



Long Term Development Statement

Summary Statement

SP Manweb

for the years 2023/2024 to 2027/2028

The information used to compile this Statement is derived from SP Manweb plc's own data. Whilst all reasonable care has been taken in the preparation of this data, SP Manweb plc is not responsible for any loss that may be attributed to the use of this information.

The Distribution Long Term Development Statement has been prepared by SP Manweb plc in accordance with Condition 25 of the Electricity Distribution Licence, issued under the Electricity Act 1989. The Statement is prepared in a form specified by the Gas and Electricity Markets Authority.

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1. Part 1: Introduction

1.1. Who We Are

We are SP Energy Networks, part of the ScottishPower Group of companies. We own and operate three electricity network licences:

- **SP Transmission plc (SPT)** is responsible for the transmission network in central and southern Scotland.
- **SP Distribution plc (SPD)** is responsible for the distribution network in central and southern Scotland.
- **SP Manweb plc (SPM)** is responsible for the distribution network in Merseyside, Cheshire, North Wales, and North Shropshire.

It is through these networks of underground cables, overhead lines, and substations that we provide, on behalf of supply companies, 3.5 million homes, businesses, and public services with a safe, reliable, and efficient supply of electricity.

1.2. Purpose of the SP Manweb Long Term Development Statement

The Long Term Development Statement (LTDS) provides information on the operation and development of our 132kV, 33kV, and 11kV distribution network in our SP Manweb licence area. This includes a range of information such as network asset technical data, network configuration, geographic plans, fault level information, demand and generation levels, and planned works. This information is contained in attached Excel and pdf files which, together with this summary document, form the LTDS.

The purpose of the LTDS is to provide information on the distribution system that may be of use to developers wishing to connect to, or make use of, the distribution system. The data is provided to enable developers to identify opportunities and carry out high level assessments of the capability of the network to support their demand or generation development. Future network development plans are included to advise existing and potential users of significant changes to the system, which may have an impact on their development plans.

A main update is published every November with a minor update every May.

1.3. How the LTDS Fits with Other Data Provision

Publishing our LTDS is just one measure we're taking to increase the transparency of how we plan and operate our distribution network, and is aligned with our approach of sharing an increasing range of network data with stakeholders. Other ongoing data provision includes:

- Distribution Future Energy Scenarios (DFES)¹ – these are forecasts for key customer demand and generation metrics up until 2050. We develop these considering a range of sources, including UK & devolved government targets and other industry forecasts. Given the uncertainties out to 2050, we create forecasts for four main energy scenarios. These scenarios represent differing levels of customer ambition, government and policy support, economic growth, and technology development. Our stakeholders review our forecasts and we make changes based on their well-justified feedback. We update our DFES annually.
- Network Development Plan (NDP)² – the primary objective of the NDP is to provide information on available network capacity to accommodate demand and generation growth, and interventions the DNO plans which will increase network capacity (such as flexibility use and reinforcement). The NDP is a medium-term outlook and is designed to sit between shorter-term LTDS and long-term DFES.
- Embedded Capacity Register (ECR)³ – previously known as the System Wide Resource Register, this provides information on generation and storage resources ($\geq 50\text{kW}$) that are connected, or accepted to connect, to our distribution network. It is updated on the 10th working day of each month.
- Heatmaps⁴ – this interactive mapping tools provides a geographic view of where there is available network capacity to accommodate new generation.
- Flexibility tenders – we tender for flexibility for all viable network constraints. When we run tenders we publish information on the location, magnitude, and duration of the constraint. In some cases, we will also send ceiling price information. We run tenders twice annually.

¹ Our DFES is available here:

https://www.spenergynetworks.co.uk/pages/distribution_future_energy_scenarios.aspx

