



SSEN Distribution

STRATEGIC DEVELOPMENT PLANS METHODOLOGY

Draft for consultation
September 2024



Scottish & Southern
Electricity Networks

DSO Powering Change



Contents



INTRODUCTION

Pages 3 – 7



INSIGHT GATHERING

Pages 8 – 10



STRATEGIC ANALYSIS

Pages 11 – 13



FUTURE PUBLICATIONS

Pages 14 – 16



ENGAGE WITH US

Pages 17 – 22





Foreword

The electricity distribution grid is a critical component in the journey to net zero. Our customers want to decarbonise their homes and operations, and we need to deliver a network that can facilitate their ambitions. The new government's focus on Clean Power by 2030 further underlines the need for SSEN to take a proactive stance on meeting the needs of the communities it serves, particularly around decarbonisation and green growth.

This document is the methodology behind the first series of Strategic Development Plans (SDPs) that detail the future system needs to 2050 across both our higher voltage networks and the lower voltage systems connecting homes and businesses. The resulting SDPs make recommendations for works that need to be delivered and when they are likely to be needed.

In this document, you will find a walkthrough of our approach to producing the SDPs and how they sit alongside the Distribution Future Energy Scenarios (DFES) and Distribution Network Options Assessment (DNOA) publications.

It is critical that we work with stakeholders to develop our strategies and future plans. This document outlines our engagement process to ensure we engage relevant stakeholder communities to discuss their long-term needs. By reviewing the SDPs annually, we ensure the latest available forecasts and stakeholder feedback are incorporated.

We have already published the draft SDP for Ealing Grid Supply Point (GSP) in West London, with more publications to follow (as outlined later). We would encourage that this is read in conjunction with this methodology to provide a clear example of the result when this methodology is applied to a specific network area and the geographic area it serves.

Our vision is an iterative process whereby these SDPs, developed on the back of local plans and insights, will in turn help to shape communities' Local Area Energy Plans and development pathways. We would value your thoughts and input into this methodology, which will enhance the resulting SDPs produced across both of our licence areas.



Andrew Wainwright
Whole Systems Manager

Please do provide feedback on this methodology and thoughts on how we can improve it further.



Who we are and our role as a DSO

The future energy system

If the UK is to deliver its net zero emissions target by 2050, the energy industry needs to embrace fundamental change in order to decarbonise transport and heat.

For this transition to be successful it requires:

- Greater utilisation of **flexible energy resources**, across electricity, heat and transport
- A clear understanding of **the value flexible resources can provide** at any one time
- Greater **real-time coordination in energy system operation** to ensure that flexible resources can be 'optimised' across the energy system as a whole

These services are being provided through functions within the Distribution Network Operators called Distribution System Operators (DSOs), which have three core areas:



- ✓ Our role is to work in partnership to optimise our electricity networks through flexibility services, access products and strategic investment, data, and emerging technology to facilitate decarbonisation of transport and heat at maximum pace, while maximising value for our communities and consumers.
- ✓ Our approach is tailored to local needs to drive a just and fair transition, advising and guiding our stakeholders in coordination with local communities to help them deliver net zero quickly while maximising value and stimulating growth.
- ✓ Our Strategic Development Plans will play a crucial role in delivering network capacity in the most efficient and effective way. This will enable us to **create more** opportunities for flexibility providers to delay reinforcement through flexibility. It also allows us to identify sites with whole system benefits for strategic investment where it can accelerate net zero (and wider economic and social) outcomes in the long term.

Our DSO Toolkit

Connecting customers now through access products

- Provides the capacity on the network to deliver net zero by 2050.
- Ensures that we're making appropriate use of flexibility services to deliver efficient whole-system solutions at the optimum time.

Flexibility services for efficient use of our existing network

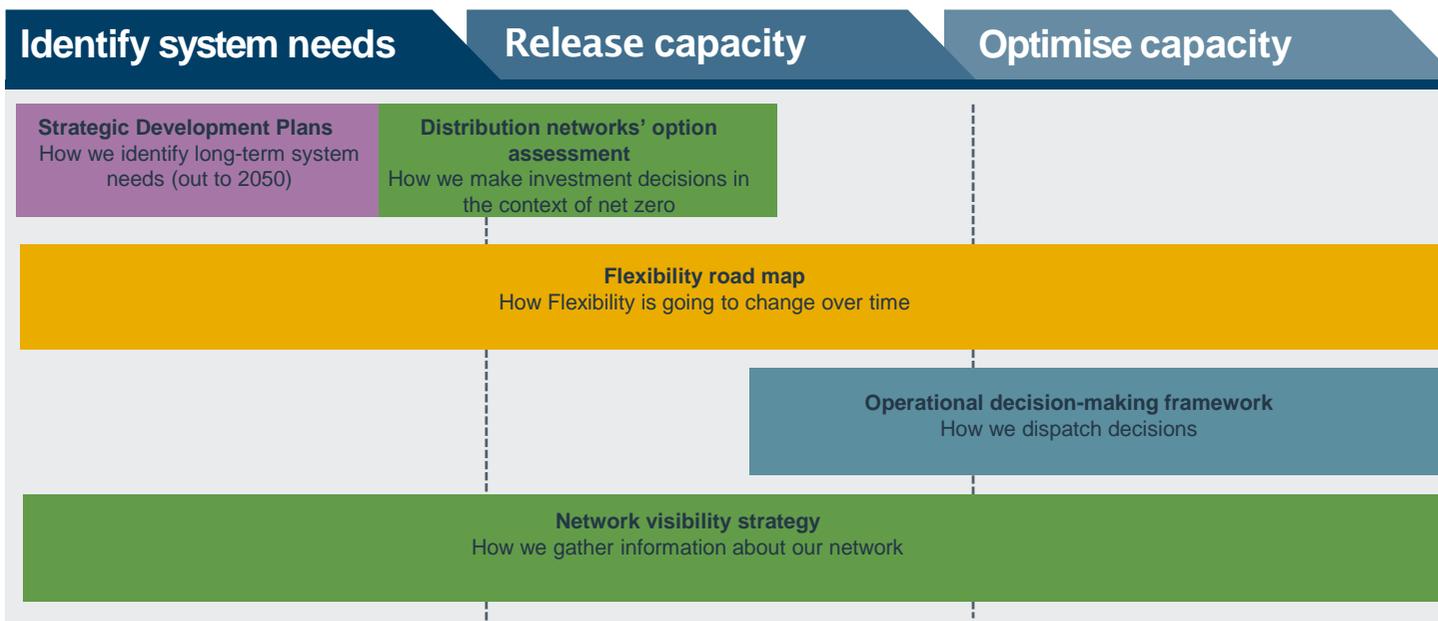
- Solutions that enable us to use our existing network efficiently.
- Act as an investment signal for strategic investment.
- Provide an interim solution if there are long lead times for strategic investment.

Using a strategic approach to investment

- Connecting customers now, but with some level of compromise.
- Complemented by flexibility services or strategic investment to meet customers' full needs as soon as possible.



Delivering our DSO strategy



How we are driving transparency and coordination



This document

Strategic Development Plans (SDPs) bridge the gap between the Distribution Future Energy Scenarios (DFES) and projects entering the Distribution Network Options Assessment (DNOA) process. These plans utilise the DFES and stakeholder insights from local spatial plans to translate forecasts into system needs out to 2050.

This document demonstrates how local plans and stakeholder insights feed into our load forecast and result in system needs identified across the network. The system needs arising from this analysis then feed into the DNOA process when detailed optioneering of the project is required. The documents will be refreshed annually and published on our website.

By producing these plans, we deepen our understanding of our local communities and their needs across our two licence areas. This facilitates better identification of the long-term system impact that will arise from these. It also allows for a strategic view of the network development required to facilitate net zero informed by and informing local spatial plans.

The figure on the left outlines how the Strategic Development Plans fit into our wider DSO functions and services.



