



# **SSEN DISTRIBUTION FLEXIBILITY SERVICES**

Procurement Statement

28/03/2024



**Scottish & Southern**  
Electricity Networks



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# EXECUTIVE SUMMARY

Scottish and Southern Electricity Networks (SSEN) Distribution<sup>1</sup> follows a 'Flexibility First' approach, meaning that Flexibility Services and Flexible Solutions (such as Access Products) are always considered first in the management of our networks. The use of flexibility enables us to improve efficiency through greater utilisation of existing and new network assets. How we plan to develop and evolve these tools is outlined in our Flexibility Roadmap<sup>2</sup>.

Flexibility means that we are better placed to accommodate the rapid growth in connections requests and installation of low carbon technologies, such as electric vehicles and heat pumps. We combine flexibility with an intentional approach to network investment, aiming to ensure all our decisions are economically efficient and enable the transition to net zero. To demonstrate our commitment to Flexibility Services we have a target of 5 GW cumulative capacity of flexibility procured over the five-year RIIO-ED2 price control.

In 2023/24 we have tendered for 620 MW of flexibility through three procurement rounds and have also closed procurement on 77.47 MW from procurement rounds in previous years. We introduced a global call for Flexibility Services across both our license areas to support Flexibility Service Providers (FSPs) who have multiple small assets such as those supplying Demand Side Response (DSR) services. We have successfully signed 8 providers to our Overarching Agreement: 8 in Southern Electric Power Distribution (SEPD) and 3 in Scottish Hydro Electric Power Distribution (SHEPD). Following positive feedback from FSPs we will continue the approach of Overarching Agreements and specific bidding rounds in the financial year 2024/25. Full information on procurement activity in 2023/24 will be available in our Procurement Report published 1<sup>st</sup> May.

In this document, we outline the Flexibility Services we expect to procure during the 12-month period commencing on 1<sup>st</sup> April 2024. We include the timelines for this procurement activity and information on where we foresee changes to our approach. We also provide details on areas where we will assess the technical need and economic benefit of Flexibility Services, potentially providing further opportunities for flexibility.

In 2023/24 we successfully attracted new FSPs to participate in our services and look to continue to do so going forward. We will carry out a minimum of two mini-competitions, which will give new FSPs an opportunity to sign our Overarching Agreement. These are expected to commence in May and September, but small changes in these timescales may occur to accommodate the implementation of our new market platform.

In addition to the mini-competitions, we will run at least five bidding rounds for FSPs with whom we already have Overarching Agreements. This will be a mix of longer- and shorter-term bidding rounds. The full timetable for these can be found in Appendix 4. In our first bidding round in May 2024, we intend to procure at least 93.9 MW of new services across 14 zones. The August bidding round is expected to be open to all those with existing Overarching Agreements and those who participate in the Spring mini-competition. We currently aim to procure at least 21 MW in 10 zones in this tender.

One of the key barriers to the use of Flexibility Services to manage network constraints efficiently and reliably across our networks is market liquidity, which has historically been very low. This is particularly true of our Northern license area, where the rural nature and lower uptake of low carbon technologies makes aggregation more challenging. Our approach to procurement therefore focuses on the need to engage more FSPs and to improve access to our flexibility markets. As such, in 2024/25 we will move to using a new market platform for our Flexibility Services, for which we are currently tendering. This market platform will complement our use of Flexible Power for dispatching services and should significantly simplify participation in our procurement processes by allowing submission of key information using Application Programming Interfaces (APIs) as well as

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<sup>1</sup> SSEN Distribution covers our two licensed electricity distribution network areas, Scottish Hydro Electric Power Distribution (SHEPD) and Southern Electric Power Distribution (SEPD).

<sup>2</sup> <https://ssen.tractivity.co.uk/images/blob/ac891aaa-7036-4ec1-9e9e-cb33fdfe50c9/SSEN-flexibility-roadmap-draft-0.2.pdf>



directly in the portal. We have carefully specified our market platform requirements to reduce barriers for FSPs, however we do anticipate some initial challenges as we move to the new platform. This move will require updates to our service terms in our Overarching Agreement and for FSPs to become familiar with the new system. The dates therefore for our first few bidding rounds will be subject to change based on feedback from FSPs regarding their ability to interact with the system.

In addition to this, we recognise that lack of standardisation of Flexibility Services between different Distribution Network Operators (DNOs) is also a significant barrier to participation for FSPs, and so we will continue to work with other DNOs and the Electricity System Operator (ESO), and the Energy Network Association (ENA) Open Networks programme, on market developments, particularly focusing on FSP feedback, how this can be shared and implemented as the new standard products, updated prequalification questionnaire and contract are implemented. More detail of the specific areas we are collaborating in can be found in Section 4.



# 1. INTRODUCTION

SSEN Distribution is responsible for ensuring a safe and reliable supply of electricity to 3.9 million customers in communities across two distribution licence areas: Scottish Hydro Electric Power Distribution (SHEPD) in the North of Scotland and Southern Electric Power Distribution (SEPD) in central Southern England. At SSEN Distribution we have set a cumulative five-year target of 5 GW for the procurement of Flexibility Services. This target reflects our commitment to meet the evolving needs of the electricity grid and ensuring a secure and reliable energy supply. The procurement of these Flexibility Services also facilitates connection of Low Carbon Technologies (LCTs) and renewable generation and allows us to manage our Access Significant Code Review (SCR) obligations<sup>3</sup>.

This statement sets out the processes we will use in 2024/25 for procuring Flexibility Services to meet our licence obligations under Standard Licence Condition 31E, for the efficient and economic management of the flow of electricity on our networks, in an objective and transparent manner. In this statement we give details of how Flexibility Service Providers (FSPs) can find information on how to participate in our Flexibility Service tenders. We aim to request services and implement processes that are open to all types of Distributed Energy Resources (DERs) and Consumer Energy Resources (CERs).

In 2024/25 we are focussed on procuring flexibility for new Constraint Management Zones (CMZs) identified through our Distribution Networks Options Assessment (DNOA) process. The DNOA methodology was issued for consultation in January 2024, with a final version published in March 2024<sup>4</sup>. The DNOA Outcomes report explains the decisions made using the DNOA methodology in simple terms, with an initial set of outcomes published in March<sup>5</sup>. From the technical assessment we have taken these requirements and converted them into a procurement strategy, prioritising nearer term requirements that we will procure this year.

We will also continue procurement activity in existing CMZs where requirements have not yet been met, and to manage outages and unplanned events on our network. We continue to develop our visibility of asset locations and prices through our global call, which enables participation in Operational Utilisation and Operational Utilisation + Variable Availability services across both our license areas.

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<sup>3</sup> [Access and Forward-Looking Charges Significant Code Review: Decision and Direction | Ofgem](#)

<sup>4</sup> [ssen-dnoa-methodology-final-march24.pdf](#)

<sup>5</sup> [ssen-dnoa-outcome-reports-march-24.pdf](#)



## 2A. FLEXIBILITY SERVICES REQUIREMENTS

We need to actively manage our network and change our approach to reinforcement as more assets such as electric vehicles, heat pumps, and distributed generation and storage assets connect to our networks. Flexibility is intended to allow more efficient use of existing network capacity, reducing the need for network reinforcement and allowing the integration of Low Carbon Technologies (LCTs) and renewable energy sources.

This section outlines the types of issues experienced on the network, the process used to identify them and how we decided to use Flexibility Services. The Flexibility Services options that are available to support the network and the process for selecting the appropriate service is also described in this section.

### 2A.1. The Need for Flexibility Services

The use of our network can be controlled through Flexibility Services, Access Products and Price Signals. Our Flexibility Roadmap<sup>6</sup> explains how these tools are used to maximise network use and improve network efficiency. This document focuses on the procurement of Flexibility Services over the next year.

There are three types of network constraint, shown in Figure 1<sup>7</sup>. Our technical studies, economic analysis and feasibility assessments show that Flexibility Services can successfully manage thermal constraints and be cost effective and therefore represent most of our flexibility requirements. There are two ways of managing voltage constraints, either by directly buying reactive power from a DER or changing active power use of any FSP. So far, it has been determined that Flexibility Services are not successful at resolving identified voltage issues, either because there are multiple circuit outages that need opposing responses or necessary levels of active power create other network constraints. We will continue to evaluate voltage constraints for the use of Flexibility Services.

It is difficult to resolve fault level constraints utilising procured flexibility, as it requires turning off (rather than reducing output) for sources of fault infeed. This would mean sustained periods of turning off DERs which is rarely economically viable.

Thermal and voltage constraints are time and season dependant, and we expect the number of identified constraints and need for reinforcement on our network to grow as we enable the transition to Net Zero.

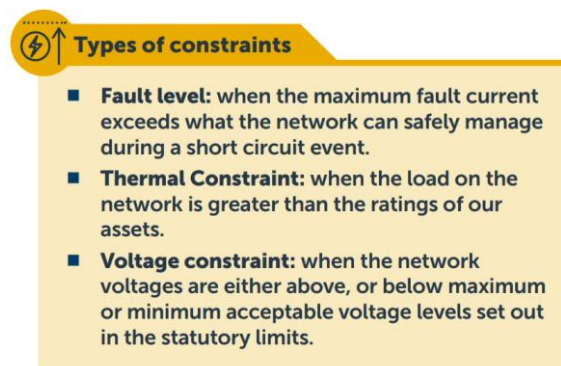


Figure 1: Constraint types from our Operational Decision-Making document.

<sup>6</sup> [SSEN-flexibility-roadmap-draft-0.2.pdf \(tractivity.co.uk\)](https://www.ssen.co.uk/globalassets/about-us/dso/publication--reports/ssen-dso-odm-framework-update-march-2024.pdf)

<sup>7</sup> <https://www.ssen.co.uk/globalassets/about-us/dso/publication--reports/ssen-dso-odm-framework-update-march-2024.pdf>



## 2A.2. Identification of Flexibility Requirements

The DNOA methodology<sup>8</sup> explains how network needs are identified, options developed and then assessed to establish the optimal option for that area of the network. This is summarised in this section.

### 2A.2.1 Identify Future System Need

Each year, SSEN Distribution commissions detailed projections on how generation, demand and storage connected to the distribution network could change in the next decade under four load growth scenarios. These are the Distribution Future Energy Scenarios (DFES). The data is used to analyse how network load may evolve and to make strategic investment decisions. The elements included in the DFES models are:

- Sources of demand – electric vehicles, heat pumps and air conditioning, and strategic new housing and commercial developments;
- Distributed generation – both renewable and fossil fuel; and
- Battery storage.

Constraint analysis is then completed using power system analysis to identify areas of the network where there are capacity limitations and the type of limitation (as described in Section 2A.1).

### 2A.2.2 Develop Options to Resolve

From the constraint analysis, different options are developed that could be used to resolve the identified issues. This will include a range of asset-building options and a Flexibility Service option. The Flexibility Service options can include how flexibility can be used in combination with an asset build solution to efficiently deliver additional capacity when needed.

### 2A.2.3 Assessment of Options

Following the development of options, techno-economic analysis is completed to determine the optimum option to deliver. The technical analysis will consider how a solution is delivered, for example what construction requirements are possible. For the Flexibility Services an assessment of potential required volumes of flexibility is completed to determine whether a Flexibility Service is viable.

