Collaboration Plan

SP Energy Networks

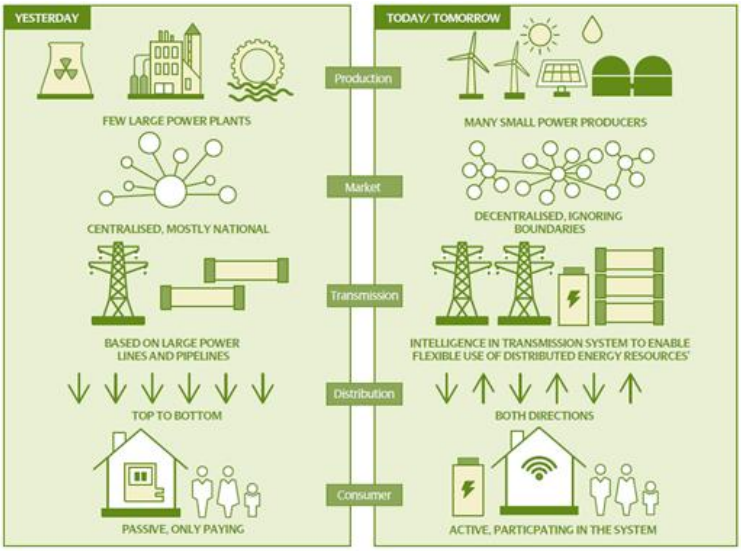
Contents

1. Who we are

We are SP Energy Networks. We own and operate the electricity distribution network in Central and Southern Scotland (our SP Distribution network), and in North Wales, Merseyside, Cheshire, and North Shropshire (our 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 a leap 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 the desire and the tools 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. Digitalisation means we can share data and better coordinate with other parties, facilitating new solutions. We have strong links with our customers and communities, which means 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 Whole System Approach

We need to work together to achieve Net Zero. We are 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. In the past, network companies have focussed primarily on their own network, with limited coordination and information exchange with neighbouring networks and users.

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 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.

That's why the concept of 'Whole System' thinking challenges us to plan and develop our network with the knowledge of the full range of solutions available, and awareness of the impact our actions might have beyond our own networks. It requires frameworks for joint planning and data sharing between network companies, system operators, network users and other stakeholders. Whole system means going beyond the traditional scope of the electricity network, to harness the opportunities of an integrated, cross-vector energy system, and developing new ways of working and thinking to enable this.

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. Our robust strategy will embed whole system thinking across our business, from innovation and investment decision-making to collaboration with industry partners, stakeholders, customers and parties beyond the electricity sector.

Our whole system planning function will have accountability for:

- Maintaining key external whole system relationships
- Providing a key point of contact for stakeholders outside the electricity network
- 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

3. Introducing our Collaboration Plan

In RIIO-ED2, Ofgem introduced the “Smart Optimisation Output” to promote and enable effective collaboration between the licensee and its local stakeholders and communities. 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 communicating digitally to determine the dispatch of assets on the system. SPEN have a fundamental role to play in enabling this by making data about our network and how it will evolve 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 about the characteristics 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 (heat, electricity, transport). 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 4, 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 5, we describe how we are collaborating with our stakeholders in the co-development of strategic regional plans. Throughout RIIO-ED1, we developed close working relationships with local authorities, devolved and regional governments across our licence areas, and we continually seek and engage in opportunities to collaborate and partner with other stakeholders in the co-development of strategic regional projects, plans and net zero strategies. We outline how we are supporting 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.

In Chapter 6, we provide insights into specific regional projects which we have been supporting within our Licence area, which are led by local and regional authorities and supported by their communities.

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 our published Decision-Making Framework, we outline and explain how we consider boundaries and interfaces, and how we are working closely with the Electricity System Operator (ESO) to develop and improve the management and optimisation of the transmission/distribution boundary, and how we are working together to manage constraints at some of the most congested sections of our network.

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.

4. Sharing data and Information

4.1 Our Data Strategy

We published our Data Strategy which outlines how we will enhance data and analytics capabilities over the RIIO-ED2 period. We are committed to sharing data with our Customers and Stakeholders on a “presumed open” basis. We recognise that access to data, and information, will be an enabler in Net Zero, and that we have an important role in facilitating efficient whole system planning and operation, supporting the development of new markets. Our stakeholders have told us that they require access to data and information about our network to develop accurate plans, enhance project proposals, and to understand their impact on our network.

Our aim is to provide a comprehensive suite of secure, trusted and shared data and information. We actively promote access to our data and our information. This year, we have recruited multi-disciplined teams across Data Governance, Open Data and Applied Analytics, creating the capabilities to govern, master and glean value from our data. Since the appointment of our Data Governance and Open Data team in August 2022, we have responded to over 300 requests and have published over 50 datasets on our Open Data Portal. Our team take an active role in promoting the needs of our stakeholders to ensure that the guidelines set across the industry are aligned to what our stakeholders are telling us. This includes responding to industry consultation to ensure the developments in the regulatory framework represent the views of stakeholders.