Strategic Development Plans as part of our planning process

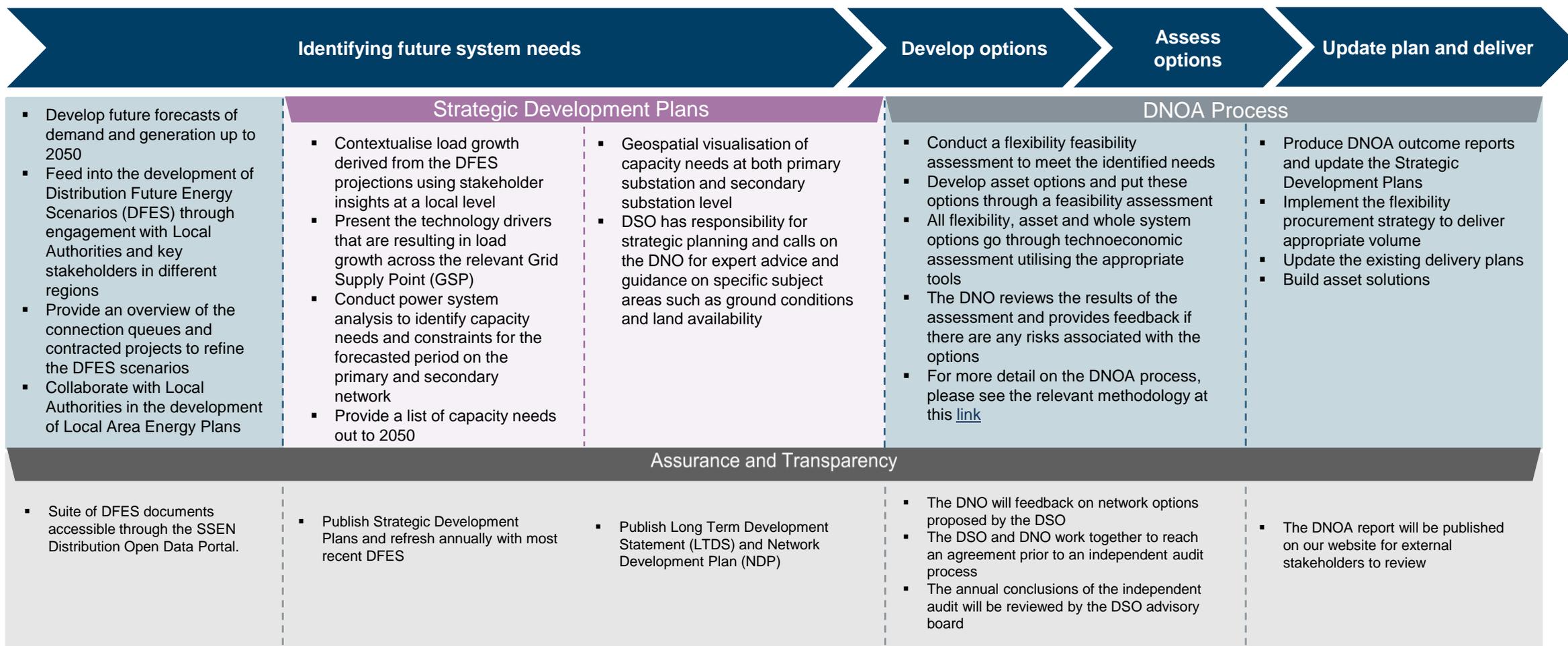
The aim of our planning process is to provide the capacity on the network to deliver net zero by 2050 while retaining a clear focus on safety and reliability. When developing this process, we have considered three factors in our approach:

Ensure that we're making appropriate use of flexibility services to deliver efficient whole system solutions at the optimum time

Consider future investment needs at all voltage levels and the appropriate processes at HV and LV

Stakeholder collaboration to ensure the network develops to meet the needs of our customers of today and tomorrow

Our SDPs build on the DFES and translate these projections to requirements of the distribution electricity system. The diagram below describes how Strategic Development Plans (SDPs) fit into the overall process. Building on prior publications and feeding into the DNOA process allows us to ensure our plans are deliverable and efficient.



Strategic Development Plan Overview

SSEN Distribution is taking a strategic approach in the development of its distribution networks. This will enable net zero at a local level to the homes, businesses, and communities we serve. Further benefits include cost efficient network development that provides energy security. Our SDPs provide a blueprint of long-term electricity system needs that allow us to work with other stakeholders to design and build the local markets and networks they need to decarbonise their power needs and support growth.

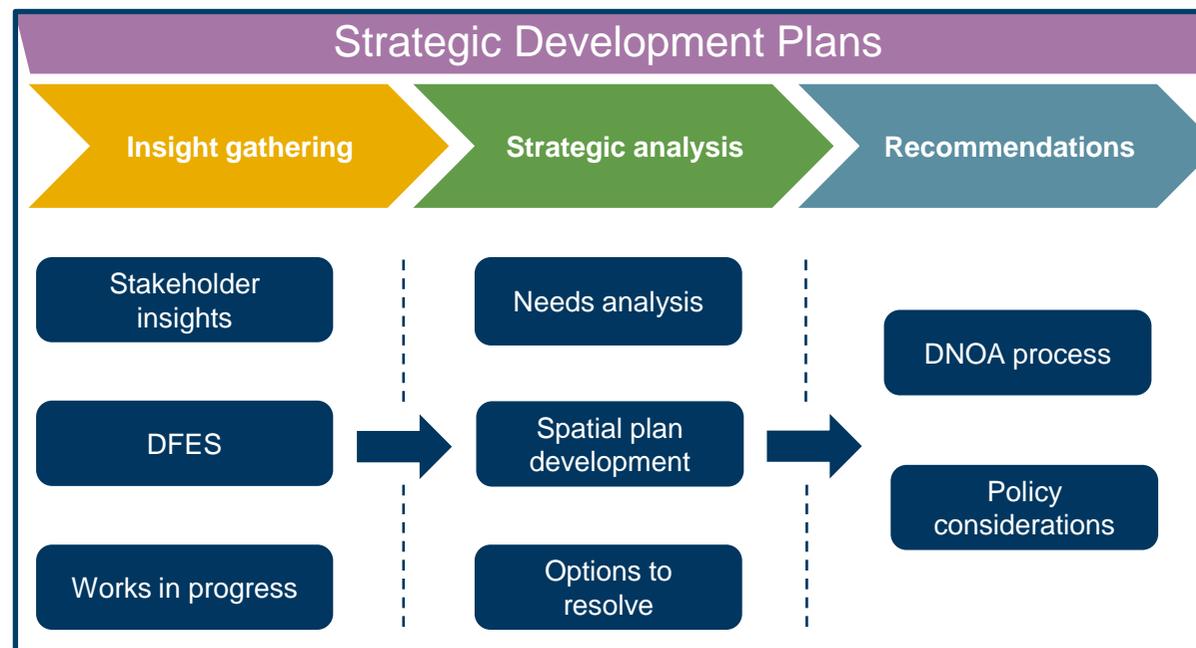
Overview

Our SDPs take the feedback we have gathered from stakeholders on their future energy needs through to 2050 and translate these requirements into plans for the distribution network. This is represented in the insight gathering stage in the diagram to the right.

These help us transparently present our conceptual plans and facilitate discussion with local authorities and other stakeholders on how these could be translated into the local power systems of the future. This is explored in more detail in the strategic analysis section.

SDPs are living plans reviewed on an annual basis as our DFES forecasts are updated. They act as blueprints to assist our connections and planning teams with the future network development. The recommendations from the SDPs allow us to respond swiftly to customer needs with works that form critical components of a long-term plan.

The overall process for the development of these plans is shown to the right. The underlying parts of this process will be introduced in more detail throughout this methodology report.



Gathering insights - stakeholder plans

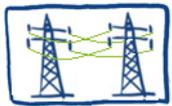
Stakeholder Engagement

We engage closely with Local Authorities across both licence areas to understand their net zero ambitions, their wider development plans, and how the network can help facilitate these ambitions.

Understanding how net zero ambitions differ at a local level is important to allow us to understand where demand and generation is likely to increase and what types of technologies are driving this increase.

To collect these insights, we review published material from local authorities alongside directly engaging through bilateral discussions to ensure we are correctly representing their views and targets.

We are also interested in seeking insights from wider stakeholders including Transmission Operators (TOs), Gas Distribution Networks (GDNs), Water companies, large demand users, and large generation operators. Cross energy vector collaboration is key to enable us to build a more whole system view of the area being studied. This results in plans more representative of the local area and that offer better value to customers.