A combined approach is used for economic analysis where the Ofgem Cost Benefit Analysis (CBA) tool is used for all solutions. The asset-based solution is then compared with Flexibility Services using the Common Evaluation Methodology,<sup>9</sup> developed through the ENA's Open Networks Project, to determine the number of years Flexibility Services are economic for. Section 5 in this report explains this approach in more detail.

The different potential results from the DNOA are shown in Table 1 and are in page 14 of the DNOA methodology.

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<sup>8</sup> [ssen-dnoa-methodology-final-march24.pdf](#)

<sup>9</sup> [https://www.energynetworks.org/publications/on22-ws1a-p1-common-evaluation-methodology-tool-version-2.2-\(25-aug-2022\)](https://www.energynetworks.org/publications/on22-ws1a-p1-common-evaluation-methodology-tool-version-2.2-(25-aug-2022))





Outcomes	Solution options	Description	Implementation status
Procure flexibility solutions	Efficient use of flexibility.	Where deferring reinforcement with flexibility is feasible and the economically optimal solution considering the networks short-term and long-term needs.	Implemented as part of the Flexibility First Approach.
	Emergency use of flexibility.	Where deferring reinforcements with flexibility is feasible but not the economically optimal solution, however there is network constraint becomes live before the asset option can be built.	Implemented as part of the Flexibility First Approach.
	Flexibility to enable project delivery.	Where deferring reinforcements with flexibility is feasible but not the economically optimal solution however the use of flexibility is required to prevent system outages to delivery asset projects.	Implemented as part of the Flexibility First Approach.
Asset solutions	Baseline network reinforcement.	Where deferring reinforcement with flexibility is not efficient or not possible but oversizing the assets is not required considering the networks short-term and long-term needs.	Conventional asset planning process.
	Strategic reinforcement.	Where deferring reinforcement with flexibility is not efficient or not possible but oversizing the assets is required considering the networks long-term needs.	Early implementation.
	Smart solution.	Where the constraint does not require planning interventions as the need can be met with operational solutions or innovative technologies that are economically viable.	Conventional asset planning process.
Defer decision	Signpost.	Where a delivery decision is not needed this year given the timescale for delivery.	Conventional asset planning process.
Other possible outcomes	Energy efficiency.	Where deferring reinforcements with energy efficiency is feasible and the economically optimal solution considering the networks short-term and long-term needs.	Not implemented yet.

Table 1: Potential outcomes from the DNOA methodology assessment.

For each area where a flexibility solution is recommended, it is taken forward to assess the appropriate flexibility procurement strategy.

## 2A.2.4 Publish, Update and Deliver

The results from the techno-economic assessment feed into the DNOA outcomes report<sup>10</sup> that is issued periodically. This analysis also directly feeds into the investment requirements detailed in our Network Development Plan (NDP),<sup>11</sup> and Long-Term Development Statement (LTDS)<sup>12</sup>, both of which serve to inform our stakeholder's on the investment decisions made regarding our network.

Flexibility procurement activities are not accounted for in the load forecast data presented in the LTDS nor the headroom capacity data presented in the NDP. This is so that we and our stakeholders maintain visibility on how demand will be changing on our network unimpeded by the action we are taking to manage it. This approach allows identification of areas of our network that are predicted to be congested, and where there is headroom available, regardless of the actions used to mitigate this.

## 2A.2.5 Identification of Other Networks Needs

Although the DNOA process is the process for identification of most Flexibility Service requirements, there are other use cases for Flexibility Services to support the economic and efficient use of our network.

Flexibility Services can be used to accelerate connections to our network. Areas of our network have experienced significant growth in connection requests, and it can take time for the network to be developed to enable these. Access Products allow connections with curtailable access rights whilst reinforcements occur. Access products are not an appropriate solution for all parties and where this is the case it may be appropriate to utilise Flexibility Services. We have trialed this in 2023/24 through the procurement of Flexibility Services in Fleet-Bramley.

The changes to our connection and use of system arrangements through Access SCR include providing curtailable connections intended to promote greater flexibility. We continue to monitor the growth and use of curtailable connections on our network to understand where Flexibility Services can be used to manage our contractual obligations for these connections.

<sup>10</sup> <https://www.ssen.co.uk/globalassets/about-us/dso/publication--reports/ssen-dnoa-outcome-reports-march-24.pdf>

<sup>11</sup> [Network Capacity Information - SSEN](#)

<sup>12</sup> [Long term development statements \(LTDS\) - SSEN](#)



Flexibility Services can be used to reduce our reliance on mobile generation during planned outages, or to support the network in unplanned events. Requirements for these services can come directly from our Outage Planning teams who facilitate access to the network for our maintenance and construction teams. These typically emerge throughout the year and will be publicised on our website when available.

## 2A.3. Flexibility Service Products

We actively contributed to the Open Networks working group on the standardisation of flexibility products<sup>13</sup> and we will be primarily purchasing these standardised products going forward. We will continue to dispatch previously procured services under the previous products until these contracts expire.

There are some areas where we have network specific issues where a standard product might not be appropriate. This is particularly true for some of the unique areas we manage, such as the Shetland Islands and Inner and Outer Hebrides. We aim to use a bespoke service only where one of the existing products would not address the technical requirement.

We continue to innovate in the Flexibility Service space, looking to address some of the issues that are either forming a barrier to entry and reducing market participation or preventing us from selecting Flexibility Services as a viable option in the options assessment process. We plan to share the learning with all the DSOs and where successful and appropriate add any new products to the suite of standard products.

### 2A.3.1 Standard Services Overview

SSEN Distribution procure four services named Scheduled Utilisation, Operational Utilisation, Scheduled Availability + Operational Utilisation, and Variable Availability + Operational Utilisation. The definitions of these services are aligned with the Open Networks standards<sup>14</sup>. The payment terms for and definitions of these services are summarised in Figure 2.

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<sup>13</sup> <https://www.energynetworks.org/assets/images/Resource%20library/ON-WS1A-P3%20Active%20Power%20Services%20-%20Final%20Implementation%20Plan-PUBLISHED.23.12.20.pdf>

<sup>14</sup> [https://www.energynetworks.org/assets/images/2023/Aug/on-flexibility-products-alignment-\(feb-2024\).pdf?1711357255](https://www.energynetworks.org/assets/images/2023/Aug/on-flexibility-products-alignment-(feb-2024).pdf?1711357255)



	Product	Description	Decision timescales	Payment
Flexibility service products	<b>Peak Reduction</b>	This product seeks a reduction in peak power utilised over time. This response can manage peaks in demand.	■ Utilisation Instruction: At Trade	Utilisation
	<b>Scheduled Utilisation</b>	In this product, the time that flexibility is delivered has been pre-agreed in advance with the provider.	■ Utilisation Instruction: At Trade	Utilisation
	<b>Operational Utilisation</b>	This product allows for the use case where the amount of flexibility delivered is agreed nearer to real time.	■ Utilisation Instruction: Real Time or Week Ahead	Utilisation
	<b>Operational Utilisation + Scheduled Availability</b>	This product procures, ahead of time, the ability of an FSP to deliver an agreed change following a network abnormality.	■ Availability Refinement: Not allowed ■ Utilisation Instruction: Real Time or Day Ahead	Availability + Utilisation
	<b>Operational Utilisation + Variable Availability</b>	This product allows for DNOs and the ESO to procure a level of contracted capacity, but then refine the requirements in terms of availability closer to the event.	■ Availability Refinement: Week Ahead or Month Ahead ■ Utilisation Instruction: Real Time or Day Ahead or Week Ahead	Availability + Utilisation

Figure 2: New standard Flexibility Service products.

We will continue to dispatch services procured under previous names and Table 2 shows how the previous services approximately match to the new names. It should be noted the mapping is not exact as some variables, such as timing of availability instructions, are adjusted to align with the new definitions.

Previous Product Name	New Product Name	Variation
Sustain	Scheduled Utilisation	
Secure	Variable Availability + Operational Utilisation	Month Ahead
Dynamic	Variable Availability + Operational Utilisation	Week Ahead
Restore	Operational Utilisation	

Table 2: Comparison of new and old ENA products.

## 2A.3.2 Non-Standard Services

There are several non-standard Flexibility Services that we anticipate we may procure over the next year, some of which are noted below.

- **Emergency Flex:** This service was developed in the Managing the Impact of Low Carbon Technologies on Low Voltage Networks Working Group with the aim of identifying a service that would allow Flexibility Services to be used in an extreme unplanned event, for example during storms, or when contracted



FSPs have been unable to deliver the volume required. This service would be paid at a fixed rate. FSPs have signed up to deliver the service as part of their Overarching Agreements, however this service has not yet been dispatched.

- **Demand Diversification Service:** The project looking at the evolution of Load Managed Areas (LMAs) is considering a demand diversification service. It is expected to enter commercial trials in Winter 2024/25. The diversification service aims to provide a route to flexibility on the LV network to solve LV constraints, avoiding the need for large aggregation or baselining, making it appropriate for rural areas where there is limited participation. This is being developed in conjunction with FSPs and potential FSPs.
- **Services for Unique Network Areas:** Some of the networks we operate are either not connected to the main transmission system or can be disconnected during outages. In these areas we have some unique flexibility requirements to ensure our network can be managed. These can be delivering a certain fault infeed, stability response, or frequency range. In each area the exact grid forming requirement can be unique. We are looking at how we can reduce our reliance on diesel generation for these areas with the use of Flexibility Services but may require unique products to achieve this.

## 2A.4. Flexibility Services Procurement Strategy

Our Flexibility Service procurement strategy is used to determine which product is used and when flexibility is procured for a specific area.

Following a DNOA recommendation for a Flexibility Service, an outage management need being identified or a request for acceleration of connections, the following information is gathered:

- Location of constraint and area of influence.
- Required volume of flexibility per season and per year.
- The time of day of the requirement.
- Forecast of expected utilisation of the service.

This information is used to determine when flexibility is procured, which product is used, and develop the key information to allow FSPs to participate. For example, the location of the constraint and area of influence is used to create a Constraint Managed Zone (CMZ). CMZs describe areas of the distribution network that can change energy use to reduce the impact of a constraint and are used to procure Flexibility Services.

### 2A.4.1 Procurement time horizon

Market liquidity in flexibility tenders has been historically very low. Low market liquidity has meant that on several occasions, we have tendered for a certain volume of flexibility and this volume has not been met by the responses we have received. However, 2023/24 has been marked by a significant improvement in market liquidity in most areas. This year, we have received bids exceeding the volumes of our requirements in multiple zones for the first time, which shows significant progress in this area. Nonetheless, market liquidity is an important consideration for us when designing our procurement approach. Figure 3 is from our Flexibility Roadmap and shows our approach to long- and short-term procurement. We expect to complete long-term procurement when we have low confidence in the market liquidity and move to shorter term procurement where we have more confidence. This approach will allow us to maintain network security and reflects FSP feedback.

We use the location of the constraint and the required volumes to assess the market liquidity.