We recognise that provision of our data and information must be aligned with industry standards. The industry must work together to develop clear principles, policies and tools which are standardised. The main forum within the industry for data is the ENA’s Data and Digital Steering Group (DDSG). We chaired this forum in 2016 at its inception and have now resumed the role of chair from January 2024. This enables us to take an active and leading role in delivering real change, ensuring that the pace and direction of change is standardised. This group provides opportunity for industry to work together towards full compliance with Ofgem’s Data Best Practice Guidance.

The energy landscape for data sharing is under review, with increased scrutiny on data security by the Department for Energy Security and Net Zero (DESNZ) and the National Protective Security Authority (NPSA). Our team have worked with Ofgem and DESNZ on improving data security standards for energy data sharing, our view is that clearer guidance is needed to ensure industry alignment.

Whilst we meet our licence conditions, and Ofgem’s guidance, we take a stakeholder led approach to developing our plans. We have created monthly internal reporting which helps us to understand our stakeholders needs by looking at trend analysis and categorisation of requests received, which enables us to interrogate data about our requests and to improve our services.

Whilst we already make a suite of data and information available on our website, and on our Open Data Portal, principles of data sharing in the energy sector are in their infancy in many ways, and we are continually seeking opportunities to work with other industries, and with stakeholders, to improve our tools, our services and our capabilities. We embrace continuous review and improvement of the data we publish to better meet our stakeholder needs through proactive engagement, industry leading roles, and a personal tailored approach.

We make new and improved datasets available in response to trends identified through our reporting. In May 2023 we published underlying datasets to our Distributed Generation Heat Maps. Our Heat Maps have been available on our website for over 5 years and proven a successful resource for stakeholders, however, an increased number of requests were seeking access to the datasets that underpin these maps. Since uploading there has been more than 3,400 downloads and a positive reaction from stakeholders.

We have worked with stakeholders to refine existing datasets. In April 2023, we uploaded our GIS Shapefiles onto our Open Data Portal under a shared data licence, in direct response to high stakeholder demand. Access to these files has been well received by stakeholders. In October 2023, following stakeholder engagement, we updated our GIS shapefiles to include additional data points, including enhanced pole and stay information, and non-powered cables and lines.

The provision of Energy Data and Information to stakeholders is relatively new and very much developing. Whilst we have created a framework to ensure that we are able to deliver and measure our success, this framework will evolve as stakeholders needs mature, and as the understanding of data security evolves. We have challenged ourselves on how we can make better use of our own and our third- party data, and examples of this which are still developing include the use of smart meter, power quality and Internet of Things for LV fault monitoring.

We are making progress in establishing the full suite of materials required through our license conditions and based on the trends and feedback from our stakeholders, and we have extensive plans for future publications as our data catalogue grows, including plans to publish LV monitoring data once we have rolled out our monitoring programme. We plan to develop visualisations for our published datasets throughout 2024 and to share our underlying methodologies on our newly developed website.

A summary of the data and information which we share, and an insight into this, is outlined in the table below. In addition, the publication of bi-annual Network Development Plans (NDPs) and ongoing cross-sector work to align on use of a Common Information Model (CIM), mean that we will continue to develop our data and digital capabilities in ways that will further support the principles of accessibility and transparency through RIIO-ED2.

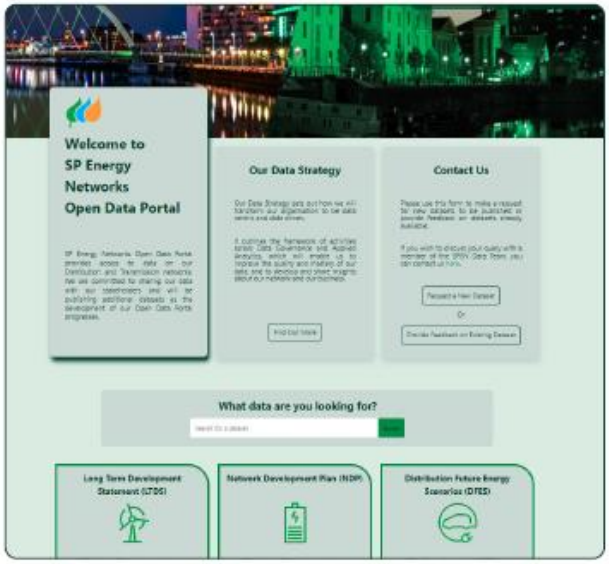
Role	Dataset	Description
Planning & Network Development	Distribution Future Energy Scenarios (DFES)	Provide users with geographically granular forecasts out to 2050, covering changes to our distribution networks out to 2050 because of GB's transition to Net Zero.
	Long Term Development Statement (LTDS)	Provides users with details of electrical and location data for assets and their network configuration. And an understanding of network limitations, capacities, and an indication of planned works.
	Network Development Plan (NDP)	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	Embedded Capacity Register	Provides users with an industry standardised view on connected generation and storage resources as well as network services.
	Generation Heat Maps	Provides users with an overview of headroom available for connecting to our networks, allowing less technical users to access data to inform decisions on where to make connection applications.
Market Development	Curtailment	Provides indicative curtailment levels based on generator type, GSP, and region. Users can use the curtailment data to see which site becomes a point causing curtailment.
	Load Related Interventions	Provides a full suite of information on the planned interventions on our network across the five-year price control period, including the evaluation of flexibility.
	Flexibility Strategy & procurement	Provides information on our procurement activities, our tender results and on ongoing approach to developing the markets for flexibility service providers.