Networks



Transport



Heat



Demand



Generation



LENZA

The Local Energy Net Zero Accelerator (LENZA) tool is a geospatial planning platform powered by Advanced Infrastructure Technology Limited's (AITL) LAEP+ software. It has been developed through SSEN Distribution's Project RESOP.

LENZA is designed to support users in their strategic energy planning endeavours, including LAEPs and, where relevant, LHEES. The tool empowers users to plan decarbonisation pathways, which in turn drive our longer-term strategic network planning that will power local net zero ambition.

Presently, 57 Local Authorities across the two SSEN Distribution licence areas have been onboarded onto LENZA. Insights shared with SSEN Distribution through the platform will be included in future iterations of the DFES and therefore improve the insights presented within our Strategic Development Plans.

For more information on LENZA and information on how to get involved, please visit this [link](#).

Local context

We operate the network across both a varied customer base and geographies when considering both the SEPD (Southern England) and SHEPD (North of Scotland) regions. Due to this, we see a diverse mix of demand and generation drivers specific to local industries and communities.

This only increases the importance of contextualising load growth through unique stakeholder insight, whether that be through facilitating decarbonisation of distilleries on the Scottish Islands or marine transport on the Isle of Wight. This insight feeds into our SDPs as commentary on how load may develop further outside of the ENA agreed DFES technology building blocks.

The context provided through this helps strengthen our justification for network investment across the regions in which we operate.

Gathering insights – Distribution Future Energy Scenarios

Developing future forecasts

We work closely with stakeholders to understand their future energy needs up to 2050. This includes Local Area Energy Plans (LAEPs) and Local Heat and Energy Efficiency Strategies (LHEES).

Through the Distribution Future Energy Scenarios (DFES) we leverage the national Future Energy Scenarios (FES) alongside these local insights to develop future forecasts for the deployment of generation and low carbon technologies.

We enhance this forecast further in the development of our Strategic Development Plans, engaging with demand and generation customers to understand their specific aspirations to decarbonise. Key insights from larger customers, particularly in the industrial sector, are derived from bilateral conversations.

Our DFES are updated every year based on the Energy System Operator's (ESO's) most recent FES, granular stakeholder insights from agencies such as Local Authorities, and new distribution demand and generation connections.



ESO's most recent FES

What is connected today

Analysis of future pipeline of projects

Stakeholder input

Technology building blocks are then used to form credible scenarios for use in our analytical work to understand the future capacity requirements on the system.

The four DFES 2023 scenarios shown in the diagram to the top right provide a range of potential future scenarios for planning purposes that assess the impact of the net zero energy transition.

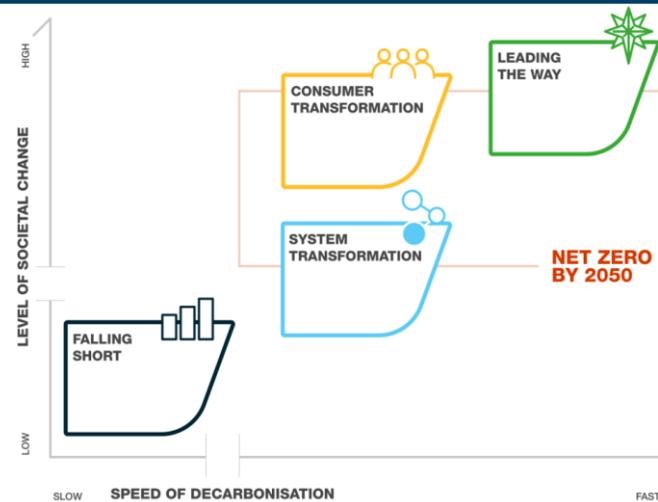


Figure source: ESO Future Energy Scenarios 2023, [link](#)

We consider all four scenarios from a system needs' perspective but currently take 'Consumer Transformation' as a credible 'best view' of future requirements. We use this scenario as the basis of our planning process but test the sensitivity of this model using the other three scenarios. This approach will be reviewed annually in consultation with stakeholders.

Study of the four DFES scenarios mitigates some of the uncertainty of long-term projections by providing four credible decarbonisation scenarios. Allowing us to understand the needs of the distribution network under each of these scenarios.

Going forward, we are embedding vulnerability features into our network planning through the Vulnerability Future Energy Scenarios to help us develop strategic plans that are smart and fair. The most recent FES has moved towards decarbonisation pathways and the next iteration of the DFES will follow this move.

DSO/DNO coordination

- The DSO function will feed into the development of the DFES through engagement with Local Authorities and key stakeholders in different regions.
- The DNO function will provide an overview of the connection queues and contracted projects to refine the DFES scenarios.

Assurance and transparency

Our DFES process is carried out annually by Regen. The findings and methodology are provided on our data portal.

Stakeholder input

SSEN recognises the critical role of local area energy planning and meaningful collaboration with the communities it serves to successfully implement sustainable, long-term network plans aligned with our collective goal of achieving net zero. We have fostered strong relationships with local communities, serving as a foundation for our shared commitment to net zero. Moving forward, we aim to further cultivate these partnerships across our regions, including through any regional planning bodies that arise.

Gathering insights – already committed works

Works in progress

To understand the gap between the network of today and the network of 2050, it is important to understand our baseline following the completion of already triggered works.

We use the Network Development Plan (NDP) to identify projects in progress. This is crosschecked against internal systems to ensure that works triggered since publication of the NDP are included. These changes are then built into the model before constraint analysis is carried out.

By doing this, we are not re-identifying works that have already been triggered but identifying the system needs that must be mitigated to develop a net zero ready network. Following the collation of this information, we are then able to move forward to our strategic analysis.

Drivers for work

There can be various reasons for replacement of assets across the electricity distribution network, including fault level, voltage, thermal overloading, and asset health.

Some works are triggered through a customer connection application while in other cases investment may be proactive strategic investment. In other instances, degrading or aging assets may be replaced as they are no longer fit for purpose.

DSO/DNO coordination

- The DSO function is responsible for identifying and triggering capacity related system requirements.
- The DNO function is responsible for triggering works based on asset health. Design/delivery of work and the operation of the network also sits with the DNO.

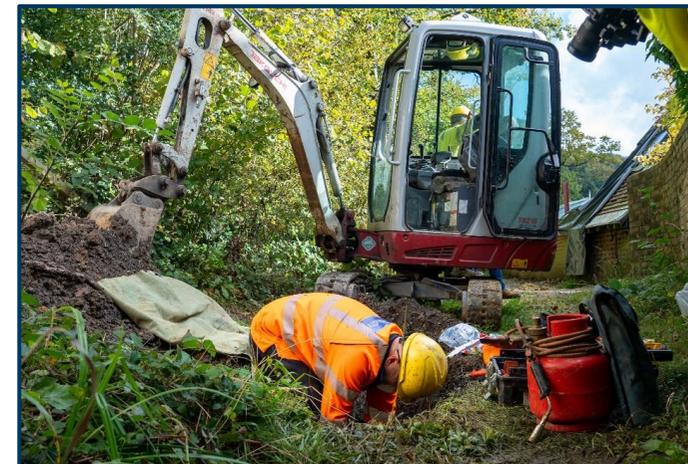
Flexibility Procurement

For more information about flexibility and the services we offer, please see our DSO webpage: [Flexibility - SSEN](#)

Our flexibility first approach has already been successful in procuring a significant amount of flexibility across both the SEPD and SHEPD regions. The requirement for flexibility is often identified through the DNOA process to ensure that we are procuring when and where it is needed. This ensures we're making appropriate use of flexibility services, to deliver efficient and cost-effective whole system solutions at the optimum time.

SDPs initially have limited interaction with flexible procurement due to the long-term nature of the system needs we are projecting (out to 2050).

However, through recommendation of schemes to the DNOA process the SDPs are an early signpost of where specific schemes will be assessed for flexibility viability. You can read more about where we are already targeting flexible services in our most recent DNOA Outcome reports [link](#).