CMZs which cover a larger number of users are typically easier to fulfil requirements for. Areas with high population density can result in large volumes of domestic aggregation and areas with many DERs can also result in liquid markets. Parts of our SHEPD network, which can be characterised as being rural with few DERs



that can increase generation output, typically experience lower market liquidity. This is evidenced by the reduced number of FSPs signing the Overarching Agreements for the SHEPD region compared with SEPD.

The required volume is compared against the anticipated volume available. The anticipated volume available is assessed based on what is connected in an area, historic flexibility engagement rates (using SSEN data and publicly available data from other DSOs and the ESO), and forecast uptake rates. Where the anticipated volume available is close to or below the required volume, it is expected to be an area with low market liquidity and long-term procurement will be used.

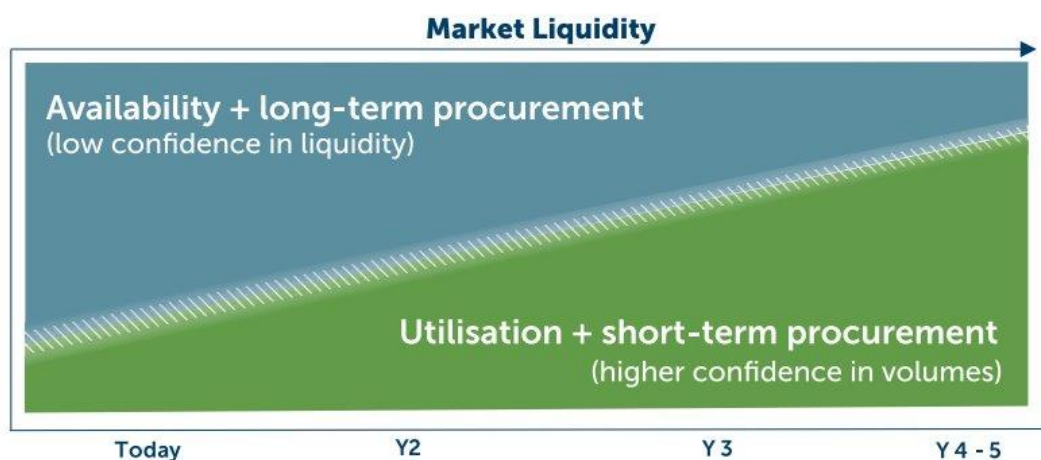


Figure 3: Approach to procurement timeline considering market liquidity.

## 2A.4.2 Product Selection

We select a flexibility product to meet a requirement based on a combination of procurement time horizon, time of day of the requirement, and expected utilisation.

For longer-term procurement (more than month ahead) we expect to use a combination of Availability and Utilisation payments. This allows us to hold capability where it is needed but also to return capacity to the market when not required. Most of our long-term procurement is for Variable Availability + Operational Utilisation with month-ahead availability confirmation. We expect to continue this trend, but where market liquidity is very low we may use the Scheduled Availability + Operational Utilisation or Scheduled Utilisation products, to give clear price incentives for the volume to be dispatchable.

For procurement completed at the month ahead stage, we expect to use the Scheduled Availability + Operational Utilisation service and would align the procurement with existing month ahead availability notices completed for Variable Availability + Operational Utilisation.

For procurement completed closer to real time than month-ahead, we expect a utilisation-only service to be most appropriate.

Where we are certain about the utilisation requirements, or where utilisation volumes are anticipated to be very high, we expect to be using products that give this clear signal to FSPs. Therefore, either a Scheduled Utilisation or Scheduled Availability + Operational Utilisation product.



## 2B. FLEXIBILITY PROCUREMENT PLANS

### 2B.1. Procurement Focus

Our procurement plans for this financial year 2024/25 focus on the following areas:

1. Continuing our global call initiative through increasing number of FSPs who have signed our Overarching Agreement.
2. Short term procurement for identified CMZs in which we have not secured sufficient flexibility capacity in previous procurement rounds.
3. Long term procurement for new zones which have been identified as priority for deferral of network reinforcement or management of outages through our DNOA process.
4. Expanding the use of Flexibility Services to enable acceleration of new connections while significant upgrade works are planned and delivered building on the procurement in Fleet-Bramley.
5. LMA enduring diversification service trials.
6. The procurement of services to reduce diesel reliance for our island communities.

### 2B.2. Procurement Timescales

In 2023/24 we changed our procurement approach to have Overarching Agreements followed by bidding rounds for specific areas. This reduces the level of contracting requirements for FSPs as a new contract is not needed for every new bidding round. For FSPs to sign an Overarching Agreement they must respond to a mini-competition. We will run at least two opportunities to do this in 2024/25, one in Spring (planned to commence in May) and one in Autumn (planned to commence in September). The Spring mini-competition may have slight changes to the timescale depending on the procurement of our new market platform.

In addition to the mini-competitions, we will run at least five bidding rounds for FSPs on the Overarching Agreement. This will be a mix of longer- and shorter-term bidding rounds. The long-term bidding rounds refer to tenders for more than month-ahead service delivery and will be in May 2024; August 2024 and January 2024. Many of these services are multi-year requirements. The short-term bidding rounds will focus on areas where we have insufficient flexibility procured and will occur if required for each month between August 2024 and February 2024 (October 2024 to April 2025 delivery). A full calendar schedule can be found in Appendix 4.

### 2B.3. Requirements for Long-Term Bidding Rounds

#### 2B.3.1 May 2024 Bidding Round

The May 2024 bidding round is focused primarily on the West London area, aiming to release capacity to accelerate connections. Across West London it aims to procure a minimum of 76 MW per year, with different volumes required from each Grid Supply Point (GSP). Where requirements are across multiple years, each year will require an independent bid, allowing providers to have different costs for each year. Table 3 breaks this down per region. The West London area is driven by the need to accelerate connections in this congested area, as more information and modelling is completed about the nature of the loads being connected this might result in changes in time of individual requirements. Where there are DNOA outcomes recommending Flexibility Services in this region (such as Chiswick and Egham) this has been captured in the wider region requirements. Additionally, Harvard Lane (Chiswick), which is an area requiring flexibility for 2025/26 in the DNOA outcomes, is covered by the West London May bidding round, so is excluded from the August bidding round.

Also included in the May 2024 bidding round is the accelerated procurement for any volume identified in the DNOA process that is needed for Winter 2024/25. This list might extend as more DNOA outcomes are





published. We will also include an outstanding volume from our February 2024 Fleet-Bramley bidding round in the May bidding round.

All the constraints in this bidding round are Generation Turn Up (GTU) or Demand Turn Down (DTD) thermal constraints and the service we will procure is Variable Availability + Operational Utilisation – week ahead response. The West London region is driven by a combination of reinforcement deferral and connection acceleration and the other regions all driven by reinforcement deferral.

Zone Name	Licence Area	Peak Capacity Required (MW)	Forecast Utilisation (MWh)	Voltage Level Flexibility Procured at (kV)	Service Start Year	Service End Year	Service Window
West London – Ealing (excl. Boston Manor Road)	SEPD	29	790	132	24/25	26/27	Winter 16:00-20:00
West London – Ealing Boston Manor Road Only	SEPD	6	330	66	24/25	26/27	Summer 10:00-16:00
West London – Iver 66kV	SEPD	2	50	66	24/25	26/27	Winter 16:00-20:00
West London – Laleham. Church Road, Hope and Anchor, East Bedford B, Staines	SEPD	2	50	22	24/25	26/27	Winter 16:00-20:00
West London – North Hyde 33kV	SEPD	7	190	33	24/25	26/27	Winter 16:00-20:00
West London – Willesden. Leamington Park and Park Royal	SEPD	1	50	22	24/25	26/27	Winter 09:00-17:00
West London – Willesden. Greenford and Goldsmiths	SEPD	4	110	66	24/25	26/27	Winter 16:00 - 20:00
West London – Willesden. Perivale Only	SEPD	15	200	66	24/25	26/27	Winter 16:00 – 18:00
West London – Willesden. Canal Bank Only	SEPD	10	550	66	24/25	26/27	Summer 10:00-16:00
Lytchett	SEPD	5.43	7.7	33	24/25	24/25	Autumn 18:00-18:30 Winter 18:00-19:00
Abernethy	SHEPD	0.28	0.27	11	24/25	24/25	Winter 17:30-18:00
Springhill	SHEPD	1.5	3.9	11	24/25	24/25	Winter 17:00-18:30

Table 3: May 2024 bidding round anticipated flexibility requirements for Variable Availability + Operational Utilisation – week ahead response services.



## 2B.3.2. August 2024 Bidding Round

Table 4 shows the planned tender request volumes and locations for the August 2024 bidding round. This is our long-term bidding round, where we have identified areas where we intend to defer investment and have requirements over one or multiple years and seasons. Please note the tables are correct at time of writing but subject to change following the publication of further DNOA outcomes reports and additional network needs analysis. Where there are multiple year requirements, each year will require a different bid, allowing providers to have different costs for different years. For service windows over 90 minutes, we expect to split them into multiple windows to maximise volume aggregators can provide.

Currently all requirements within Table 4 are Generation Turn Up (GTU) or Demand Turn Down (DTD) thermal constraints and we expect we will be procuring the Variable Availability + Operational Utilisation – Week Ahead Response service. We continue to explore opportunities to resolve voltage constraints through Flexibility Services and Generation Turn Down or Demand Turn Up constraints. Forecasts on utilisation and service windows will be published ahead of the bidding period on the SSEN website and communicated via the market platform.

We will continue to add to this list as more flexibility requirements arise from the DNOA process. This procurement round primarily focuses on network needs that start in 2025/26. We sometimes choose not to immediately procure longer-term requirements identified in the DNOA process in areas where we expect market liquidity to be high, in line with our market liquidity test described in Section 2A.4.1. Thus, not all requirements listed in the DNOA Outcomes<sup>16</sup> are expected to be procured in this round. An example of this is Birdham where flexibility is not needed until 2028.

Zone Name	Licence Area	Peak Capacity Required (MW)	Voltage Level Flexibility Procured at (kV)	First Year of Service	Last Year Service Required	Service Windows
Beaconsfield	SEPD	3.03	11	25/26	26/27	Spring/Autumn 17:30-18:30 Winter 14:00-20:30
Culloden	SHEPD	0.71	11	25/26	26/27	Winter 17:30–18:00
Burghmuir <sup>15</sup>	SHEPD	1.08	33	25/26	25/26	Winter 15:00–16:00
Abernethy	SHEPD	0.99	11	25/26	25/26	Winter 17:30-18:30
Stoneywood	SHEPD	0.09	11	25/26	26/27	Winter 17:30-19:00
Lytchett	SEPD	5.87	33	25/26	26/27	Autumn 18:00-18:30 Winter 18:00-19:00

Table 4: August 2024 bidding round anticipated flexibility requirements for Variable Availability + Operational Utilisation – week ahead response services.

<sup>15</sup> Listed as Inveralmond and Redgorton in the DNOA Outcomes report.

<sup>16</sup> <https://www.ssen.co.uk/globalassets/about-us/dso/publication--reports/ssen-dnoa-outcome-reports-march-24.pdf>





### 2B.3.3. January 2025 Bidding Round

The DNOA process is ongoing with the methodology anticipated to be reviewed yearly. The DNOA Outcomes will be published periodically. The network areas that are expected to be assessed with potential to result in identification of a flexibility requirement ahead of the January 2025 bidding round are listed in Table 5. Not all these areas will result in Flexibility Services being the optimal solution. If information is available sooner, some of these services may be procured in the August 2024 bidding round.