4.2 Our Open Data Portal

We make it easy for our stakeholders to access our data, with all our published, and shared, datasets hosted on our Open Data Portal. The Portal is accessible via our website, and we have recently completed an overhaul of our Digital and Data web pages to improve the user experience, and to promote visibility.

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

- Download data in multiple formats
- Consume data via an API
- Feedback on datasets
- Request datasets / access
- Subscribe for updates



Datasets previously hosted on across our website have been centralised, meaning stakeholders do not need to visit more than one location when looking for access to our data. Our Portal also hosts datasets that underpin strategic documentation, including our Distribution Future Energy Scenarios (DFES), our Long-Term Development Statement (LTDS) and our Network Development Plan (NDP).

Users can search keywords and themes, and can search our detailed metadata, as well as independently download, export and consume data via an API. We also have detailed descriptions and definitions to support stakeholders to understand the content. We are working to develop visualisation capabilities, enhancing the provision of information for users.

We have updated our Open Data Portal so that our catalogue is built using industry standard metadata, as set out in Ofgem's Data Best Practice. We recognise that not all stakeholders have the same requirements when accessing data and that is why we make our datasets available in several formats including CSV, Excel and JSON, with the ability to download all via an API.

The highest proportion of requests we receive is for our asset data, in the form of shapefiles which provide locational data on our assets. This is data we have risk assessed and do not share "openly" due to security risks. To enable controlled access, we have implemented a "shared data access" solution on our Open Data Portal; a section of our Open Data Portal which provides selective access to stakeholders who have been vetted and have accepted the terms of our "shared" licence. This is a material improvement on previous process where these large datasets were shared via email and enables our stakeholders to easily download up-to-date versions in a standardised format and perform their analysis from our secure environment. Where a more bespoke need is identified, we work with our stakeholders to provide data in their preferred format, for example converting our GIS Shapefiles into Excel to meet the needs of an individual request in January 2024. We are also working with the industry through the Data Triage and Data Licencing working groups to share our developments, and to ensure that we can implement best practice from the industry.

It is important that the industry evolves at pace and that all remain 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 through 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. We have placed compliance at the heart of our data strategy and have built our teams and framework to ensure clear accountability for each of the principles. We are building the foundations which will create ease of access to data for stakeholders and are deploying repeatable patterns which support data re-use and enable agile development.

4.3 Working with stakeholders

We make it easy for our stakeholders to contact us. In June 2023, we appointed our Open Data Manager, who leads engagement with stakeholders on sharing our data and information. Stakeholders can contact us via our "feedback form" on our Open Data Portal or directly via our Open Data email address.

We work directly with stakeholders to ensure that we understand and meet their needs, and to identify opportunities for improvement. We recognise that the provision of energy data and information is a new and emerging field, and that stakeholders in many cases are unclear as to what data or information they need in order to be able to develop their plans, or to support their ambitions. It is important to recognise that our teams have expertise in how to understand and use our data for the purposes of planning, project development, and in identifying opportunities. We make our technical teams available to our stakeholders to support them and to ensure that the data and information we provide is fit for purpose. We have held over 20 bilateral meetings with stakeholders in the last 12 months and received complimentary feedback on our engagements.

We recognise that stakeholder engagement is a two-way process, and in addition to responding to requests for access to our data, we reach out to stakeholders to understand what datasets could support their areas of interest. In February 2024, we circulated an "Open Data" survey to 140 stakeholders to gain feedback. The responses have been captured and have informed our future publications and developments.

We asked stakeholders if their experience engaging with our team and accessing our data met their needs, and how our approach could be improved. Some direct actions from our survey included;

- Directly engaging with responders to understand more about their feedback and support them in overcoming technical issues which their response had highlighted.
- Enhancing our Open Data Portal in areas which received feedback, including streamlining navigation, grouping datasets, and simplifying "contact us" routes.
- Improving the format of feedback forms, in direct response to stakeholder input on improving ease of use and access.
- Connecting stakeholders with internal experts where they are seeking enhanced information to support their needs.

Proactive engagement will continue, and we are looking for new methods to engage stakeholders ensuring that we are mindful of stakeholder fatigue in our activities.

We take an active role across the industry. Data and information activities are represented across many forums, however the main forum within the industry for the development of data and information is the ENA's Data and Digital Steering Group (DDSG). We originally chaired this forum in 2016 at the time of its inception and have resumed the role of chair from January 2024. This enables us to take an active and leading role in delivering material change across the industry, ensuring that the pace and direction of change is standardised.

We were also recently approached by the UK Department for Science, Innovation and Technology, seeking support for their Manchester Prize, an initiative which will award £1 million every year to a team of innovators with the most cutting-edge AI solution for public good. We worked with them to provide access to our data and to create materials to support applicants, also proposing ways which our data could be used for the benefit of society and have offered to provide our resources and our expertise to support successful candidates.