² Our NDP is available here:

https://www.spenergynetworks.co.uk/pages/network_development_plan.aspx

³ Our ECR is available here:

https://www.spenergynetworks.co.uk/pages/embedded_capacity_register.aspx

⁴ Our heatmaps are available here:

https://www.spenergynetworks.co.uk/pages/connection_opportunities.aspx

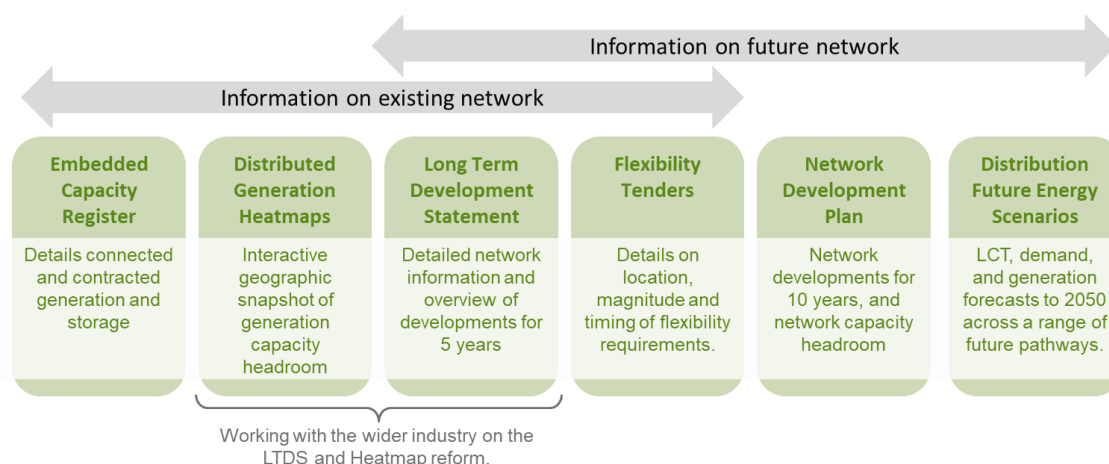


Figure 1: How our LTDS fits with other data provision

We are working closely with our regulator Ofgem and the industry to identify ongoing improvements and reforms to LTDS. This includes formalising and finalising the use of Common Information Model (CIM) as the expected standard for data exchanges in the energy industry. We will ensure our publications are aligned with the latest developments and requirements from this national working group.

Information on how to connect a generation scheme onto our network can be found on our website⁵.

Looking forward, given the value of data share, we plan to share a wider range of historical, near-time, real-time, and forecast data with stakeholders. This will be underpinned by infrastructure to gather, assess, and share data, and engagement with stakeholders to prioritise data publication. Please see our Open Data Portal⁶ for more information on the network data we share and our Data Strategy.

1.4. An Introduction to the SP Manweb Network

The SP Manweb distribution network supplies nearly 1.53 million customers in Merseyside, Cheshire, North Wales and North Shropshire and covers an area of over 12,329 km². Electricity from local distribution-connected generation and National Grid's 400kV and 275kV transmission network is distributed to our customers through a succession of networks operating at 132kV, 33kV, 11kV, 6.6kV, 6.3kV and 400/230V. There are also connections to adjacent distribution networks – Electricity North West to the northeast, National Grid Electricity Distribution (West Midlands) to the east, and National Grid Electricity Distribution (South Wales) to the south.

⁵ Available here: www.spenergynetworks.co.uk/pages/getting_connected.asp

⁶ Our Open Data Portal. Available at: <https://spenergynetworks.opendatasoft.com/pages/home/>



SP Manweb Network Overview

Distribution voltages

132kV, 33kV, 11kV, 6.6kV, 6.3kV and 400/230V

Assets (HV and above)

Overhead lines:	15,420 km
Underground cables:	10,006 km
Transformers:	46,410

Customers

1.53 million customers	
System Max Demand:	2.74 GW
Connected Generation:	2.77 GW
Contracted Generation:	2.94 GW

Our SP Manweb network is unusual in GB as the majority is an interconnected or “meshed” design. This means power can flow through multiple routes to the point of use. By comparison, most GB distribution networks have a traditional radial design, where power typically has only one possible path. The interconnection extends across our entire 132kV and 33kV network and over half our HV and LV network.

This interconnected design was inherited by us when the electricity supply industry was privatised. Its primary advantage is that it gives our customers a highly reliable electricity supply – our urban customers have on average the most reliable supply in GB. An outage due to a HV network fault in our urban areas is experienced only once every 20 years, and customers do not lose supplies in over 93% of 33kV network faults. Other benefits of this design are that it is inherently adaptable and scalable, and it can accommodate low carbon technology (LCT) growth well. These advantages are becoming increasingly valuable to our customers as they decarbonise to Net Zero and become more dependent on a reliable supply.