CMZ Name	Licence Area
Alresford	SEPD
Ashludie	SHEPD
Calne	SEPD
Charlbury-Woodstock	SEPD
Bemerton	SEPD
Botley Wood	SEPD
Dufftown	SHEPD
Fawley North	SEPD
Fort Widley	SHEPD
Oxford (Osney)	SEPD
Rowden	SEPD
Witney	SEPD
Fort Widely	SEPD
Yarnton	SEPD
Yattendon	SEPD

Table 5: List of GSPs being assessed for flexibility ahead of the January 2025 bidding round.

### 2B.4. Requirements for Short Term Bidding Rounds

Following the move to Overarching Agreements in 2023, we are now able to host tenders at shorter notice for providers with whom we have an existing agreement when network requirements are identified. The short-term tenders will initially be at month-ahead and will be Scheduled Availability + Operational Utilisation - day ahead response to fulfil areas where we did not procure enough flexibility to meet our requirements in previous tenders,, or to accommodate a declined FSP availability request.

Table 6 shows areas where there has previously been under-procurement. We expect to procure the un-met needs for these areas in the short term. Where availability requests have been declined by providers this year, additional requirements will be added if needed. The first bidding round will be in late August 2024 for October 2024 delivery.

Table 6 shows the maximum requirement for each zone. This will be reviewed and revised based on updated short-term forecasts. Exact requirement is subject to change. The forecast utilisation in Table 6 is for the whole zone and not for this smaller requirement. Exact utilisation will depend on price between providers. Full detail of these requirements can also be found on our website<sup>17</sup>.

There are some zones listed where there is 0 MW peak additional capacity requirement and 0 MWh forecast utilisation. For these areas, since initial procurement new data shows power flows lower than previously

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<sup>17</sup> Tender for Services requirements February 2024: <https://www.ssen.co.uk/globalassets/our-services/flexibility-services-document-library/previous-tenders/february-2024---tender-for-services.xlsx>



anticipated, they are not expected to be used. These areas are closely monitored and changes in forecast or requirements are reviewed regularly.

Zone Name	Licence Area	Peak Additional Capacity (MW)	Forecast Utilisation (MWh) <sup>18</sup>	Type of Response (GTU/DTD or GTD/DTU)	Months for Delivery of Service	Expected Service Window
Alderton	SEPD	0.19	51.26	GTU/DTD	Oct 24, Nov 24, March 25	17:30-20:00
Alresford	SEPD	0	0	GTU/DTD	Oct 24, Nov 24, Dec 24, Jan 25, Feb 25, March 25	17:00-18:00
Ashton Park	SEPD	0	0	GTU/DTD	Oct 24, Nov 24, Dec 24, Jan 25, Feb 25, March 25	15:30-22:00
Egham	SEPD	0	0	GTU/DTD	Oct 24, Nov 24, Dec 24, Jan 25, Feb 25, March 25	17:00-20:30
Farringdon	SEPD	1.68	8.15	GTU/DTD	Oct 24, Nov 24, Dec 24, Jan 25, Feb 25, March 25	15:00-22:00
Goring	SEPD	0	0	GTU/DTD	Oct 24, Nov 24, Dec 24, Jan 25, Feb 25, March 25	16:30-21:00
Harvard Lane	SEPD	0.22	288.18	GTU/DTD	Oct 24, Nov 24, Dec 24, Jan 25, Feb 25, March 25	16:30-22:00
Stokenchurch (AM)	SEPD	0.90	408.50	GTU/DTD	Oct 24, Nov 24, Dec 24, Jan 25, Feb 25, March 25	07:30-08:30
Stokenchurch (PM)	SEPD	0.90		GTU/DTD	Oct 24, Nov 24, Dec 24, Jan 25, Feb 25, March 25	15:00-22:00
Yetminster <sup>19</sup>	SEPD	0	129.49	GTU/DTD	Oct 24, Nov 24, Dec 24, Jan 25, Feb 25, March 25	
Yeovil <sup>20</sup>	SEPD	0	782.69	GTU/DTD	Oct 24, Nov 24, Dec 24, Jan 25, Feb 25, March 25	

Table 6: Expected short-term bidding requirements for Scheduled Availability + Operational Utilisation – week ahead response services.

<sup>18</sup> The forecast utilisation is for the whole zone and not for this smaller requirement, exact utilisation will depend on price between providers.

<sup>19</sup> The requirement is zero because previous procurement rounds has fulfilled this need.

<sup>20</sup> The requirement is zero because previous procurement rounds has fulfilled this need, this is an area where Availability instructions have sometimes been declined by a provider.



## 2B.5. Other Procurement Activity

There is additional procurement activity anticipated to occur throughout the year that will be different to our usual processes and involve different Flexibility Services.

### 2B.5.1. Diversification Service

Our plans for 2024/25 include a separate tender for the enduring diversification service which we intend to utilise to support the evolution of our existing LMAs. LMAs are an arrangement for managing controllable loads to prevent the Low Voltage (LV) network overloading. Originating in the 1950s as an alternative to traditional reinforcement, LMAs are used in our SHEPD license area and impact approximately 87,000 customers.

LMAs reduce the maximum demand on circuits at all voltage levels and at substations by managing when switched loads like electric storage heaters turn on. This controlled diversification has successfully allowed us to spread the use of high energy storage devices whilst still ensuring domestic customers had access to the lowest possible tariff. Following the maturity of Flexibility Service markets and increased participation and interest from suppliers and behind the meter aggregators, we have started investigating how this mandated requirement can be evolved into a commercial structure allowing the benefits of flexibility to be returned to those providing the services. Two potential commercial mechanisms have been developed with the support and contribution of industry stakeholders. Trials of these services will take place from summer of 2024 through to spring 2025.

To align with business-as-usual processes and minimise any transition, the Flexibility Services procurement process will be followed, and will use the Standard Flexibility Services Agreement (FSA) from the ENA with a specific service term. This service will be procured through separate tenders to our current Flexibility Services to ensure any trial-specific obligations are captured appropriately. To enable the commercial trials, pre-qualification is expected from May 2024.

### 2B.5.2. Western Isles Stability Service

Previously, we have tried to procure a stability service for the Western Isles. The aim of this service was to reduce reliance on aging stand-by diesel generation in the event of an outage on the subsea cable connecting the island to the main transmission system. These stand-by diesel generators have high emissions and high operating costs. A secondary benefit of this service would be to increase the amount of renewable generation that can be used in the event of such outages. This process was placed on hold as no bidder clearly met the tender requirements at the closing date.

We are reviewing our approach to this service, and potentially look to recommence this tender. This would be procured through a new tender which is expected to be run through our Jaggaer e-procurement platform<sup>21</sup> rather than our Flexibility Market Platform due to the unique nature of this service.

### 2B.5.3. Contract Extension

We have several contracts that are one year in length with options for extensions for up to 4 years. We expect to continue to extend these contracts in specific areas and will aim to run new tenders when these contracts expire. The contracts we expect to extend are listed in Table 7.

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<sup>21</sup> <https://sse.app.jaggaer.com/web/index.html>



Zone Name	Licence	Services	Type of Response (GTU/DTD or GTD/DTU)	Flexibility Service Provider	Max Total Contracted Capacity (MW)	Contract Expiry Date	Contract Details
Islay	SHEPD	Secure	GTU/ DTD	Inver Hydro	1.95	31/10/24	4 x1 year Contract Signature: 1/11/22
Islay	SHEPD	Dynamic	GTU/ DTD	Inver Hydro	1.95	31/10/24	4 x1 year Contract Signature: 1/11/22
Islay	SHEPD	Restore	GTU/ DTD	Inver Hydro	1.95	31/10/24	4 x1 year Contract Signature: 1/11/22

Table 7: List of contracts that may be extended in 2024/25.

## 2B.6. Dispatch Decision-Making Framework

In February 2024 we published our draft Operational Decision-Making (ODM) document<sup>22</sup>, with our final version published in March 2024. This explains the process for real time operational decision making, including how decisions on the dispatch of Flexibility Services occurs. Appendix 3 includes the detailed process of diagrams of steps taken when assessing capacity at Month Ahead and Day Ahead processes. We will be publishing Season Operability Reports (SOR) which explain how we have applied our decision making process to actual network events.

Figure 4 shows the decision principles and the hierarchy of these principles that we apply. Where there is a choice of FSP (i.e. where the procured requirement is higher than the needed for flexibility for a particular day), FSPs are assessed and dispatched based on a calculated weighting. The process followed is:

1. Each zone-provider-service is scored on the following criteria:
  - a. Price compared to other services.
  - b. CO<sub>2</sub> emissions.
  - c. Prior Delivery Performance (on first use this is set to 100%).
2. A starting assumption of availability is made based on the contracted capacity:
  - a. Where a provider's contracted capacity exceeds the monthly requirement, the starting assumption is set to the required capacity.
3. Each provider's assumed capacity is then adjusted based on the relative scores of providers in the zone.
4. The required capacity is divided pro-rata, based on the adjusted capacities.

The score assigned in step 1 is determined by weighted scores assigned to cost (50%), reliability (25%) and carbon impact (25%). The resulting weighting factor is a single number ranging from 0 – 1. Where there is more than one FSP available to dispatch, the weighted score is used to determine the proportion of dispatch across all FSPs. The cost score is based on a ratio between the FSPs price, and the highest price contracted for the specific location. The reliability score is reviewed annually for each FSP and is a ratio of the requested utilization vs delivered utilization (any over-delivery is capped at 1). If the dispatch of the FSP results in a reduction in carbon it is scored 1, if it increases carbon it scores 0.

This process allows the maximum number of FSPs to be dispatched and ensures FSPs with dominance in a certain area do not control the price in a zone. It also reduces the risk of single FSP failure and spreads the benefits of Flexibility Services, thereby supporting a liquid market. We will continue to review this approach as the markets develop, short-term procurement matures, and more providers enter the market. This review will

<sup>22</sup> <https://www.ssen.co.uk/globalassets/about-us/dso/publication--reports/ssen-dso-odm-framework-update-march-2024.pdf>



form part of our review, consultation, and development of the dispatch framework, in accordance with the guiding principles of network security, cost effectiveness, and market support.