5. Supporting our Local Authorities

5.1 Our Strategic Optimisation Team

We own and operate the electricity distribution network in Central and Southern Scotland (our SP Distribution network), and in North Wales, Merseyside, Cheshire, and North Shropshire (our SP Manweb network). Relationships with stakeholders in our licence areas are crucial to enable us to understand their needs, which are an integral part of energy infrastructure planning. We work pro-actively with central and devolved Government in Scotland, England, and Wales, and have built relationships with all 40 local authorities across SP Distribution and SP Manweb. We are keen to foster relationships that enable us to understand each regions specific requirements, needs and aspirations to allow us to input into our network planning process to support the development of infrastructure requirements to help facilitate each local area's industrial, commercial, and domestic decarbonisation plans, within the necessary timescale for each individual local and central government region.

We, as the Distribution Network Operator, have an important role to play in supporting local authorities by ensuring the electricity network can handle the forecast growth in capacity and grid connections as well as reducing peak energy demand via 'smart' or flexible electricity systems. We can provide technical support via transparent data, providing optioneering services for strategic optimisation of our network and assist in the development of local plans for each of the local authorities we serve.

Our Strategic Optimisation team supports local authorities to develop their energy plans and searches for new strategic relationships to efficiently achieve Net Zero. Strategic Optimisers are the strategic interface between local and national authorities and SPEN. Strategic Optimisation projects and activities will include getting involved in local and national authority plans for the development of a common strategy and developing an operating model for strategic optimisation.

Our work includes:

- Supporting the development of strategies, scenarios and programmes.
- Analysing network projects viability by determining future scenarios
- Identifying commercial and strategic partnerships
- Recognising whole system opportunities and feeding in appropriate plans and registers
- Undertaking financial modelling and cost benefit analysis for initiatives

The main role of the strategic optimisation team is to support and ensure that all of the 40 local authorities across SP Distribution and SP Manweb have a clear understanding of the needs and plans required to deliver the ambitions of the local communities, and that we are able to accommodate these needs, and incorporate this information into our Distribution Future Energy Scenarios (DFES).

In England and Wales, Local Area Energy Planning (LAEP) is a comprehensive, ground-up approach that guides a local authority towards achieving net zero emissions. It encompasses a whole system approach meaning all parts of the system are mapped including energy supply and demand, transport, buildings, local industry and the environment. These plans incorporate not only technical considerations but also account for non-technical elements and new technologies. LAEP's primary goal is to outline the most efficient and economical route for decarbonisation in a local area, providing a clear action plan. These plans span from cities and districts to county councils and combined authorities.

LAEP's bring together diverse stakeholders such as energy companies, industries, and community groups with a process that involves continuous collaboration leading to data-driven, realistic action plans that are regularly updated to accommodate technological, local, and political changes. As the distribution network operator for South of Scotland, Liverpool City Region, Cheshire & Warrington, North Shropshire and North & Mid Wales, we have a role to support local authorities, ensuring that plans for our network align with local ambitions.

We provide technical support via transparent data, providing optioneering services for strategic optimisation of our network for each of the local authorities we serve. We offer regular meetings and support for all local authorities and local government bodies across the Scotland, England and Wales and provide ongoing support for all LHEES, LAEP's, Regional Energy Strategies and National Energy Plans. We have been actively involved in supporting local authorities across all our licence areas and preliminary outputs from this work has been included into our 2024 DFES publication, with further outputs designed to be included into our 2025 DFES publication following successful completion of all plans.

We're proud to have supported Welsh Government in the development of 8 of their LEAPs in North and Mid Wales and are committed to continuing our support with the development of their 2 Regional Energy Plans for North Wales and Mid Wales, and finally inputting our technical guidance into the first National Energy Plan for Wales. We are continuing this work by supporting North-West Net Zero Hub, Liverpool City Region Combined Authority and Cheshire & Warrington Partnership in the development of LAEP's for the 9 local authorities across the SP Manweb area covering the North-West of England. We are also supporting Shropshire Council with the development of their Local Area Energy Plans.

We played an active part of the development of the 22 LHEES plans across our Scotland licence area and developed a tool to assist each local authority to complete their own technical analysis. Due to the success of the LHEES tool, this is now being developed for use by all local authorities across both our licence areas, and you can read more about this in Section 5.3.

5.2 Supporting ambition in Wales

The Welsh Government has committed to net zero emissions by 2050. Wales has an ambitious strategy that would see the nation eliminate 63% of emissions by 2030. As part of this strategy, the Welsh Government committed to a policy that includes Local Area Energy Planning (LAEP) processes within each of the nation's 22 local authority areas, funded nationally but led and developed at the local level.