Strategic analysis – needs identification

Constraint Analysis

Based on future forecasts, we use power system analysis to identify capacity needs and constraints for the forecasted period.

On the primary network, this includes a range of assessments including thermal, voltage and fault levels to identify any areas of the network that may be impacted due to the increase in demand and generation.

The large volume of assets at the LV level and the lack of historic measurements makes identifying needs more challenging. Through our network visibility work, we have installed LV network monitoring and enhanced our capabilities to use smart meter data to better inform power flow analysis at EHV, HV and LV. We have access to over two million smart meters in our SEPD and SHEPD regions, collecting and receiving data at a granular level, allowing us to monitor parts of the network previously unseen. This level of visibility allows us to plan with more certainty, and to manage our assets more effectively on our network.

Our SDPs provide a “first pass” network assessment, and subsequent categorisation, which allows us to identify and prioritise constraints. The results of the constraint analysis, along with already committed projects (arising from customer connection applications or engineering justification papers) and insights from our technical experts provide the basis of the Strategic Development Plans.

The needs case identification is triggered annually by the update of the DFES report and capacity needs are forecasted out to 2050, with increasing uncertainty beyond 7-10 years.

Therefore, the needs identified beyond the 7-year time horizon will not routinely go through the DNOA process; instead, they will trigger an update in the SDP and will be reassessed and re-evaluated in the following year. An exception is where when we believe there is a possibility that solutions may require longer than seven years of lead time for design and construction (for example, large substations requiring transmission upgrades).

During the year, we also use SDPs to understand the longer-term needs and may bring elements of the plan forward if driven by customer needs.

Assurance and transparency

Further information on our system needs in the short and medium term can be found in related published information. This includes forecasts for our networks five years in advance (Long Term Development Statement (LTDS)), annual network headroom information (Network Scenario Headroom Report (NSHR)), and infrastructure and flexibility services plans quarterly (Distribution Networks Options Assessment (DNOA)) with biannual summaries (Network Development Report (NDR)).

Transmission interactions

While our SDPs focus on distribution system needs, there is an intrinsic interaction with the transmission system. Even with intervention at the distribution level, there may be further works required on the transmission network to release capacity. SSEN Distribution work closely alongside transmission operators to understand dates for completion of transmission works. Alongside this, innovative solutions have been deployed and will continue to be explored further. An example of this is the ramping solution deployed in West London will enable the connection of 87.7MVA of known projects (as of March 2024).

	Network Development Plans (NDPs)	Long-term Development Statement (LTDS)	DNOA Outcome Report	Strategic Development Plans
Purpose	NDPs consist of Network Development Reports and Network Headroom Reports. They present our best view and three alternative scenarios of network capacity. They draw upon our plans for the RIIO-ED2 Price Control period (2023-2028) and other key publications.	This provides information for assets connecting to the EHV distributed system and the HV busbar of primary substations. It looks at the entire network according to the latest demand forecasts and helps identify potential constraint zones.	This report informs stakeholders, including flexibility providers (FPs), local councils, Ofgem, and DESNZ about our plans for meeting the network needs. It updates FPs on flexibility market opportunities, enhances transparency in our decision-making when looking at network needs, and supports stakeholders in net zero development plans.	The Net Zero Strategic Plans are external-facing documents to communicate long-term plans at a regional level with Local Authorities and other key stakeholders for local area energy planning.
Time Horizon	0-10 years	0-5 years (2028)	0-7 years	Up to 2050

Strategic analysis – spatial plan of future needs

Primary Substation Capacity – Spatial Plans

To understand how we expect demand to grow spatially across primary substations, we leverage the Network Scenario Headroom Report (NSHR) alongside illustrative primary substation supply areas.

Primary substation firm capacity is compared against the DFES projections coupled with accepted jobs at the time of NSHR production (published annually in May). This is completed across all four DFES scenarios and every year out to 2050 and then at 5-year intervals out to 2050. These values are then joined with our illustrative primary substation electricity supply areas so that capacity is spatially visualised across the area relevant to the SDP. Darker shades of blue represent a larger capacity shortfall (more negative) whereas lighter shades of blue indicate either headroom or a small capacity shortfall.

This allows a more holistic view of network capacity across the licence area so that strategic planning decisions can be made without considering each different system need in isolation.

Secondary Substation Capacity – Spatial Plans

To understand how we expect demand to grow spatially across secondary substations, we leverage the SSEN load model.

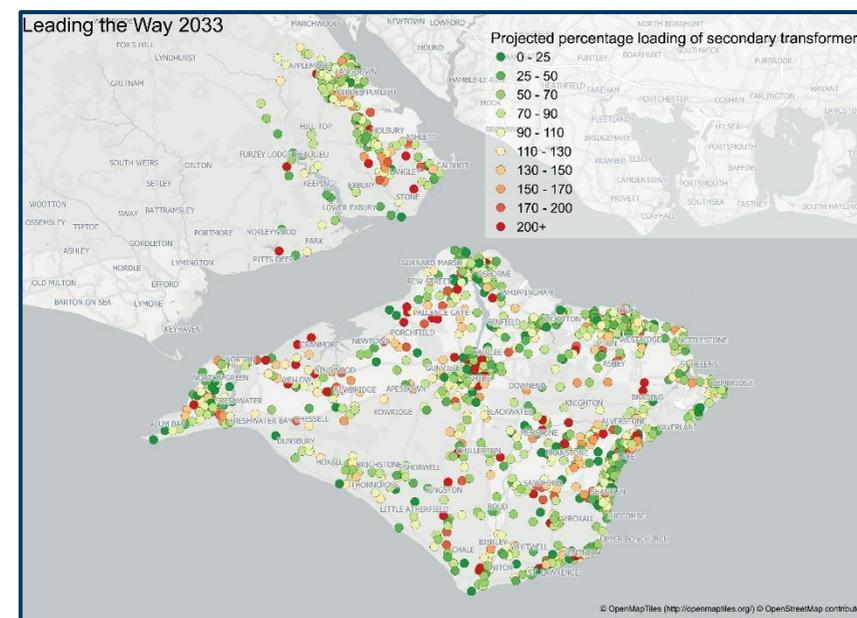
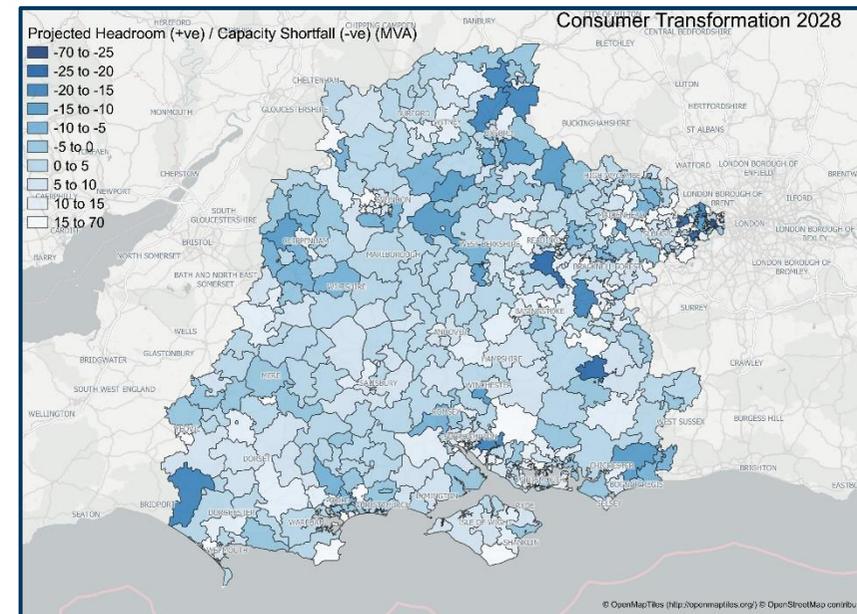
Secondary transformer rating is compared against projected demand at each specific secondary substation to determine the percentage loading. The projected demand is based on a series of demographic, geographic and heating type factors. This is then supplemented with high granularity DFES projections for the uptake of Low Carbon technologies (LCTs) such as heat pumps or electric vehicle (EV) chargers.