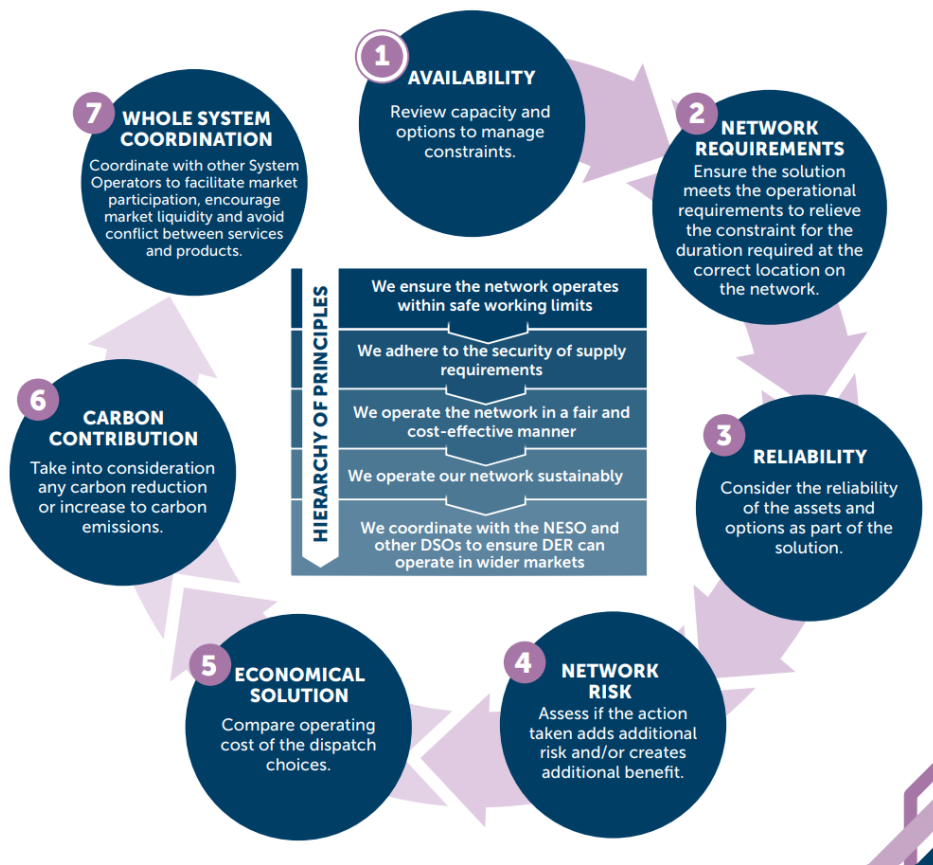


Figure 4: Dispatch principles from our ODM.



# 3. TENDERING PROCESSES

This section explains the process we follow for procuring and dispatching Flexibility Services and how potential providers can participate in tenders. Also included is a section on changes to these processes we anticipate happening over the next year, particularly with implementation of the standardisation recommendations from the Open Networks programme and our new market platform. There is finally an insights section covering the approach to pricing and emerging trends in Flexibility Services.

## 3.1 Flexibility Processes

Section 2A and 5 outline the process for how requirements for Flexibility Services are identified and a decision made to procure flexibility. Following this there are a series of procurement and dispatch processes that are followed with specific systems to support this. This section outlines our current flexibility procurement process, however it should be noted that this is likely to change ahead of our May 2024 mini-competition due to the procurement of our new flexibility market platform. The ways in which this process will change will be determined by the outcome of this ongoing market platform tender. Information on the outcome of this tender and the resulting updates to the process will be communicated as soon as it is available.

### 3.1.1 Procurement Process

SSEN Distribution considers the procurement of Flexibility Services to be a regulated contract under the Utilities Contract Regulations 2016 / Utilities Contract (Scotland) Regulations 2016 and, as such, procurement is directly managed by SSE's procurement team to ensure compliance, non-discrimination, fairness, and transparency. We have introduced Overarching Agreements in 2023/24, this separates the contract award and pricing activity, allowing contracting to be completed only once. Figure 5 shows the process FSPs are currently following.

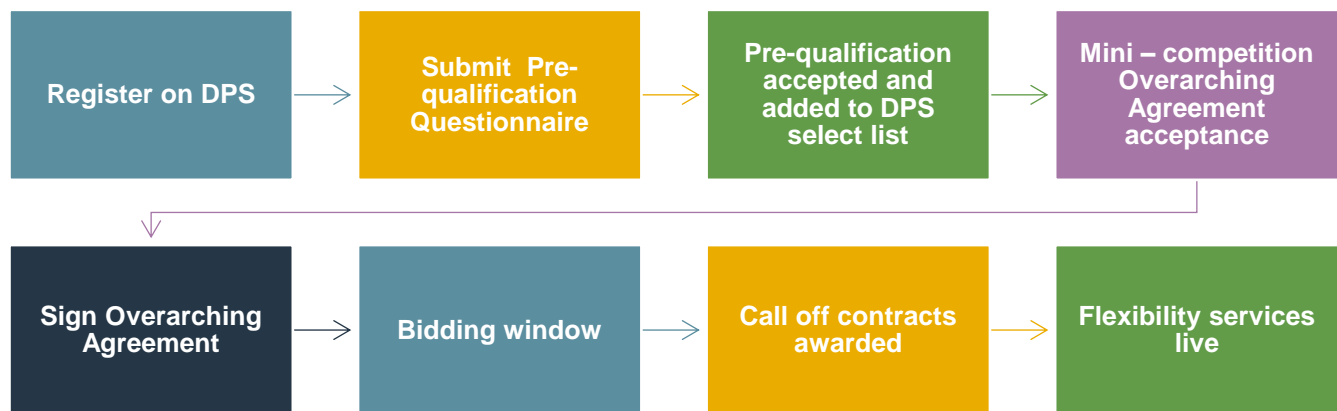


Figure 5: Process for participating in Flexibility Services.

Prospective providers must be pre-qualified on the Dynamic Purchasing System (DPS)<sup>23</sup> to participate in any tender. Businesses can simply register and complete the pre-qualification questionnaire for North (SHEPD) or South (SEPD) network areas on our DPS platform. Note that providers with assets in both North and South would need to complete questionnaires for both areas. As shown in Appendix 4, the pre-qualification questionnaire will also be updated in Spring 2024 to align with the new ENA standard. This means that there will

<sup>23</sup> [Scottish and Southern Electricity Networks – Dynamic Purchasing System for Constraint Managed Zones \(delta-esourcing.com\)](https://delta-esourcing.com)



be a change to the registration and pre-qualification process, and the updated process will be communicated clearly on our Flexibility Services website.

Introduction of the DPS allowed for ongoing registration and pre-qualification of potential providers, independent of any specific tenders. Providers must have submitted their completed pre-qualification questionnaire (PQQ) on the DPS platform. This will have been evaluated and accepted or declined by us, in line with the ENA standard PQQ guidance, prior to a mini-competition being launched. The acceptance of the submitted PQQ is the critical step for ending up on what is currently known as the DPS 'Select' List. FSPs are asked to submit the PQQ 10 working days before a mini-competition opens to allow time for the assessment, as this is aligned with the timescales SSEN Distribution have to review such submissions under the DPS procedure. Submission in short timescales will be reviewed on a best endeavors basis. Any FSP who submits a PQQ that is declined will be provided with feedback on their submission and is free to resubmit at any time while the DPS is open.

During a mini-competition, the FSP must respond and confirm acceptance of the Overarching Agreement and highlight any concerns over the Service Terms. Following the mini-competition the Overarching Agreement is issued for signature. Once the Overarching Agreement is signed an FSP can participate in any future bidding round. To participate in a bidding round an Overarching Agreement must be signed.

Appendix 4 shows the calendar of events until December 2024 and is included in our Flexibility Roadmap. This will be extended to April 2025 following implementation of our new market platform and published on our Flexibility Services website for providers to refer to.

Mini-competitions and bidding rounds will be advertised online on our Flexibility Services website<sup>24</sup> and communicated to all those registered on the DPS. Social media, the DSO Newsletter and webinars will also be used to advertise procurement.

There can sometimes be the need to complete additional bidding rounds with less notice, for example due to an emerging requirement or additional need being identified. We advertise these in the same way and as we gain more insight into short-term requirement identification, we will build timetables around them.

### 3.1.2 Scheduling and Dispatch Mechanism

The scheduling and dispatch have two separate parts, the issuing of availability instructions (where applicable) and the issuing of utilisation instructions. We have the functionality to schedule and dispatch services either by phone, email, or API to allow for instant communication from ourselves to the FSP. Figure 6 shows the process and options for scheduling flexibility that we utilise.

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<sup>24</sup> [Flexibility Services - SSEN](#)

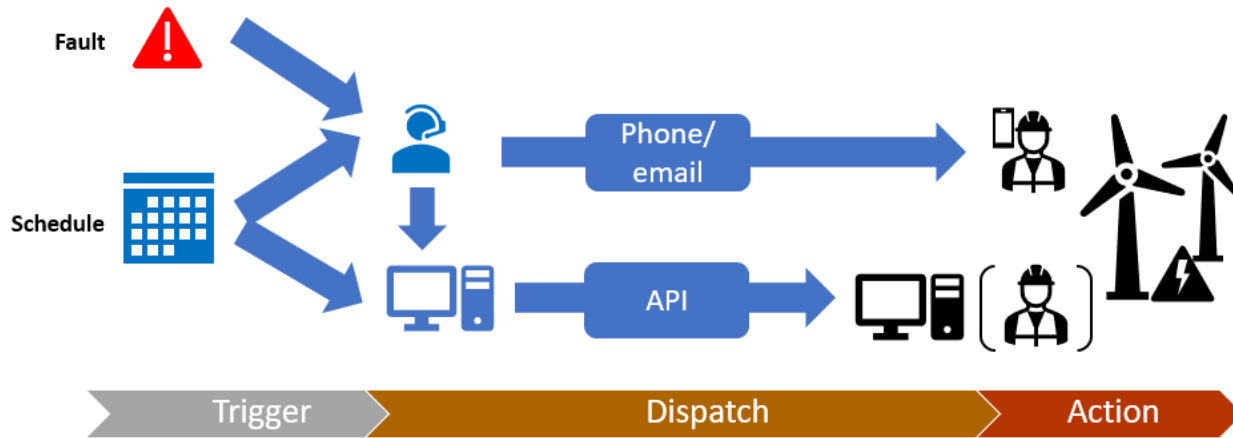


Figure 6: Scheduling and dispatch mechanism.

Phone, email and API are all currently used to allow us to involve as many distinct types of FSPs as possible. Overtime our aim is to transfer as many providers as possible to API dispatch, which is currently done through the Flexible Power platform,

We will schedule Flexibility Services at varying timescales depending on the service and need as described in Table 8.

Service	Availability Request Lead Time / Period Covered	Utilisation Request Lead time / Period Covered
Sustain	Not Applicable	1 month / 1 season
Secure (forecast based)	5 weeks / 1 month	3 days / 1 week
Secure (planned works)	At least 5 days / variable	At least 15 mins / 1 day
Dynamic	At least 5 days / variable	At least 15 mins / 1 day
Restore	Not Applicable	At least 15 mins / 1 day
Scheduled Availability + Utilisation	At Trade	Week Ahead
Variable Availability + Operational Utilisation	Month Ahead	Week Ahead

Table 8: Scheduling times by flexibility service type.





## 3.2. Changes to Flexibility Processes

We look to continually improve our processes based on FSP feedback, and some examples of this are captured in Section 4.3. However, there are several areas we are particularly focused on developing over the next year. Figure 7 from our Flexibility Roadmap<sup>25</sup> shows our ambition to extend the impact of Flexibility Services into the management of LV contracts and close to real time procurement.