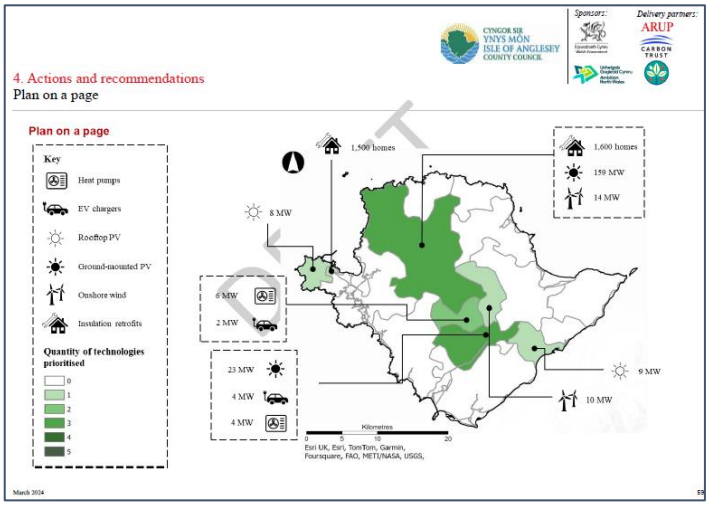
These local area energy plans will improve understanding of what the energy transition is likely to involve at a local level and will inform national policies and programmes as Welsh Government works with partners including network operators to deliver an energy system fit for the future.

The Welsh Government aim to be the first nation to have complete coverage of LAEPs and will bring all 22 local energy plans together to produce insights that will inform Wales's first National Energy Plan.

In 2021 Welsh Government incorporated Local Area Energy Planning with its national planning policy. This was significant as it paved the way for their decision to agree funding for all local authorities in Wales to receive LAEPs following the successful trials of 4 local authorities from 2020 onwards.

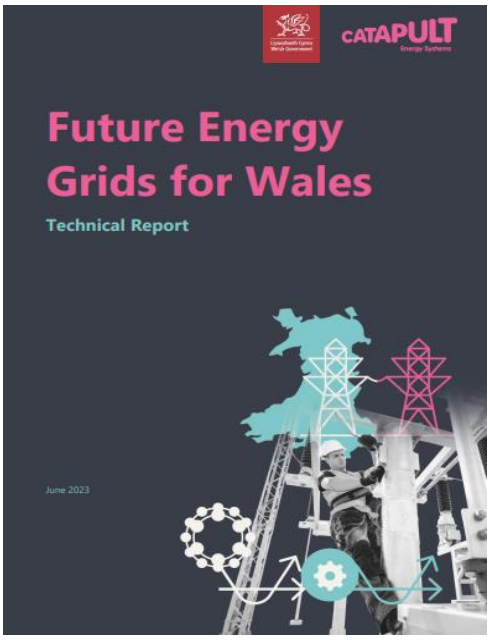
Further, the Well-being of Future Generations (Wales) Act 2015 created a focus for the Welsh Government and has led to Local Area Energy Planning being prioritised. This legislation that has been praised by the UN as it sees decision makers having to ensure that all laws consider their impact upon future generations.

The Welsh Government has overcome the lack of local authority resources to support LAEP production by funding staff based in the four Wales regions, who are able to assist their local authorities with activities such as data collection.



The Welsh Government believes a planned approach is best suited to developing networks that meet the future needs of places and people and provide the best long-term value for society, and along with energy network operators have recognised the need to develop a strategic approach to gas and electricity network planning and are working together at how the future energy networks can meet the needs of Wales.

The Energy Networks in Wales Group (ENIW) has been established to develop a long-term planning vision. Members of the Energy Network in Wales Group include SP Energy Networks, Welsh Government Energy Policy Division, National Grid Electricity Transmission, National Grid ESO, National Grid Electricity Distribution, National Grid Gas Transmission and Wales & West Utilities.



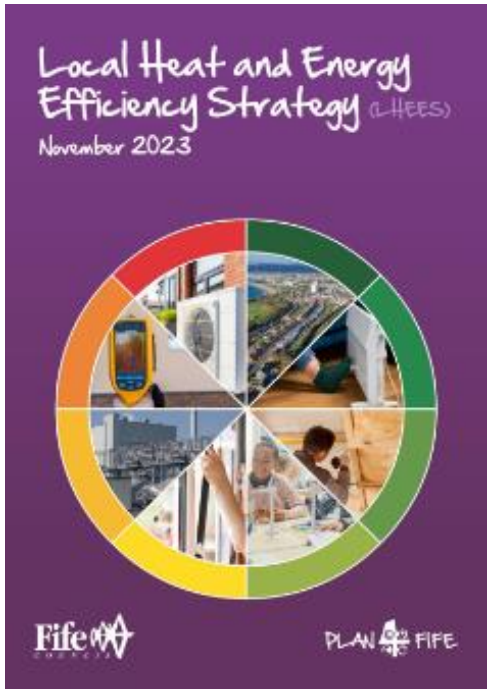
On behalf of the ENIW Group, Energy Systems Catapult completed a Future Grid Study. The Future Energy Grids for Wales Report sets out the results of taking a whole systems approach to identify the requirements for gas and electricity networks. The report is very clear that renewable electricity will provide the basis for decarbonising most heat and transport and will play a significant role in industry and business. The report makes clear the scale of change needed.

We're proud to have supported Welsh Government in the development of 8 of their LEAPs in North and Mid Wales and are committed to continuing our support with the development of their 2 Regional Energy Plans for North Wales and Mid Wales, and finally inputting our technical guidance into the first National Energy Plan for Wales.

