFES forecasts. A lot of this engagement is done by our Strategic Optimisation Team, and explained in Chapter 5.

One important source of stakeholder information is Local Authority decarbonisation plans (LHEES in Scotland and LAEPs in England and Wales). A key development over the last year is that the data from all 22 LHEES served by our Scottish network and 9 LAEPs served by our Welsh network is directly entered into our DFES forecasts. In addition, we've inputted decarbonisation plans from 3 transport partnerships, 3 industrial clusters, and 9 regional government bodies. Our stakeholders review our DFES forecasts and we make changes based on their well-justified feedback.

Stage 1: Forecasting
- Granular forecasts to 2050
- Developed with stakeholders
- Demand, generation, and LCTs

Stage 2: Network Assessment
- Whole network review
- Computationally intensive studies
- Identifies location, timing, and magnitude of constraint

Stage 3: Options Assessment
- Flexibility
- Innovative solutions
- Conventional solutions

Stage 4: Flexibility Tendering
- Location and capacity
- Service window (duration and time)
- Service type (pre/post fault)

Stage 5: Intervention decision
- Flexibility vs counterfactual
- Flexibility contracts
- Interactions and optimisations

This process ensures that credible stakeholder requirements are bedded into our network plans from the start, and that our DFES forecasts reflect our stakeholder's decarbonisation plans. Our DFES forecasts include:
1. Growth in the volume of LCTs, such as heat pumps, district heating and electric vehicles (EVs).

2. Changes to demand and consumption as a result of technology and behaviour changes, not least due to the growth in LCTs.

3. Growth in and changes to electricity generation and storage. This is generation and storage connected to our distribution network as opposed to the transmission network; we call this Distributed Generation (DG).

Our forecasts incorporate our advancements in network visibility (e.g. through roll-out of LV network monitors and analytics from smart meter data) to ensure that we are making decisions, or dispatching flexibility, using the latest data.

Given the uncertainties out to 2050, we create DFES forecasts for four main energy scenarios. These scenarios represent differing levels of customer ambition, government and policy support, economic growth, and technology development.

Once we understand the customer requirements we must accommodate, we then go through a process of network assessments and optioneering (including flexibility service tenders) to establish where, when, and how best to provide this capacity. This process is set out in our Decision Making Framework. It explains how we decide to contract with flexibility services, instead of using an alternative solution like reinforcement, and, where we've contracted flexibility services, how we decide in near real time to dispatch that flexibility service.

Our Decision Making Framework is published for our stakeholders, and we've worked carefully to make the explanations of our assessment process and tools accessible to a broad range of stakeholders.

Our Decision Making framework also sets out how we incorporate the plans and ambitions of our local authorities, stakeholders, and communities in developing future plans for our network, ensuring that we accommodate their Net Zero ambition, and enabling a Just Transition for our communities.
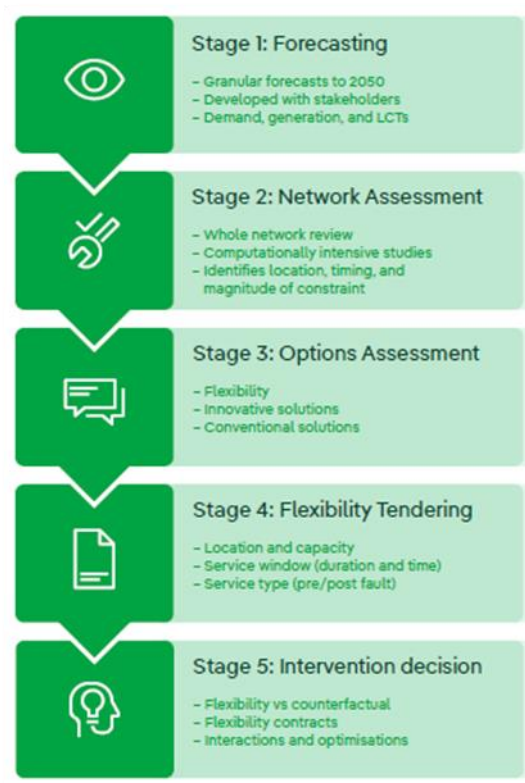
8. Encouraging stakeholder collaboration

Our engagement places our customers and stakeholders at the centre of what we do. With a tailored and locally focused approach, we will prioritise their needs in a consistent manner across our business. We will deliver safe, reliable services, sustainable value, and a better future, quicker. Our mission statement sets out our ambition and our principles to place stakeholder engagement at the heart of our plans. For more information read our Stakeholder Engagement Strategy here.

We encourage stakeholders to share their views with us and we want to make that as easy as possible, and as such we have organised our teams to create a dedicated route and personal approach for our various stakeholder groups. Below are some examples of how to engage with us:

Providing tools and services to Local Authorities, Local and Central Government to help them develop their local and regional energy strategies:

Our team, led by Mark Goudie, our Head of Whole System Strategy & Optimisation, provides Strategic Optimisation and Low Carbon Technology (LCT) Optioneering services. We can support Local Authorities and Government with the development of their energy strategies. If you would like to engage with us on your future energy or decarbonisation plans, contact us on: strategicoptimisation@spenergynetworks.co.uk

Working with Community Energy Groups to raise awareness and support projects

Our Community Energy team, led by Jillian Violaris, delivers our Community Energy Strategy. Our team and strategy aims to provide advice, capacity building, support workshops and ensure that community groups have a positive experience when interacting with us. If you would like to engage with us to discuss your development, please contact us on: communityenergy@spenergynetworks.co.uk

Working with Flexibility Service Providers to develop markets and opportunities

Our Flexibility team, led by Gerard Boyd, our Head of Flexibility, manages the procurement and delivery of our flexibility requirements to meet the growing demands on our network. We can support organisations with registration and contracting. If you are a Flexibility Service Provider, with interest an in our markets or would like to know more, contact us at: flexibility@spenergynetworks.co.uk

Providing access to data and information for our stakeholders
Our Open Data team, led by Sean Bellew, our Open Data Manager, provides support to all stakeholders seeking access to data and information about our assets, our projects, and our plans. This includes supporting stakeholders in not only accessing our data but also how the data can be used to meet their needs. If you are interested in knowing more about our Data and Information provision, contact us at: opendata@spenergynetworks.co.uk

Delivering a standardised customer experience for distributed generators

Our Design and Development teams are led by Sean Kennedy (SP Manweb) and Alastair Graham (SP Distribution). The team's co-ordinate all connections activity at 33kV, 11kV and LV for each Licence area. We can support our customers in a connections solution that meets their requirements. If would like to discuss your connection, contact us at: gettingconnected@spenergynetworks.co.uk