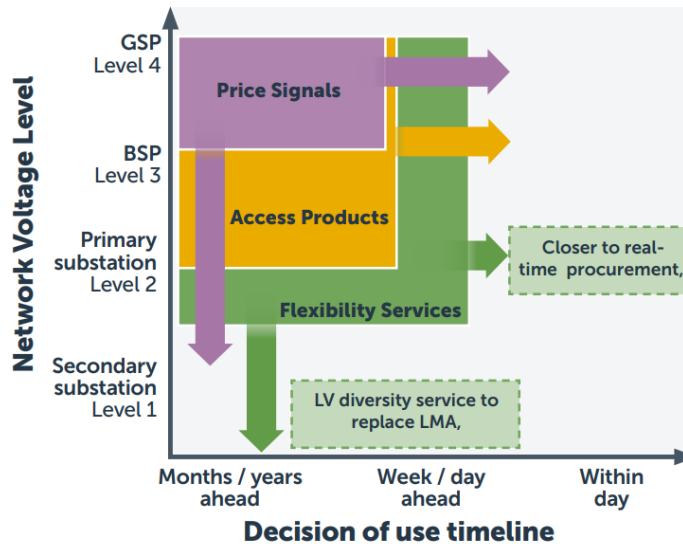


Figure 7: Evolution of flexibility services.

There are several changes we need to enable to achieve this, many of which we have already started. In parallel to this we want to continue to increase market liquidity, and we are supporting the ENA's standardisation process to do this.

### 3.2.1 Changes to SSE Processes

In the last year we have made two significant changes to our flexibility processes: the use of Overarching Agreements in procurement and the use of Flexible Power API dispatch. These changes have supported our work to increase market liquidity.

We expect further changes to our processes as we roll out our new market platform. The new market platform is intended to simplify the bidding process for FSPs and enable this to be completed directly in the platform or via API. It is also a solution that is designed to enable short term bidding and scale as we increase the number CMZs and FSPs. Following implementation of the market platform we will adjust our processes to maximise benefit and streamline the FSP experience, the exact adjustments are platform-dependent, and we will communicate these when available.

### 3.2.2 Implementation of ENA Standards

We believe that standardisation will reduce barriers to entry, particularly for participants whose assets span multiple DSOs. In 2023/24 we moved to using version 2.1 of the Flexibility Services Standard Agreement (FSA) that has been agreed across all DSOs. We continue to contribute to the ENA Open Networks working group to evolve this and look to implement version 3 once this is published.

<sup>25</sup> [SSEN-flexibility-roadmap-draft-0.2.pdf \(tractivity.co.uk\)](#)



In April 2024 we will be closing our current DPS instance in the Delta platform to move to using the new standard PQQ from the ENA. We will aim to use this opportunity to transfer to our new market platform, resulting in a potentially longer period for the DPS to be closed than other DSOs. The changes will be communicated via our Flexibility Services website, and all FSPs who have engaged with us through our current DPS will be contacted directly with updates as appropriate.

We continue to work with the ENA to support the continued development of the standardised processes and will contribute to the Market Facilitator role once this has been appointed.

## 3.3. Insights

### 3.3.1 Pricing

The prices of existing contracts are published on our website<sup>26</sup> as a guide for bidders. Ceiling prices have been previously used to provide clear insight into the maximum price where there is a financial benefit for flexibility over alternative approaches where there is not enough market liquidity for price competition.

Whilst the flexibility markets cannot be described as liquid, there has been a substantial increase in volumes and number of participants in 2023/24. Therefore, for our January and February bidding rounds in 2023/24 we withdrew price ceilings. It was noticeable that all participants were consistently bidding in at the price ceiling, therefore making it difficult to understand the value of flexibility in a particular area. Also, the price ceiling approach did not allow FSPs to reweight the Availability and Utilisation pricing for different portfolios or risk profiles. We have had mixed feedback from FSPs on this approach and will continue to review the use of the price ceiling and use them where we are expecting particularly low market liquidity and insufficient competition. The result of removing the price ceiling can be most clearly seen in our February bidding round where bids were received ranging in £6.60/MW/h to £185/MW/h for Availability payments.

To replace price ceilings, we have provided forecast utilisation and an expected flexibility spend for each zone. The expected flexibility spend is from the Common Evaluation Methodology tool and articulates the assumed cost to enable a positive CBA. We will continue to look at additional data we can provide to support FSPs pricing analysis.

### 3.3.2 Trends in Flexibility Services

Over the past year we have increased the Flexibility Services we have procured and utilised.

The initial focus for 2023/24 was to execute contracts from previous procurement rounds where bids had been accepted, but contractual negotiations were still ongoing. Where there were contractual concerns raised by FSPs, these were considered and where appropriate feedback to the ENA Open Networks standard contract working group to be considered for inclusion in version 3 of the FSA. This approach allowed us to reduce the contracting time for the Overarching Agreement. From the mini-competition closing to the award of the final contracts it took 3 months.

Having multiple providers on the Overarching Agreement then allowed us to procure significant volumes in our final bidding round in 2023/24. The initial wide area procurement was completed in Fleet-Bramley for the acceleration of connections. We now have confidence in this approach and will apply these learnings for West London in our May 2024 bidding round. We intended to complete West London ahead of Fleet-Bramley in our last Procurement Statement, however as this was a new approach for us, we first wanted to complete this in an area with less network complexity and interaction than West London. The lessons learnt from this exercise will be applied to the West London procurement round.

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<sup>26</sup> [Flexibility Services Document Library - SSEN](#)



In our dispatch timescales we have seen some providers declining availability requests at month ahead, as we increase the volume we are procuring we will continue to review the products being procured. As can be seen in Figure 3, where we anticipate low market liquidity, we will move to the Scheduled Availability product to have more confidence in the volumes being dispatched. The introduction of shorter-term markets in 24/25 will also support management of these and other short-term issues.



# 4. STAKEHOLDER ENGAGEMENT

## 4.1 Summary

Our Stakeholder engagement can be split into several key focus areas:

1. Recruitment of new FSPs.
2. Encouraging participating in bidding for existing FSPs.
3. Improving processes and development of future Flexibility Services.
4. Alignment, leading and learning from other DSOs.
5. Coordination with the ESO.

In addition to these specific, targeted stakeholder engagement areas, we have advertised the use of Flexibility Services in general across the industry. This has been achieved in the last year by collaborating with Utility Week on Flexibility articles, presenting and exhibiting at the Utility Week's Future Networks event and the Distributed Energy Show and presenting our decision-making process to the Association of Distributed Energy (ADE). For 2024/25 we are planned to continue our collaboration with Utility Week, with presentations at Utility Week Live in May 2024. We also have planned presentation in November 2024 at the Future of Utilities: Smart Energy conference and continue to explore the most effective opportunities to advertise Flexibility Services.

## 4.2 Recruitment of New FSPs

We have successfully added nine new FSPs in 2023/24. These new providers have either signed a bi-lateral contract or an Overarching Agreement for the first time with SSEN in 2023/24. We aim to continue to build on the positive engagement we have had over the previous year.

The evolution of the procurement process to an Overarching Agreement allows FSPs to complete the pre-qualification and contracting once, then focus on the bidding process. The detailed steps for an FSP to sign an overarching agreement can be seen in Section 3.1.1. We have received positive feedback from providers on this approach.

Response to a mini-competition is a requirement to sign an Overarching Agreement, and we aim to run a new mini-competition ahead of our key long-term bidding rounds. A mini-competition is announced online at least 30 days ahead of tender start, to allow new FSPs to complete the pre-qualification process. During this time a public webinar is held to encourage new providers to sign up. The webinar and associated mini-competition are advertised through our market platform (currently Delta); social media; our events platform<sup>27</sup> and email.

FSPs are encouraged to sign up to our events platform<sup>28</sup>, email us directly<sup>29</sup> or sign up to the DSO newsletter<sup>30</sup>. As we change our market platform, we will communicate through these channels to advise on next steps.

For requirements in remote locations where only certain DERs could possibly provide services competition, the owners/operators may be contacted directly and encouraged to participate in the process.

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<sup>28</sup> <https://ssen.engage-360.co.uk/events/3895>

<sup>29</sup> [flexibilityprocurement@sse.com](mailto:flexibilityprocurement@sse.com)

<sup>30</sup> <https://forms.office.com/Pages/ResponsePage.aspx?id=gw87leYcw0WCyR2EficiOR5Sy8lvG7pLkKaOuv-WkplUMVRPMU9VMTRONU5BWIVVVFBYUFFPM0ZMMCQIQCN0PWcu&wdLOR=cCDF559DC-41FA-F244-BAFD-D6E8C1A44264>



## 4.3 Encouraging Participation in Bidding

The transformation of our process to using Overarching Agreements results in there being two key points of engagement for our FSPs. First, we recruit new FSPs to sign the Overarching Agreement and then to utilise their portfolio they must participating in a bidding round. The advantage of this approach is once the contract is signed the contracting burden is reduced for all future bidding rounds.

To encourage participation in bidding, we ensure ahead of the bidding round the following information is available:

- Location description: both in terms of post codes and shapefiles
- Service requirements
- Forecast utilisation requirements
- Where available estimated flexibility expenditure (from the CEM tool)

Currently this information is included in a “Tender for Services” Excel file which is published on our website. A notice is published on our main Flexibility Services page<sup>31</sup> and the Excel file is emailed to all participants who have an active Overarching Agreement. Also trialed in 2023/24 was publication of the bidding rounds on the PicloMax platform. For longer term tenders where there is an associated mini-competition this is also included in the webinar for these events.

In future we expect to provide the majority of the information through our new market platform, allowing providers to access the information directly through the portal or via APIs. We will continue to use email, social media and press releases to advertise and build interest in the bidding processes.

## 4.4 Improving Processes and Development of Future Services

We are constantly looking to evolve and improve our processes to reduce barriers to entry and support participation by FSPs. As such, we look for both informal and formal feedback and provide multiple opportunities for this to occur.

### 4.4.1 Continuous Improvement

We are taking a continual improvement approach to Flexibility Services. Therefore, after every bidding round when results have been established, we reach out to eligible providers to find out if there are areas for improvement and for those that did not participate, why they choose not to. This has resulted in an extensive list of small and large improvements to our processes and has informed our requirements for our new market platform. Examples of feedback we have actioned over the last year include increasing the number of Excel rather than pdf-based documents, adding ‘minimum capacity’ for each zone in the bidding sheet and capturing API requirements. We will continue to take this approach with FSPs and, where appropriate, feedback this information to the relevant ENA working groups to drive standardisation for the benefit of all FSPs and DSOs.

### 4.4.2 Long Term Development

In financial year 2023/24 we held two flexibility webinars focusing on long term flexibility strategy. The first of these, held in November 2023, focused on feedback on the development of strategic principles. The second launched our consultation on the Flexibility Roadmap. We expect to have a webinar updating progress on the Flexibility Strategy in September 2024, and use feedback from this to update our Flexibility Roadmap. Then complete an update and consult with industry on this in the first quarter of 2025.

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<sup>31</sup> <https://www.ssen.co.uk/our-services/flexible-solutions/flexibility-services/>



The LMA project held several in-person strategy sessions in 2023/24 and expects to continue this as the technical and commercial trials progress through 24/25. These will be a combination of focused calls with specific participants, publication of learnings through reports and webinars, and in-person strategy sessions as appropriate. The in-person strategy sessions will particularly focus on where there are complex and detailed conversations that need further development.