5.3 Supporting ambition in Scotland

Scotland has ambitious plans to transform its buildings. The Scottish Government's Heat in Buildings Strategy makes clear the need to ensure that, by 2045, all homes and buildings no longer contribute to climate change, while also tackling fuel poverty. This means that schools, hospitals, libraries, homes, and businesses will need to improve their energy efficiency and install zero emissions heating.

Delivering this transformation will require concerted effort across national and local government, as well as public and private sectors. Locally-led planning will be key to ensuring that the decarbonisation of heat in buildings is delivered in a way that is relevant to local contexts and tailored to the specific needs of communities.

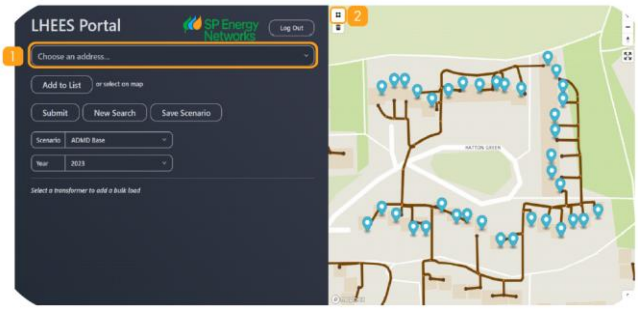


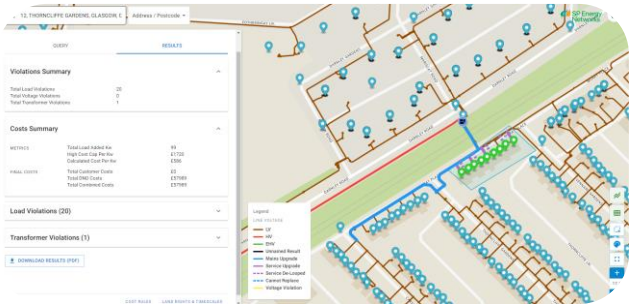
Local Heat and Energy Efficiency Strategies will be the principal mechanism for this locally-led heat planning. They will support local planning, coordination and delivery of the heat transition across communities in Scotland. The development of Local Heat and Energy Efficiency Strategies (LHEES) has required close cooperation between the Scottish Government, local authorities and local stakeholders including network operators.

Local Heat and Energy Efficiency Strategies (LHEES) are at the heart of a place based, locally-led and tailored approach to the heat transition. These local strategies will underpin an area-based approach to heat and energy efficiency planning and delivery. We engaged with Scottish Government and supported all 22 local authorities in SP Distribution throughout the LHEES process. We supported the 22 local authorities by feeding into their LHEES development at an early stage an advising on network capabilities and identifying best routes to delivery.

Some of the local authority LHEES plans were published in December 2023, with the rest planned for publication during 2024. The plan is to develop the LHEES into LAEP's and Regional Energy Strategies for each Local Government Regional Growth Deal: Glasgow City Region; Edinburgh & Soth East Scotland Region; Ayrshire; Stirling & Clackmannanshire; Borderlands; Argyll & Bute; Falkirk. Outputs from each local authority LHEES was incorporated into the engagement process for the 2024 DFES consultation. The outputs from our DFES will be included into the LAEP's Regional Energy Strategies mentioned above during 2024.

We played an active part of the development of the 22 LHEES plans across our Scotland licence area and supported by developing a tool to assist each local authority to complete their own technical analysis. We have developed a self-service optioneering tools for local authorities. Local authorities will be able to simulate the effects of implementing their heat and energy strategies and low carbon technology upgrades on the SP network, giving a view of current cable and substation capacity, network constraints, required reinforcement works and consequent costs.





The tool can be used to assist local authorities in developing their plans. It also informs our decision making on potential requirements in network reinforcement works and ultimately promotes a shared knowledge and strategy for future network needs. Due to the success of the LHEES tool, this is now being developed for use by all local authorities across both our licence areas.

5.4 Supporting ambition in England

The UK is committed to reaching net zero by 2050. This means that the total greenhouse gas emissions would be equal to the emissions removed from the atmosphere, with the aim of limiting global warming and resultant climate change. Our local authorities in England are focussed on developing their Local Area Energy Plans (LAEPs) and we have begun building the support, tools and network to enable them to realise their plans.

We are supporting our local authorities in England by through the development of their Local Area Energy Plans for the 9 local authorities across our SP Manweb area covering the North-West of England and are actively working with and supporting North-West Net Zero Hub, Liverpool City Region Combined Authority and Cheshire & Warrington Partnership.

You can read more about these projects in Chapter 6.

5.5 Low Carbon Technology (LCT) optioneering

Low Carbon Technology (LCT) is central to future energy plans. We have the knowledge, the tools, and the resources to support local authorities in understanding how to optimise Low Carbon Technology opportunities which are available in their area of the network, and we can support the realisation of proposed decarbonisation projects.