These figures then allow us to understand how demand is expected to grow spatially across our High Voltage (HV) and Low voltage (LV) networks. Often volume drives these demand increases, and this can be seen through clustering of higher loaded secondary transformers around population centres.

Every secondary transformer is represented across both urban and rural network areas to ensure that no customers are left behind.

Assurance and transparency

All data sources used to produce these spatial plans are available through the SSEN Distribution Open Data Portal.



Strategic analysis – options to resolve

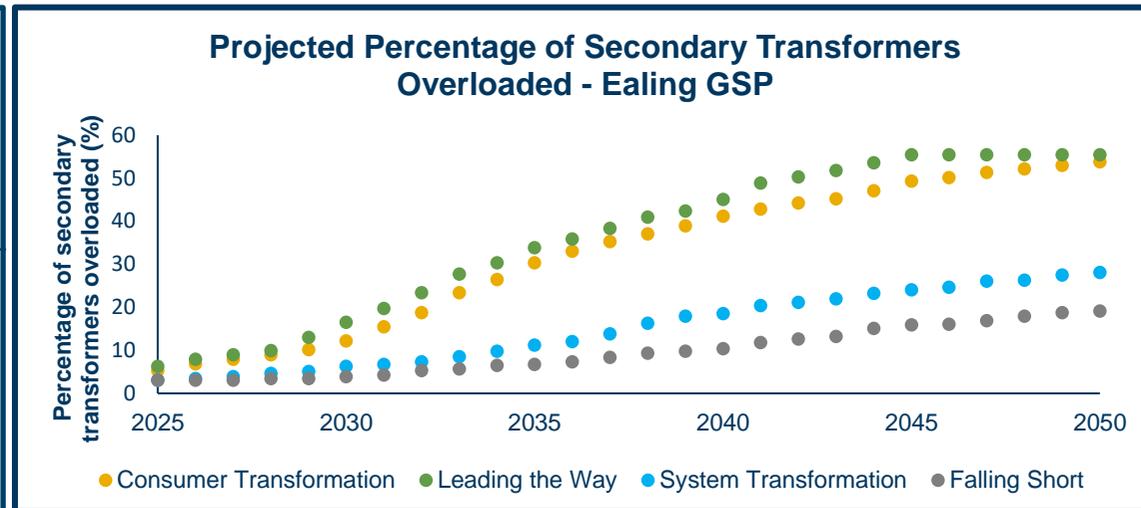
Options to resolve

As introduced earlier, a key part of the SDPs is a high-level description of what can be done to resolve the system need.

Understanding when constraints are projected to arise across an entire Grid Supply Point (GSP) area means that complementary solutions can be proposed. This prevents each system need being considered in isolation.

At the Extra High Voltage (EHV) level, a high-level, indicative solution may be introduced in the SDP. The DNOA process will assess specific works and study whether a flexible solution is viable in the near term. Through identification of these long-term needs the SDP aims to bridge the gap between our DFES projections and detailed development through the DNOA process. It also provides another opportunity for stakeholder views to further ensure we are developing solutions which work for our customers.

At the HV/LV levels, SDPs do not identify individual needs but instead use volume to indicate which GSPs are likely to be high priority areas. The chart on the right provides an illustrative example.



Recommendations – timeline

RECOMMENDATIONS

0-7 Years

System needs projected in this timeframe will be recommended for detailed development through the DNOA process.

As described in the DNOA methodology, both flexibility and asset solutions will be considered with the option providing the most benefit to customers being progressed.

Ahead of 2035

System needs projected in this timeframe will only be recommended for detailed development if the scheme is complex and may take >7 years to deliver.

Otherwise, the need will remain within the SDP, and we can reference these if developments are needed in shorter timeframes.

2035 onwards

Given the inherent uncertainty in long-term forecasts, we do not action the delivery of system needs projected in the long-term.

Where these works raise questions over existing policy it may help with development of future policy or longer-term strategy decisions.

For example, treatment of generation flexible connections or continued use of legacy voltages (22kV).

Timeline for SDP Production

Strategic Development Plans will be refreshed annually with the most up to date insights. As this is the first year of production, there is an illustrative timeline for publication of these documents ahead of summer 2025 when the first annual cycle will be complete.

Autumn 2024	Winter 2024/25	Spring 2025	Summer 2025
<ul style="list-style-type: none"> • Ealing (SEPD) • Fawley (SEPD) • Skye & Western Isles (SHEPD) • Port Ann (Islay & Jura, Colonsay) (SHEPD) • Taynuilt (Mull, Coll, Tiree) (SHEPD) • Thurso South (SHEPD) • Cowley (SEPD) • Shetland (SHEPD) • Kintore (SHEPD) • North Hyde (SEPD) • Iver 132kV (SEPD) • Fort Augustus (SHEPD) 	<ul style="list-style-type: none"> • Keith (SHEPD) • Fleet (SEPD) • Beaully (SHEPD) • Lovedean (SEPD) • Errochty (SHEPD) • Mannington (SEPD) • Iver 66kV (SEPD) 	<ul style="list-style-type: none"> • Melksham (SEPD) • Nursling (SEPD) • Laleham (SEPD) • Inverarnan (SHEPD) • Bramley (Thatcham) (SEPD) • Willesden (SEPD) • Tealing (SHEPD) • Bramley (Basingstoke) (SEPD) • Axminster (SEPD) • Minety (SEPD) • Amersham (SEPD) • Mybster (SHEPD) • Dounreay (SHEPD) • Tomatin (SHEPD) 	<ul style="list-style-type: none"> • Botley Wood (SEPD) • Peterhead (SHEPD) • Braco (SHEPD) • East Claydon (SEPD) • Chickerell (SEPD)

Prioritisation

For the first year of SDP production, the plans will be rolled out until all SDPs have had the first iteration published by summer 2025. To determine prioritisation of SDPs a variety of factors have been considered.

Some examples include (not an exhaustive list):

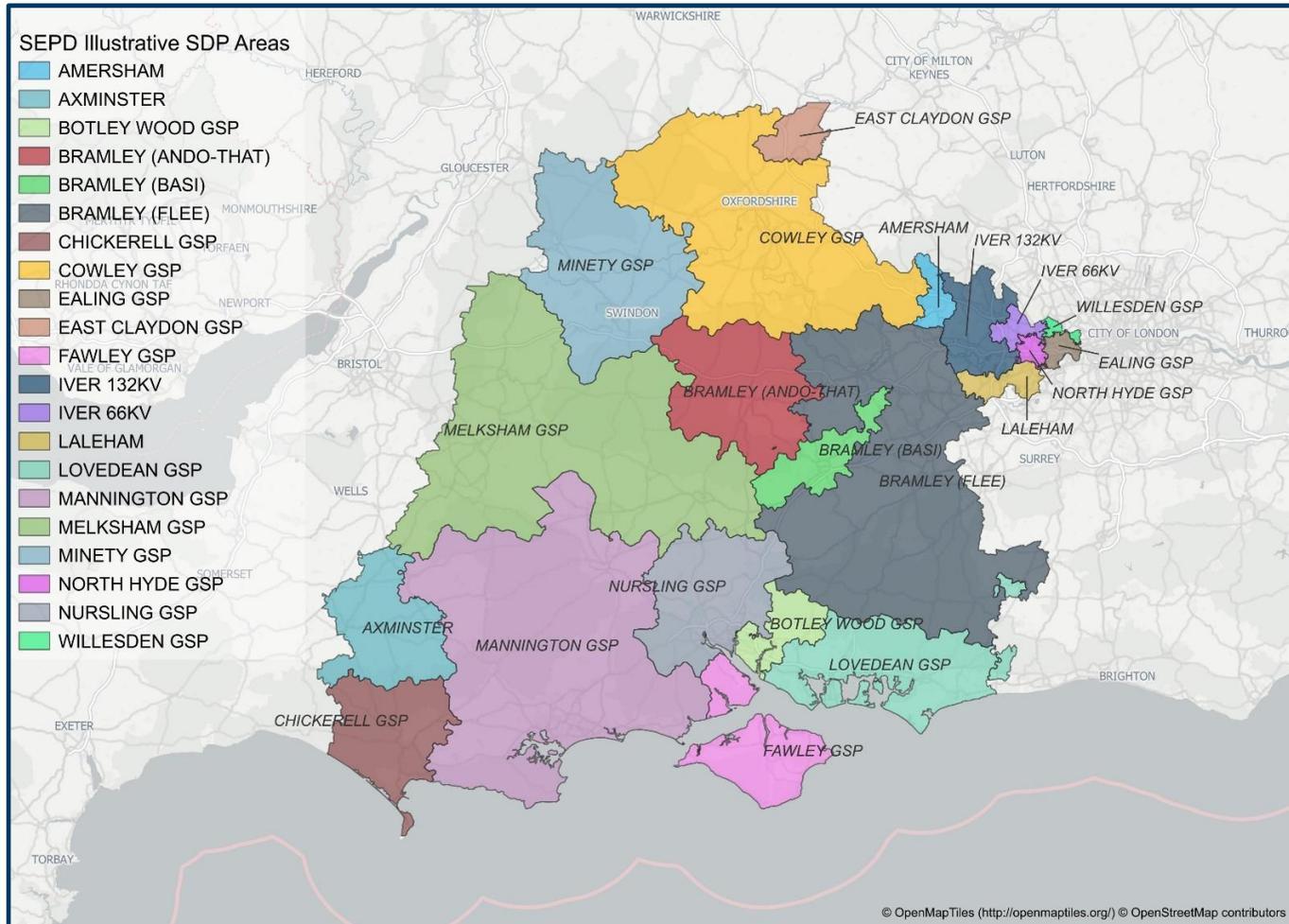
- Number of customers supplied
- Value of triggered load related projects
- Local Authority ambition and energy planning progress
- Connections activity