We continue to explore how our portfolio of innovation projects can be used to drive Flexibility Services forward. Particularly looking at where there are specific gaps in uptake or enablement across industry. An example of this approach is the HomeFlex<sup>32</sup> Networks Innovation Allowance (NIA) Project, which has developed a code of conduct for FSPs that leverage residential Flexibility Services. As Homeflex matures, we continue to look at how we can incorporate this into our Flexibility Service procurement and dispatch process.

In March 24 we started the MaxFlex Strategic Innovation Fund (SIF) project which looks at how commercial and local authority buildings can be supported in the development of capability to support participation in flexibility.

## 4.5 Engagement with other DSOs and the ENA

The ENA's Open Networks programme is the main forum for engagement with the ESO and other DNOs on Flexibility Services, with specific focus on the alignment of service types, stacking, contracts and processes. We actively contribute to the industry Standard FSA, baselining methodology, procurement parameters and processes, and in particular, lead the settlements working group. We also then implement the process and procedures when agreed upon.

From April 2024 we will be using the new pre-qualification questionnaire as agreed by all DSO. We already use the current version of the FSA and will implement new versions when these are published. The new standard product definitions were integrated into the Overarching Agreement from September 2023, and this enables us to use the new products immediately.

We are also a member of the Flexible Power collaboration, which has developed and launched a platform used by providers and DNOs to automate service dispatch and performance management. In 2023, we started using API dispatch in the platform to operate Secure services in the south of England.

## 4.6 Engagement with NESO

We engage with the ESO on all aspects of Flexibility Services and expect to continue to do so going forward. Engagement has included bilateral conversations, projects and response to consultations. This section outlines some specific areas of focus for collaboration, however this is not an exhaustive list.

### 4.6.1 Local Constraint Markets (LCM)

The ESO LCM aim to procure services to increase electricity consumption and reduce embedded generation export to reduce key constraints. Initially focused on B6, wind driven constraints in the Balancing Mechanism (BM), by increasing electricity consumption and reducing embedded generation export. This would reduce the level of transmission constraint and BM wind curtailment. We fully support this ambition to reduce network constraints.

Similar to the LMA project, localised increases in demand can result in overloads in the local networks. Our aim through our collaboration with the ESO is to enable the service to be procured at scale whilst having a system in place to highlight and resolve localized network constraints.

Since June 2023 we have meet fortnightly with ESO to discuss the LCM project. These fortnightly meetings have been extended to include Scottish Power Energy Networks since August and have proposed the implementation

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<sup>32</sup> <https://ssen-innovation.co.uk/nia-projects/homeflex/>



of process that allow SSEN to highlight available capacity by network location for ESO demand turn up and embedded generation turn down.

We expect to continue to collaborate on short- and long-term solutions and to keep meeting as this project develops and increases in scale and capacity.

## 4.6.2 CrowdFlex

The CrowdFlex<sup>33</sup> project is a Strategic Innovation Funded (SIF) project which entered Beta phase in Autumn 23. The aim of the project is to develop and validate a statistical tool that estimates the volume of flexibility that can be secured from domestic flexibility. The data gathered from a series of flexibility trials involving up to 80,000 consumers across GB. will gather data which will help better understand how domestic flexibility can be utilised as a resource and identify go-to market strategies with potential FSPs.

As a partner to the CrowdFlex project we are actively participating in enabling the trials to go ahead to gather the required data whilst operating the network safely and securely. We also supporting the detailed shaping of the deliverables, so the learning is applicable for DSO Flexibility Services.

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<sup>33</sup> [Crowdflex | ESO \(nationalgrideso.com\)](https://www.nationalgrideso.com)





# 5. DETAILED QUANTITATIVE ASSESSMENT

This section aims to provide additional insight on how we quantify and assess the benefit of Flexibility Services, this supports the commentary in Section 2A on the process for identifying constraints but is specifically focused on the cost benefit analysis.

## 5.1 Requirements and Benefits Analysis

The constrained parts of the network are identified by:

- Long-range network planning forecasts that indicate risks of thermal, voltage or frequency limits being reached, either in normal operation or under outage conditions.
- General fault mitigation plans for parts of the network that cannot be easily reconfigured and therefore are subject to higher supply restoration times.
- The requirement to carry our work on the network as identified by our outage planning teams.

Source	How Requirements are Identified	Business Case
System Planning	Annual long-range load forecasting by System Planning.	<ul style="list-style-type: none"> <li>• Positive Net Present Value (NPV) for deferral.</li> <li>• “Hedging” – Optionality value of deferral.</li> <li>• Risk reduction (reinforcement delay risks).</li> <li>• Acceleration of connections.</li> </ul>
Outage Planning	Annual assessment by Outage Planning of planned works, parts of the network with single circuit risk, or poorly-served areas which could be supported by Flexibility Services.	Flexibility used as an alternative to mobile diesel generation or use of SSEN owned generators (on Scottish Islands). A cost comparison is carried out based on a range of potential availability/utilisation scenarios.

Table 9: Sources of identification of CMZs.

Opportunities to procure Flexibility Services to defer or avoid reinforcement are identified by reviewing all reinforcement proposals to establish if flexibility would be a technically viable alternative. The DFES scenarios are the load forecasts used to identify the service windows and capacity required, and the conditions under which the exceedance could occur are used to estimate the utilisation and determine the best fit service.

We use the Common Evaluation Methodology (CEM) developed by Open Networks to carry out a cost benefit analysis (CBA) by comparing the Net Present Value (NPV) of discounted cashflows of each solution to determine if there is an economic benefit of reinforcement deferral. We use existing data on flexibility prices from different types of providers, alongside estimates on the make-up of flexibility provider types in a given area to estimate flexibility prices for a given constraint. These prices are then used by the CEM tool to calculate the NPV of the deferral with flexibility, which is then compared against the NPV of the reinforcement solution. The difference between the NPV of the network reinforcement versus the NPV of the deferred reinforcement with flexibility represents the benefit of deferring with flexibility, and the duration of the deferral is selected as the





duration that maximises this benefit. Figure 8 is a simplified schematic demonstrating this calculation considering a one- or two-year deferral.

	NPV	Year 1	Year 2	Year 3
Baseline	NPV (Baseline)	Reinforcement cost		
Deferral (1 year)	NPV (Deferral 1 yr)	Flexibility cost	Reinforcement cost	
Deferral (2 year)	NPV (Deferral 2 yr)	Flexibility cost	Flexibility cost	Reinforcement cost
Benefit	= NPV (Deferral) – NPV (Baseline)	Optimal deferral duration = duration with greatest NPV		

Figure 8: Schematic to show how the benefit of Flexibility Services can be determined based on reinforcement deferral.

Other business drivers and economic benefits for the use of flexibility are also considered at this stage:

- Optionality value, where load forecasts are very uncertain, and more time is needed to establish if reinforcement is justified.
- Where reinforcement cannot be delivered in time to ensure security of supply compliance.
- Where we identify the need to further support and facilitating connections to our networks.

Flexibility Services requirements based on network studies can be determined for general fault contingency planning, or as part of specific planned works where the alternative would have been diesel generation to support unplanned or planned outages. The economic benefits in these cases are based on customer interruption costs and potential CO<sub>2</sub> savings that are calculated by comparing the emissions of diesel generation against the bidder's assets. For completeness, the diesel conversion factor used (gross calorific value, 100% mineral diesel) is 0.25338 tCO<sub>2</sub>/MWh<sup>34</sup>.

## 5.2 Response Evaluation Criteria

As part of the tender evaluation process, we will score providers per zone and service based on quality and price criteria. Details of the scoring mechanism are included with each invitation to tender. For short term tenders these follow the methodology outlined in the ODM and Section 2B.6, so all providers are being judged on the same basis at the same moment in time.

### 5.2.1 Existing long term bid assessment process.

For our longer-term tenders pricing is the predominate factor in assessing a requirement. Our existing process uses the following criteria when two providers have an equal price, and it is not appropriate to select both bids. The following process is followed for all providers participating in that zone:

All providers are assigned a quality score. The quality score will include the following criteria:

- Service requirement.
- Service management.

<sup>34</sup> All DERs used in 2021/22 were hydro or wind, which for simplicity are treated as having zero carbon emissions.



- Health, Safety & Environment
- Technical operation
- Information Security
- Commercial viability
- Participation industry scheme such as HomeFlex or Flex Assure

Prices are scored relative to other bidders for the same zone and service, following a “pay as bid” principle.

The price score is determined by comparing the best, lowest price of all bids in this tender for the zone and service (e.g., the lowest price will achieve a maximum score of 100). Any prices above the relevant ceiling price will be awarded a score of 0 and will be ineligible for award. Prices above the lowest price and below the ceiling price will achieve a proportioned reduced score from 100. Where prices are bid in for both availability and utilisation a blended rate will be used by combining both prices based on an expected and forecasted utilisation volume.

The Quality Score and Price Score are used in the formula below to determine the Total Score for a zone and service.

***Total Score by Item = (Price Score x Price Weighting) + (Quality Score x Quality Weighting)***

The Price and Quality Weighting used previously was:

- The price weighting: 70%
- The quality weighting: 30%

This process was not needed in 2023/24 tenders as all volume requested was either under procured or both bids could be accepted, and the ODM dispatch process could be followed in shorter timescales. Where over-procurement occurred, providers were alerted to this.

## 5.2.2 Changes to long term bid assessment

The procurement of a new market platform includes a new bid assessment process, with the aim to automate the assessment using predetermined rules, to allow scalability of procurement. The requirement on market platform providers was to provide an auction platform that could assess multiple variables in price, including asset reliability and ‘sensitivity’ (impact a provider has on a constraint).

Following award and implementation of the market platform the assessment process will be published (either on our website or kept in the market platform) and this will be clearly visible to all participants.



# APPENDIX 1: SSEN DISTRIBUTION GRID SUPPLY POINTS

SHEPD Grid Supply Points		
Abernethy	Dunoon	Nairn
Alness	Dunvegan	Persley
Arbroath	Dyce	Peterhead Grange
Ardmore	Elgin	Peterhead Shell
Beauly	Fiddes	Port Ann
Boat Of Garten	Fort Augustus	Quoich
Braco	Fort William	Rannoch
Bridge Of Dun	Fraserburgh	Redmoss
Broadford	Glenagnes	Shetland
Brora	Grudie Bridge	Shin
Burghmuir	Inverness	St Fergus Gas
Carradale	Keith	St Fillans
Cassley	Killin	Stornoway
Ceannacroc	Kinlochleven	Strathleven
Charleston	Kintore	Strichen
Clachan	Lairg	Tarland
Clayhills	Lunanhead	Taynuilt
Coupar Angus	Lyndhurst	Thurso
Craigiebuckler	Macduff	Tummel Bridge
Dounreay	Milton Of Craigie	Willowdale
Dudhope	Mybster	Woodhill

Table 10: List of GSPs in SHEPD.