This is across three Low carbon technologies: 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 roll this out to all our local authorities. In supporting the roll out and optimisation of Electric Vehicle charging, we **have the capabilities and the resources to** provide optioneering and feasibility studies for the rollout of EV chargers on our network. In the last 12 months we have supported the identification and optimisation of **1,400** locations across;

- Fife, Ayrshire, Cheshire West and Chester, Flintshire, Isle of Anglesey and Shropshire Councils
- Transport for Scotland, Transport for Wales, Liverpool City Region Combined Authority and Cheshire & Warrington Enterprise Partnership for public EV charging and Bus Decarbonisation

In supporting the roll out and optimisation of heat pumps, we have the capabilities and the resources to undertake analysis and provide both cost and timescale estimates for the rollout of heat pumps with the focus in off gas grid and social housing areas. In the last 12 months we have supported the identification and optimisation of 800 locations, including;

- Gwynedd, Conwy, Denbighshire and Cheshire East Councils
- Fife Council - investigating heat network options in Dunfermline
- South of Scotland Enterprise – to identify heat network opportunities in Selkirk and Newcastleton
- Net Zero Liverpool project with Innovate UK - investigating heat network opportunities for social housing in Liverpool City Council area

In addition, it can be challenging to identify the optimum solution for individual local energy projects and distributed generation schemes, and we have the capabilities and the resources to support optioneering for opportunities to support Low carbon technology growth across our network. In the last 12 months we have supported the identification and optimisation of 120 locations, including;

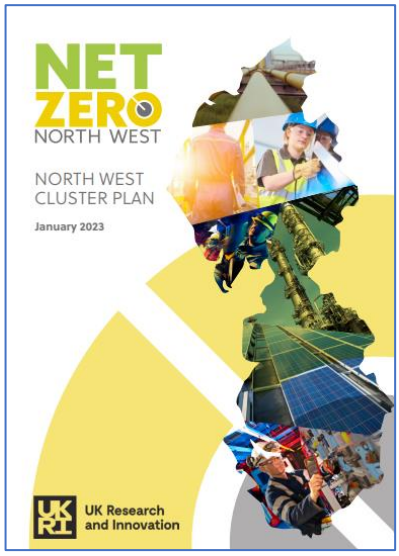
- Renewable generation studies for Glasgow City Council
- Ground mounted PV optioneering for Shropshire Council
- Review of Local Energy projects for Ynni Cymru
- Powys and Ceredigion Councils at Mid Wales Sustainable Business Solutions event

In some instances, wider scale project support is required. Such an example is the Net Zero Liverpool project with Liverpool City Council and Liverpool City Region Combined Authority, funded by Innovate UK. As part of Innovate UK's Net Zero Living programme, local authorities receive Innovate UK funding to run practical demonstrator projects which show how non-technical barriers to implementing carbon-cutting measures can be overcome. The project aims to address grid constraints, governance and engagement to deliver an exemplar ground source heat project. Partners include: New Resource Partners; Regent Capital; Decentralised Energy Solutions; Onward Homes; SP Manweb; Liverpool City Council; Liverpool City Region Combined Authority

To support this project, we will be completing Low Carbon Technology optioneering for 7,000 EVCP connections and HP's and strategic optimisation analysis of shore power and local heat networks to determine inputs for our 2025 DFES publication and longer term RIIO-ED3 Plan requirements.

6. Supporting Regional Net Zero projects

6.1 Net Zero North West



Net Zero North West is an industry-led cluster acting as a public and private sector investment accelerator for industrial decarbonisation and clean growth projects in the Northwest, committed to delivering a co-ordinated Net Zero vision and uniting businesses, regional leaders, and academia. Net Zero North West partners include: Liverpool City Region Combined Authority; Cheshire & Warrington LEP; Greater Manchester Combined Authority; North-West Hydrogen Alliance; Cheshire Energy Hub and North-West Business Leadership Team, along with industrial partners such as Siemens, Ineos and HyNet.

In 2015, we joined the Cheshire Energy Hub to support the development of long-term strategic planning and to understand and include the region's net zero aspirations in our RIIO-ED2 Business Plan. Throughout RIIO-ED1, we worked with Liverpool City Region Combined Authority and Cheshire & Warrington LEP to develop a long-term strategy for industrial decarbonisation across the industrial areas of SP Manweb. Outputs from this project were incorporated into our Register of Strategic Projects and our 2024 Distribution Future Energy Scenarios (DFES).

We are undertaking ongoing work with Net Zero North West, Liverpool City Region Combined Authority and Cheshire & Warrington LEP to develop a strategic optimisation model for the industrial area across the North West. Cheshire & Warrington LEP are undertaking a review of Net Zero North West deliverables in phase 1 of the project – Cluster Plan report published and defines the next steps to be included into Phase 2. We are supporting this review and are fully committed to work with Net Zero North West to determine a long-term strategy for infrastructure for the region.