Aligning boundaries - SEPD

Aligning boundaries

We appreciate the challenge of aligning network areas to local boundaries. Each SEPD SDP covers a specific Grid Supply Point (GSP). To make these areas more accessible we have referenced each SDP to the relevant Local Authorities.

Please see the table to the right for SEPD SDPs and the relevant Local Authorities. Please see the map below for an illustrative coverage area of each SDP.



SDP	Relevant Local Authorities
Amersham	Buckinghamshire, Windsor and Maidenhead
Axminster	Dorset, Somerset
Botley Wood GSP	Eastleigh, Fareham, New Forest, Southampton, Winchester
Bramley (ANDO-THAT)	Basingstoke and Deane, Vale of White Horse, West Berkshire
Bramley (BAS1)	Basingstoke and Deane, Hart, Wokingham
Bramley (FLEE)	Basingstoke and Deane, Bracknell Forest, Chichester, East Hampshire, Guildford, Hart, Horsham, Reading, Runnymede, Rushmoor, South Oxfordshire, Surrey Heath, Waverley, West Berkshire, Winchester, Windsor and Maidenhead, Wokingham
Chicherell	Dorset
Cowley	Buckinghamshire, Cherwell, Cotswold, Oxford, South Oxfordshire, Vale of White Horse, West Oxfordshire
Ealing	Ealing, Hounslow
East Claydon	Cherwell
Fawley	Isle of Wight, New Forest
Iver 132kV	Buckinghamshire, Hillingdon, Slough, Spelthorne, Windsor and Maidenhead
Iver 66kV	Ealing, Hillingdon
Laleham	Hounslow, Runnymede, Spelthorne, Windsor and Maidenhead
Lovedean	Arun, Chichester, East Hampshire, Fareham, Gosport, Havant, Portsmouth, Winchester
Mannington	Bournemouth, Christchurch and Poole, Dorset, New Forest, Wiltshire
Melksham	Basingstoke and Deane, Somerset, Test Valley, Wiltshire
Minety	Cotswold, Swindon, Vale of White Horse, West Oxfordshire, Wiltshire
North Hyde	Ealing, Hillingdon, Hounslow
Nursling	Eastleigh, New Forest, Southampton, Test Valley, Winchester
Willesden	Ealing

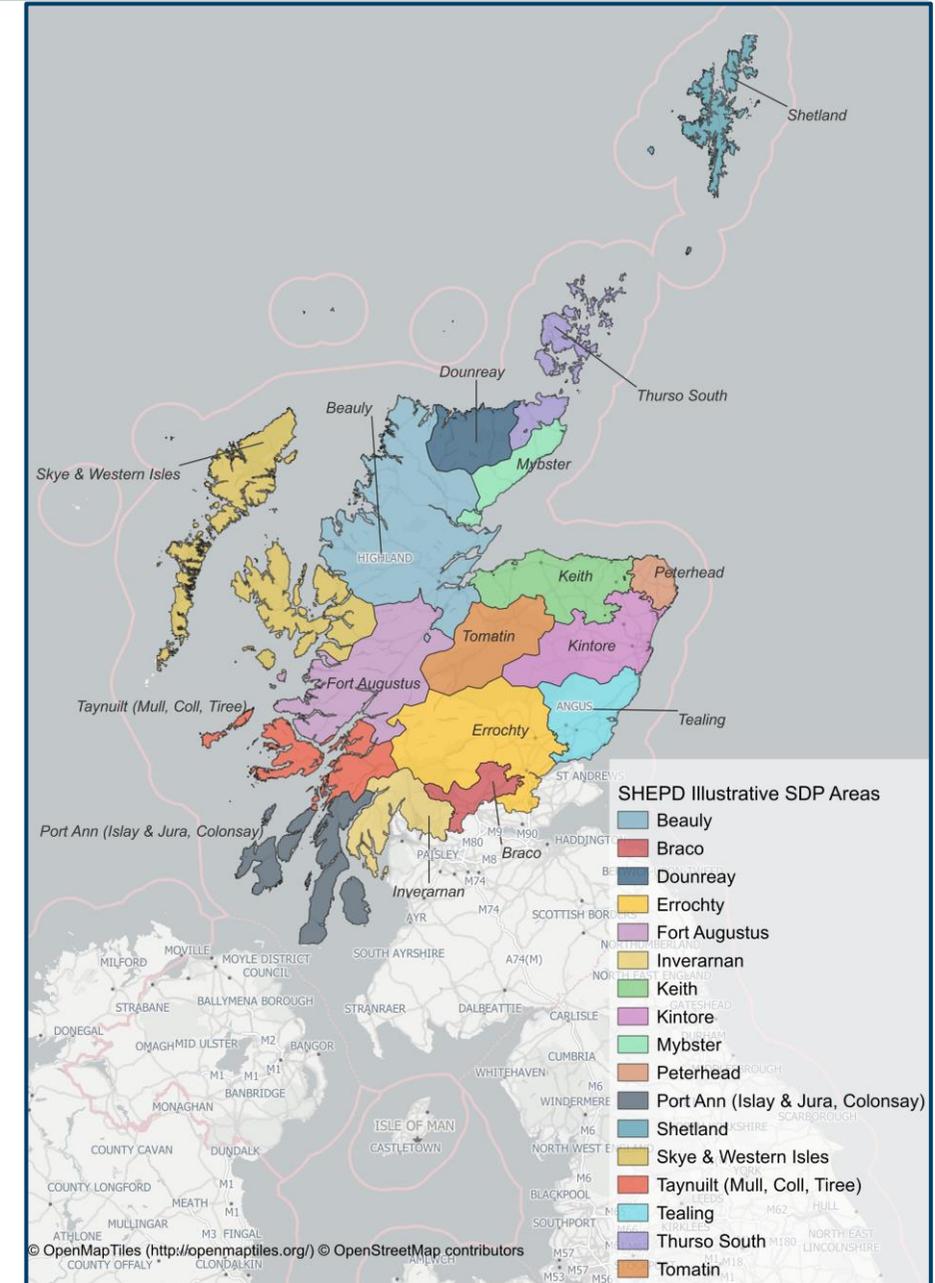
Aligning boundaries - SHEPD

Aligning boundaries

We appreciate the challenge of aligning network areas to local boundaries. Each SHEPD SDP covers an area served by a specific part of the network. To make these areas more accessible we have referenced each SDP to the relevant Local Authorities.

Please see the table below for SHEPD SDPs and the relevant Local Authorities. Please see the map to the right for an illustrative coverage area of each SDP.