However, once interconnected capacity is saturated, reinforcement of the network is more expensive than for radial networks. This is because new sites must be established and because interconnected networks have more assets per customer to replace. Some of these assets are exclusive to our SP Manweb unique network, and some are more expensive than those on a comparable radial network. As a result, it costs more to operate, maintain, and modernise compared to all other DNOs.

Customer demand on the distribution system and the operation of generators are dynamic in nature and are dependent on many factors. The weather, dawn/dusk times, social or sports events, and relative fuel cost all play a part in shaping the load profile and generation patterns. The demand on the SP Manweb distribution system varies throughout the day and over the seasons. Peak demand on the system generally occurs on a weekday in mid-winter and the minimum demand at the weekend during summer. The maximum system demand for the SP Manweb area for 2022/2023 was 2,739MW on 12 December 2022 for the half hour period ending 17:30 hours.

Looking forward, our DFES forecasts a considerable increase in the medium to longer term driven by the electrification of customer heat and transport and increases in industrial and commercial load. We are also going to see a further leap in embedded renewable generation to power these. We will need to use a range of intervention types to accommodate this growth, included flexibility services, smart solutions, energy efficiency, network reinforcement, and new innovative solutions.

1.5. Content of the Long Term Development Statement

The Long Term Development Statement consists of the following content:

Part 1: Introduction

Part 2: Summary Information

- Network long term vision
- Design and operation philosophies of the network
- Network characteristics
- Indication of geographical arrangement of the network
- Statutory obligations and industry standards
- References to engineering recommendations and SPEN documentation
- Contact information

Part 3: Detailed Information

- Schematic diagrams detailing the normal operation of the distribution network
- Table 1: Circuit Data
- Table 2: Transformer Data
- Table 3: System Loads
- Table 4: Fault Levels
- Table 5: Embedded Generation
- Table 6: Connection Activity
- Table 7: Substation Abbreviation Codes
- Table 8: Predicted Changes
- Table 9: System Schematics
- Table 10: Geographic Plans

Part 4: Development Proposals

- Network development proposals
- Connection request statistics

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1.6. Annual Publication and Obtaining the LTDS

The network changes over time and the data contained within the LTDS include the known and anticipated developments at the data freeze date, usually the end of August each year. The analytical models, which form the basis of the LTDS data, are finalised by the end of October. System maximum demand data and Bulk Supply Point (BSP) loads are for the period April to March. The detailed data tables section (Part 3: Detailed Information) is fully reassessed on an annual basis for publication in November each year. A brief mid-year update summary is published in May.

Access to the LTDS requires registration. After registration, the LTDS document and associated data tables are available for download. There is no cost either for the registration or the download – accessing the LTDS is free of charge.

1.7. Engaging with Stakeholders



Stakeholder views are important to us. Throughout RIIO-ED1 we have been engaging with stakeholders and customers to understand our stakeholder's priorities. This covered a wide variety of areas, from storm resilience and flood protection, to improving supplies to poorly served customers, future proofing the network and innovation to provide network capacity information for new customers.

In response to requests, over recent years we have sought to improve the content and data format of the LTDS, it is now more widely accessible with data provided in more convenient formats.

Information on the location of network assets and capacity available can be found using our interactive mapping tool.

We continue to work with Ofgem and welcome stakeholder and customer feedback; please visit our website for further details⁷.

1.8. Further Regulatory Information

SP Energy Networks is a regulated business. We must meet certain criteria in order to meet our licence conditions. You can find further details on our website⁸.

1.9. Contact Information

Should you wish clarification on any aspect of this document, please contact:



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⁷ Available here:

https://www.spenergynetworks.co.uk/pages/stakeholder_engagement.aspx

⁸ Available here:

https://www.spenergynetworks.co.uk/pages/regulation_guidance_leaflets.aspx

Please see Section 5.4 for contact details for other parts of SP Manweb and SP Energy Networks (such as new connections) and for other organisations mentioned in our LTDS.

Opportunities exist for the connection of new load or generation throughout our distribution system. System conditions and connection parameters are site specific and therefore the economics of a development may vary across the system. Developers are encouraged to discuss their development opportunities and we will be pleased to advise on connection issues.