6.2 North-East Wales Industrial Decarbonisation (NEW-ID)

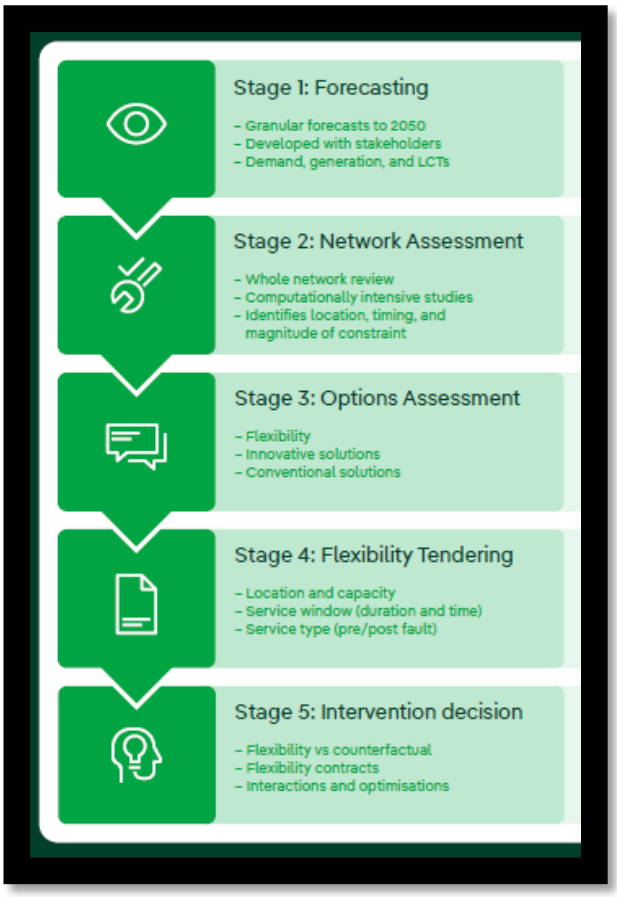
Following the collaboration of the North-East Wales region's two Clean Growth Hubs - Deeside Decarbonisation Forum and Wrexham Achieving Carbon Zero - NEW-ID brings together regional organisations, helps them plan how to cut down on carbon, and sets up the right structures for place-based decarbonisation. NEW-ID's goal is to substantially reduce the carbon-footprint of industry in the region by 2030.

The NEW-ID consortium was co-ordinated by Welsh Government, Ambition North Wales and North Wales Business Council to develop a roadmap for industrial decarbonisation across North-East Wales. Partners include SPEN; Wales & West Utilities; Net Zero Industry Wales; Bangor University; Uniper and large industrial customers in the area. The project funds stakeholder engagement with 170 industrial consumers in the area to determine their electrical and hydrogen decarbonisation needs by December 2024.

We have been working with Welsh Government Energy Service, Welsh Government Economic Growth Team, Ambition North Wales, and North Wales Business Council to facilitate decarbonisation projects since the beginning of RIIO-ED1. We joined Deeside Decarbonisation Forum in March 2022 and joined Wrexham Leadership Alliance in March 2023. All aim to understand decarbonisation plans for North-East Wales and we have supported with infrastructure planning information and guidance, culminating with a meeting with Wrexham Leadership Alliance in October 2023 to discuss long term plans. Outputs from NEW-ID will be incorporated into our 2025 Distribution Future Energy Scenarios, Network Development Plans and our RIIO-ED3 Business plan.

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. The capacity customers need is forecast to materially increase over the coming years as they electrify their transport and heating and decarbonise to Net Zero. Forecasts and modelling show that, in many areas of the network, the capacity is insufficient to accommodate this growth.



We have a range of intervention options which can help us provide more capacity, including flexibility services, smart solutions, and network reinforcement. For every location where there will be insufficient network capacity to meet customer needs, we have a decision to make – how should we best intervene to provide the capacity? We use the following process on the right to establish where, when, and how we should provide capacity.

Our DFES comprises forecasts of the following key areas:

1. Growth in the volume of Low Carbon Technologies (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 connected to our distribution network as opposed to the transmission network; we call this Distributed Generation (DG) or embedded generation.

There are multiple pathways that GB could take to meet Net Zero, influenced by a range of external factors. These external factors – political, economic, social and technological – will all affect the way our customers' needs evolve. We develop Distribution Future Energy Scenarios (DFES), and we use engagement with our local authorities and local and central government to inform our DFES. Incorporating our local authorities and Local and Central Government plans and aspirations into our network planning activities via our DFES.

Our Decision-Making Framework sets out exactly how we decide to contract with flexibility services as a solution, instead of using an alternative solution like reinforcement, and secondly, where we've contracted flexibility services, how we decide in, or near, real time to dispatch that flexibility service. Our Decision-Making Framework sets out the stages we follow, from how we identify network requirements through to how we decide between different solutions and the principles we follow when we dispatch flexibility services. The Decision-Making Framework explains the input information, assessment criteria, and assessment tools we use to make decisions. The process set out aligns with the Flexibility First commitment made by all DNOs and the dispatch principles developed by the Open Networks project. We've worked carefully to make the explanation of our assessment process and tools accessible to a broad range of stakeholders.

This 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 stakeholders and customers 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 Nia Lowe, our Head of Commercial Innovation and Whole System, 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, provides advice and support to Community Energy groups and deliver our Community Energy Strategy. We can provide advice, support workshops, and ensure community groups have a positive experience and interaction with us. If you would like to engage with us to discuss your development, 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 in our markets, 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 them in accessing our systems and our data and providing expertise in using and interrogating our data in order to support 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 Sophie Sudworth (SP Manweb) and Rachel Donoghue (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

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