SDP	Relevant Local Authorities
Beaully	Highland
Braco	Perth and Kinross, Stirling
Dounreay	Highland
Errochty	Angus, Clackmannanshire, Perth and Kinross, Stirling
Fort Augustus	Highland
Inverarnan	Argyll and Bute, Stirling, West Dunbartonshire
Keith	Aberdeenshire, Moray
Kintore	Aberdeen City, Aberdeenshire
Mybster	Highland
Peterhead	Aberdeenshire
Port Ann (Islay & Jura, Colonsay)	Argyll and Bute, North Ayrshire
Shetland	Shetland Islands
Skye & Western Isles	Highland, Na h-Eileanan Siar
Taynuilt (Mull, Coll, Tiree)	Argyll and Bute
Tealing	Aberdeenshire, Angus, Dundee City
Thurso South	Highland, Orkney Islands
Tomatin	Highland, Moray





Engaging with our stakeholders

✓ Listening to our stakeholders

We have engaged with a range of stakeholders throughout the process of refreshing our DSO strategy in October 2023. From flexibility providers to the ESO and Local Authorities, we have captured the voices of a range of relevant stakeholders on our future plans and defined our priorities based on their preferences.

The key activities and insights that have fed into our Strategic Development Plan methodology include:

- Engaging with stakeholders on transparency and assurance, managing uncertainty in our decision-making, and how they want to be involved in our processes.
- Outlining our ambition to embed strategic investment in our strategy and the benefits of it as part of the DSO strategy. We heard from our stakeholders about focusing on delivering network visibility, identifying system needs, transparent options assessment and whole system planning.

As such, we are engaging with our stakeholders on our draft SDPs before final publication through a consultation process. Our aim is to ensure that we have SDPs, supported by stakeholders and informed by their insights, that serve as blueprints for our network.

✓ Our consultation process

We will be consulting on each of our 38 SDPs in a staged manner, and have already consulted on our first, Ealing GSP SDP, to test our approach.

Each consultation will last for a minimum of 21 calendar days, and we will release consultations in batches. Our stakeholder engagement portal, which can be found [here](#), will be our primary method of collecting feedback. Each consultation will consist of a few non-mandatory questions to guide participants, with the answers to these being free text with no word count limit. The final question will invite stakeholders to tell us anything else they would like to add. Accompanying the survey on the stakeholder engagement portal will be the consultation documents. This includes the draft SDP, SDP methodology, and a stakeholder personas summary document.

We recognise that not all our stakeholders are equipped with knowledge of electricity networks to support their sharing of insights. As such, we are hosting a webinar to explain our SDP programme and offering bilateral meetings where relevant. The webinar will be recorded and made available on our stakeholder engagement portal.

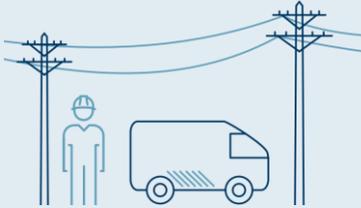
Stakeholder personas

The customer journey and personas are essential tools to guide us in developing customer-centric approaches, tailoring our services to meet the specific needs of different stakeholder groups, and identifying opportunities to improve our approach.

- Our nine customer personas represent specific stakeholder groups with unique characteristics, needs, and challenges related to the DSO customer journey. The personas help us understand the diverse range of our customers and stakeholders. We're then able to design tailored initiatives, products, and services to address their specific needs and deliver relevant benefits.
- In the tables on subsequent pages, we have identified the needs of each customer persona specifically related to the Strategic Development Plan programme, why SDPs are important, and parts of our SDPs where we would particularly welcome stakeholder insights.
- Further information on our DSO stakeholder personas can be found [here](#).

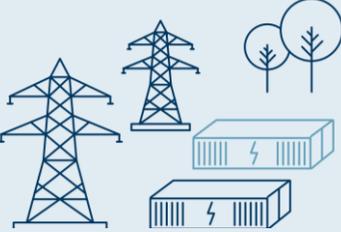
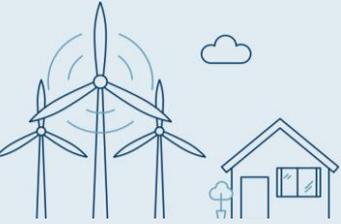


Engaging with our stakeholders

Customer persona and summary of needs	Use cases for Strategic Development Plans	
<p>System and Network Operator</p>  <ul style="list-style-type: none"> To understand the bigger whole system picture, exchange data and align plans between ESO and DSO 	<p>Find information on...</p> <ul style="list-style-type: none"> Distribution-level low carbon technology projections in the area, and how we plan to manage long-term system needs. 	<p>Tell us about...</p> <ul style="list-style-type: none"> Any Transmission-level plans at the GSP, and opportunities for improved T/D coordination.
<p>Commercial business</p>  <ul style="list-style-type: none"> To understand the bigger whole system picture, to align plans To understand future constraints on the network, how constraints may affect a connection Ability to connect and operate LCTs flexibly 	<p>Find information on...</p> <ul style="list-style-type: none"> How much new commercial floorspace we're forecasting will connect in your area. Early indications for where we may be assessing flexibility options and where your commercial sites or onsite battery storage may be able to participate. 	<p>Tell us about...</p> <ul style="list-style-type: none"> Any significant long-term load increase or decarbonisation plans for sites supplied by this GSP.
<p>Local Authority/council</p>  <ul style="list-style-type: none"> To understand the whole system picture to align all future plans To understand future constraints on the network DNO needs for infrastructure investment Support for developing Local Area Energy Plans Align plans and opportunities for EV charging points and LCT connections plans 	<p>Find information on...</p> <ul style="list-style-type: none"> How your Local Plan, LAEPs, and LHEES inform our forecasts and stakeholder insights. Where we're targeting near- and longer-term investment to help inform project delivery timelines for energy assets and low carbon technology rollout. 	<p>Tell us about...</p> <ul style="list-style-type: none"> Any local development or decarbonisation plans we may have missed. How we can best coordinate with you if/when we need to expand or acquire substation sites.



Engaging with our stakeholders

Customer persona and summary of needs	Use cases for Strategic Development Plans	
<p>Battery storage owner</p>  <ul style="list-style-type: none"> Information about current and future network constraints Reliable flexibility forecasts to plan future investments and market participation 	<p>Find information on...</p> <ul style="list-style-type: none"> Early indications for where we may be assessing flexibility options and where your battery storage may be able to participate. Where we're targeting near- and longer-term investment to help inform project delivery timelines for energy assets. 	<p>Tell us about...</p> <ul style="list-style-type: none"> Any significant long-term load increase or expansion plans for sites supplied by this GSP.
<p>Large energy user</p>  <ul style="list-style-type: none"> Information about current and future network constraints To be aware of developments in local area energy plans 	<p>Find information on...</p> <ul style="list-style-type: none"> How new developments and net zero aspirations from your local area inform our forecasts and stakeholder insights. Where we're targeting near- and longer-term investment based on identified system needs. 	<p>Tell us about...</p> <ul style="list-style-type: none"> Any significant long-term load increase or decarbonisation plans for sites supplied by this GSP.
<p>Distributed generation customer</p>  <ul style="list-style-type: none"> Information about current and future network constraints Reliable flexibility forecasts to plan future investments and market participation 	<p>Find information on...</p> <ul style="list-style-type: none"> The volume of LCTs we're forecasting in your area, and how we're planning the network to accommodate it. Early indications for where we may be assessing flexibility options and where your energy assets may be able to participate. 	<p>Tell us about...</p> <ul style="list-style-type: none"> Any significant long-term load increase or expansion plans for sites supplied by this GSP.



Engaging with our stakeholders

Customer persona and summary of needs	Use cases for Strategic Development Plans	
<p>Aggregator</p>  <ul style="list-style-type: none"> Information about current and future network constraints Coordination between system operators 	<p>Find information on...</p> <ul style="list-style-type: none"> Early indications for where we may be assessing flexibility options, at primary substation level and above, and where you may be able to provide services. The volume of secondary substations where we may need to procure flexibility services. 	<p>Tell us about...</p> <ul style="list-style-type: none"> Insights on the local flexibility market.
<p>Domestic customer</p>  <ul style="list-style-type: none"> A reliable power supply that can easily connect to an electric vehicle (EV) or other low carbon technology To understand how flexible solutions could help bring energy bills down and provide opportunities to earn money by trading capacity/energy Simple installation of LCTs without long wait times 	<p>Find information on...</p> <ul style="list-style-type: none"> How much capacity we forecast will be required for domestic-scale LCTs, and how we plan to provide it High-level indications of which areas of our low voltage network may require flexible solutions from domestic-scale LCTs 	<p>Tell us about...</p> <ul style="list-style-type: none"> How we can ensure that our network plans best support your requirements.
<p>Vulnerable customer</p>  <ul style="list-style-type: none"> Reliable power supply Guidance in network expansion and integration of solar panels 	<p>Find information on...</p> <ul style="list-style-type: none"> How much capacity we forecast will be required for domestic-scale LCTs, and how we plan to provide it 	<p>Tell us about...</p> <ul style="list-style-type: none"> How we can ensure that our network plans best support your requirements.



Engaging with our stakeholders

✓ How we communicate with stakeholders

Having identified our stakeholder groups through the personas, we have created a distribution list to send bulk communications about our live SDP consultations.

The distribution list consists of stakeholders outlined by the personas we have identified. In the case of the domestic and vulnerable customer personas, we have included consumer advocacy groups to represent their needs. We will inform all stakeholders on the distribution list of all SDP consultations to ensure that it is stakeholders who choose which consultations are relevant to them. We are, however, cognisant of the risk of stakeholder fatigue; as such, we will be releasing consultations in batches to limit the number of communications we send.

Our team of Net Zero Engagement Specialists will also advise certain stakeholders directly. They have been building relationships with local authorities and other stakeholders whose development and decarbonisation plans will have a significant impact on our network.

We will also make use of our social media channels to help us engage even more widely.

✓ What we do with your feedback

We anticipate that feedback from stakeholders will consist of:

- Further information requests
- Feedback on data
- Feedback on how information is presented
- Feedback on methodology/decisions

Further to this, given that SDPs provide visibility of other aspects of our internal processes, such as the DFES, we expect to receive feedback from stakeholders that goes beyond the immediate scope of our SDP. In these cases, we will pass on feedback to the relevant internal stakeholders.

Feedback we receive related to the SDP will be analysed and acted upon according to the RICE (reach, impact, confidence, and effort). This is a way of objectively evaluating stakeholder feedback, allowing us to prioritise actions. Any notable changes made will be highlighted in the final published SDP.



Engaging with our stakeholders



Sign up to our SDP distribution list [here](#).



Access SDP consultations [here](#) and final SDP reports [here](#).



Questions or feedback? Get in touch with us at whole.system.distribution@sse.com.

✓ What are we planning to do in the future?

SSEN is focused on delivering for the communities we serve and doing our part to ensure a just energy transition.

We understand that any evolution of electricity market governance arrangements must serve the needs of all stakeholders and customers, including the most vulnerable.

At every stage of development, we are taking time and care to consider how any changes to the way we manage the electricity distribution system may impact the most vulnerable in our society. We encourage community stakeholders to engage with us in this process, which has the potential to deliver savings for all customers, including vulnerable customers and communities, while also driving the journey towards net zero.

We will annually refresh our Strategic Development Plans methodology document and publish the updated plans across an annual cycle. We look to get stakeholders' input on our overall SDP process as well as the level of detail and the granularity we provide in the SDPs.



Want to know more?

Topic	Last update
Forecasting the future of our network. Link to our DFES report	Updated annually
Network capacity information and constraints Link	NDR Updated bi-annually NHR and LTDs Updated annually
Local area energy planning support. Sign-up to LENZA	Onboarding support for LENZA users
Flexibility tenders and documents. Link	Updated periodically
Outcomes of our DNOA process	Published periodically

ENGAGE WITH US

For any queries or to request further information, please contact us on:



stakeholder.engagement@sse.com



www.ssen.co.uk



twitter.com/ssencommunity



facebook.com/ssencommunity



linkedin.com/company/ssencommunity



[Sign up for our DSO newsletter](#)

Scottish and Southern Electricity Networks is a trading name of: Scottish and Southern Energy Power Distribution Limited Registered in Scotland No. SC213459; Scottish Hydro Electric Transmission plc Registered in Scotland No. SC213461; Scottish Hydro Electric Power Distribution plc Registered in Scotland No. SC213460; (all having their Registered Offices at Inveralmond House 200 Dunkeld Road Perth PH1 3AQ); and Southern Electric Power Distribution plc Registered in England & Wales No. 04094290 having their Registered Office at No.1 Forbury Place 43 Forbury Road Reading RG1 3JH which are members of the SSE Group



**Scottish & Southern
Electricity Networks**

DSO Powering Change



Glossary

Term	Description
Aggregators	A new type of energy service provider which can increase or moderate the electricity consumption of a group of consumers according to total electricity demand on the grid.
BSP	Bulk Supply Point.
CMZ	Constraint Managed Zones . These zones make use of technologies providing flexibility to alleviate network constraints, deploying them as an alternative to traditional network reinforcement in the management of peak demand.
Data triage	Systematically find issues which should inhibit open data, identify the 'least impact' mitigation technique(s) and make the process transparent.
Decarbonisation	Reducing the carbon intensity in terms of emissions per unit of electricity generated.
DER	Distributed Energy Resources. Any resource on the distribution system that produces or stores electricity. This can include distributed generation, storage, heat pumps and electric vehicles as well as other technologies.
DFES	Distribution Future Energy Scenarios
DNO	Distribution Network Operator
DNOA	Distribution Network Options Assessment
DSO	Distribution Systems Operator. The directorate within SSEN that supports a more flexible network operation. Uniquely placed to ensure simple and consistent access to new markets for our active customers through maximising the utilisation of our existing electrical and communication networks.
ENA	Energy Networks Association
	Electric Vehicle
ESO	Electricity System Operator. The electricity system operator for Great Britain, making sure that Great Britain has the essential energy it needs by ensuring supply meets demand.
FES	Future Energy Scenarios. ESO produced scenarios represent different, credible ways to decarbonise our energy system as we strive towards the 2050 target.
FCO	First Circuit Outage. Conditions following loss of a circuit from the intact network.
FSO	Future System Operator. Ofgem intend to set up an expert, independent FSO with responsibilities across both the electricity and gas systems and the ability to expand its remit to additional energy vectors when needed. The FSO will be in the public sector, with operational independence from government.
GDN	Gas Distribution Network
GSP	Grid Supply Point
GW	Gigawatt
HV	High Voltage
IDNO	Independent Distribution Network Operator
kWh	Kilowatt hour

Term	Description
LAEP	Local Area Energy Plan. A data-driven and whole energy system, evidence-based approach that sets out to identify the most effective route for the local area to contribute towards meeting the national net zero target, as well as meeting its local net zero target.
LCT	Low Carbon Technologies
LENZA	Local Energy net zero Accelerator. SSEN's tool for supporting local authority LAEPs.
LHEES	Local Heat and Energy Efficiency Strategy.
LTDS	Long Term Development Statements. Designed to help to identify and evaluate opportunities for entering into arrangements with us relating to use of system or connection.
LV	Low Voltage
MW	Megawatt
NDP	Network Development Plan
NeRDA	Near Real-Time Data Access
NIA	Network Innovation Allowance
Open Data	Data in a machine-readable format that can be freely used, shared and built on by anyone, anywhere, for any purpose.
PSS	Primary Substation
RIIO-ED2	Current price control for Electricity Distribution (2023-2028)
RESOP	Regional Energy System Optimisation Planning.
RESP	Regional Energy Strategic Planner.
SCO	Second Circuit Outage. Loss of a circuit during the event of an already planned or unplanned network outage,
SDP	Strategic Development Plan
SEPD	Southern Electric Power Distribution
SHEPD	Scottish Hydro Electric Power Distribution
SIF	Strategic Innovation Fund
SME	Small Medium Size Enterprise
SSEN	Scottish and Southern Electricity Networks
TO	Transmission Owner
TOM	Target Operating Model
VFES	Vulnerability Future Energy Scenarios