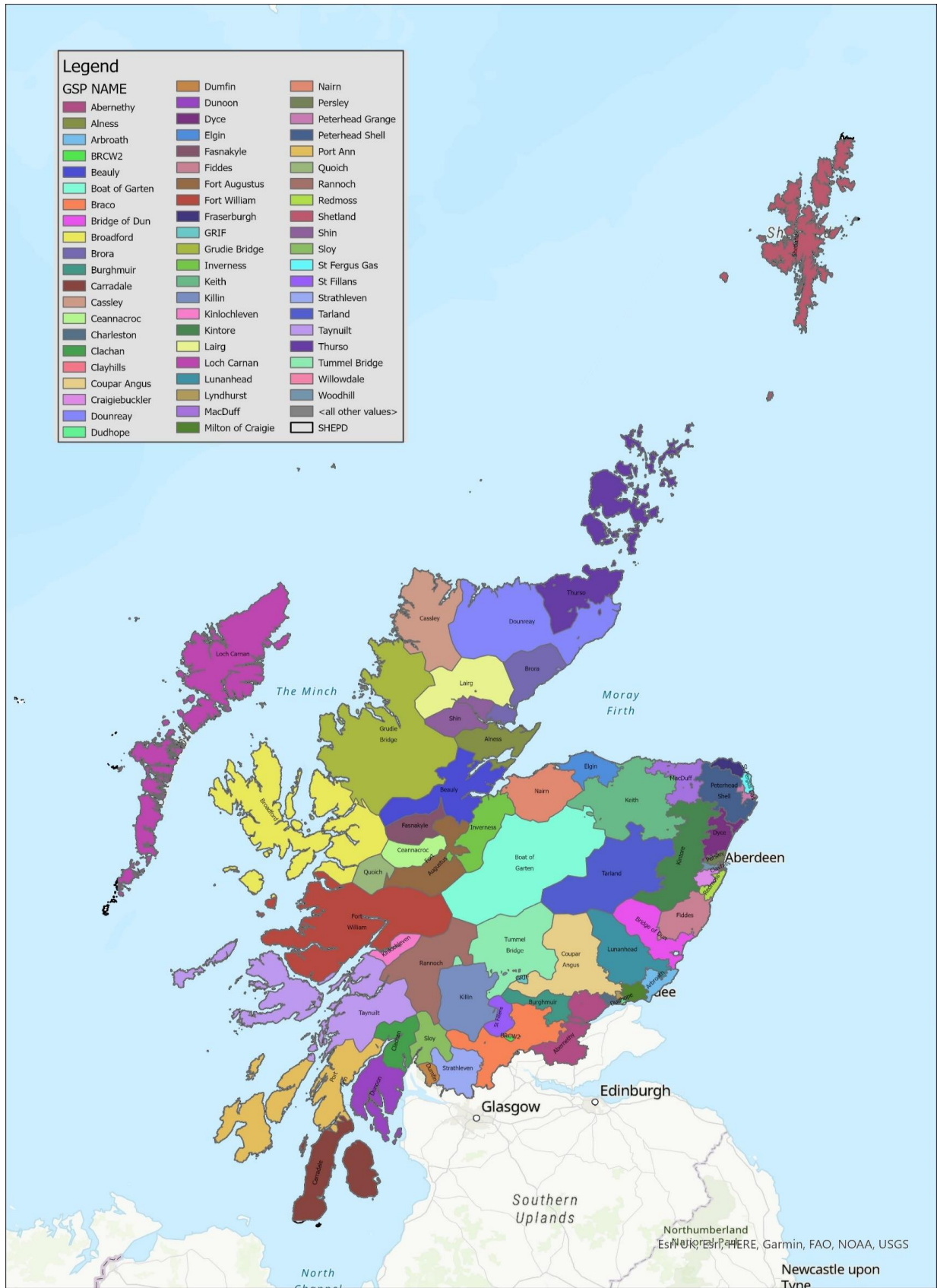


Figure 9: Map of GSPs in SHEPD.



SEPD Grid Supply Points			
Amersham	Mannington	Laleham	North Hyde
Iver	Axminster	Minety	East Claydon
Bramley (Flee)	Chickerell	Melksham	Botley Wood
Cowley	Bramley (Ando-That)	Willesden	Nursling
Lovedean	Bramley (Basi)	Ealing	Fawley

Table 11: List of GSPs in SEPD.

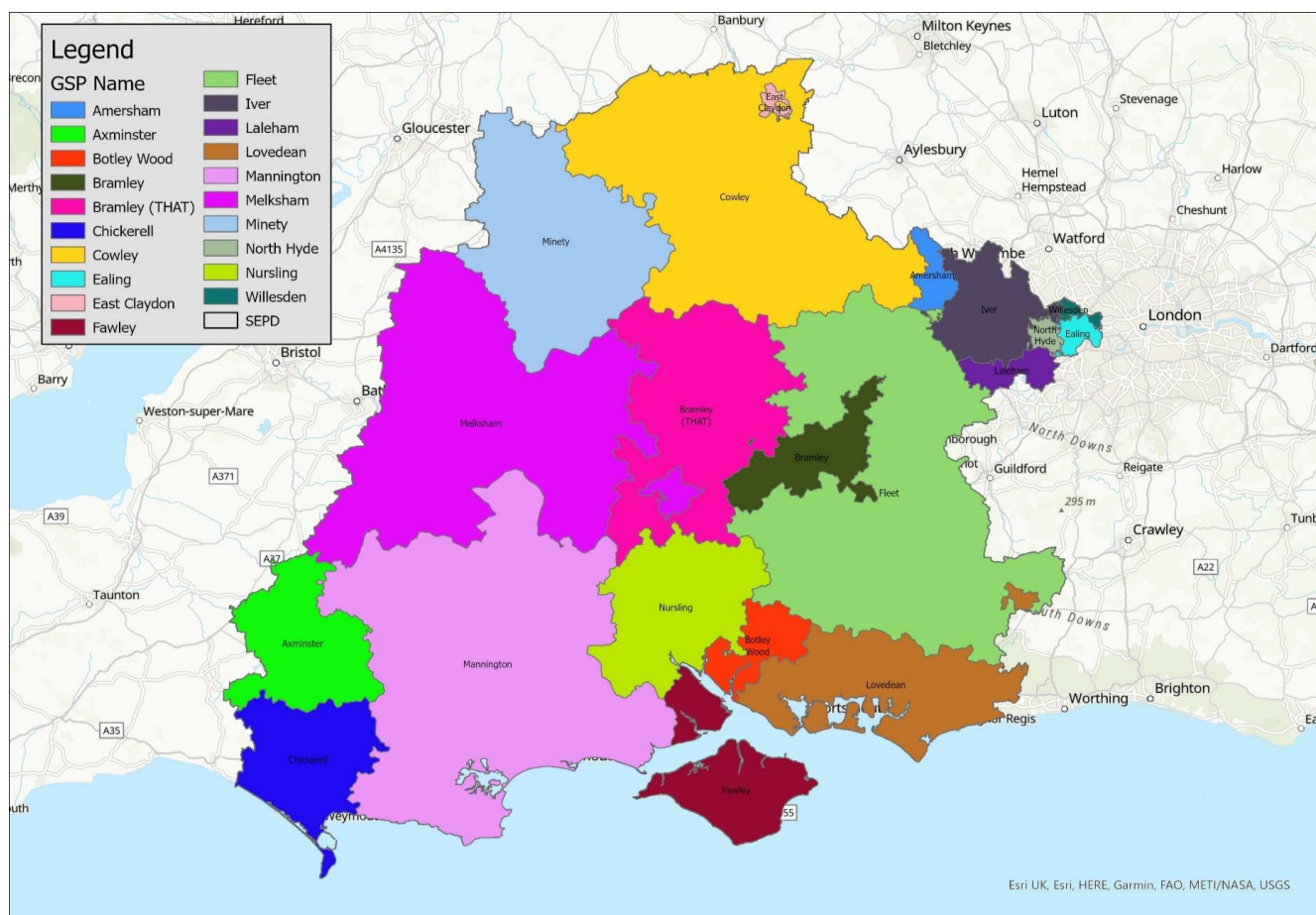


Figure 10: Map of GSPs in SEPD.



## APPENDIX 2: USEFUL LINKS TO ADDITIONAL INFORMATION

System	Description	Link
DPS (Delta-esourcing)	Dynamic Purchasing System, currently used for pre-qualification and tendering (to be discontinued in April).	<a href="https://ssen.delta-esourcing.com/">https://ssen.delta-esourcing.com/</a>
Flexible Power Website	Dispatch platform.	<a href="https://www.flexiblepower.co.uk/locations/scottish-and-southern-electricity-networks">https://www.flexiblepower.co.uk/locations/scottish-and-southern-electricity-networks</a>
SSEN Website	Information on Flexibility Services and links to documentation including procurement statement, service documentation, zone map and tender results.	<a href="https://www.ssen.co.uk/our-services/flexible-solutions/flexibility-services/">https://www.ssen.co.uk/our-services/flexible-solutions/flexibility-services/</a>
ENA Open Networks Workstream 1A website	Information on the Open Networks Flexibility Services workstream (archived web-page).	<a href="https://www.energynetworks.org/creating-tomorrows-networks/open-networks/flexibility-services">https://www.energynetworks.org/creating-tomorrows-networks/open-networks/flexibility-services</a>
National Grid ESO Website	National Grid ESO and distributed network operators (DNOs) are working with stakeholders across Great Britain through Regional Development Programmes (RDPs).	<a href="https://www.nationalgrideso.com/research-publications/regional-development-programmes">https://www.nationalgrideso.com/research-publications/regional-development-programmes</a>
Operational Decision-Making Framework March 2024	ODM sets out the way in which we dispatch Distributed Energy Resources (DERs) to meet short-term capacity needs in a fair and efficient way.	<a href="https://www.ssen.co.uk/globalassets/about-us/dso/publication--reports/ssen-dso-odm-framework-update-march-2024.pdf">https://www.ssen.co.uk/globalassets/about-us/dso/publication--reports/ssen-dso-odm-framework-update-march-2024.pdf</a>
Flexibility Roadmap	Document setting out our flexibility approach and how it will evolve over time.	<a href="https://ssen.tractivity.co.uk/images/blob/ac891aaa-7036-4ec1-9e9e-cb33fdfe50c9/SSEN-flexibility-roadmap-draft-0.2.pdf">https://ssen.tractivity.co.uk/images/blob/ac891aaa-7036-4ec1-9e9e-cb33fdfe50c9/SSEN-flexibility-roadmap-draft-0.2.pdf</a>
DNOA Methodology	Document describing the process we use to make decisions on how to meet the network's needs	<a href="https://www.ssen.co.uk/globalassets/about-us/dso/publication--reports/ssen-dnoa-methodology-final-march24.pdf">https://www.ssen.co.uk/globalassets/about-us/dso/publication--reports/ssen-dnoa-methodology-final-march24.pdf</a>



	through flexibility or strategic investment.	
DNOA Outcomes	Document detailing the outcomes of the DNOA process so far.	<a href="https://www.ssen.co.uk/globalassets/about-us/dso/publication--reports/ssen-dnoa-outcome-reports-march-24.pdf">https://www.ssen.co.uk/globalassets/about-us/dso/publication--reports/ssen-dnoa-outcome-reports-march-24.pdf</a>

Table 12: Table of links to useful information.





# APPENDIX 3: OPERATIONAL DECISION-MAKING PROCESS

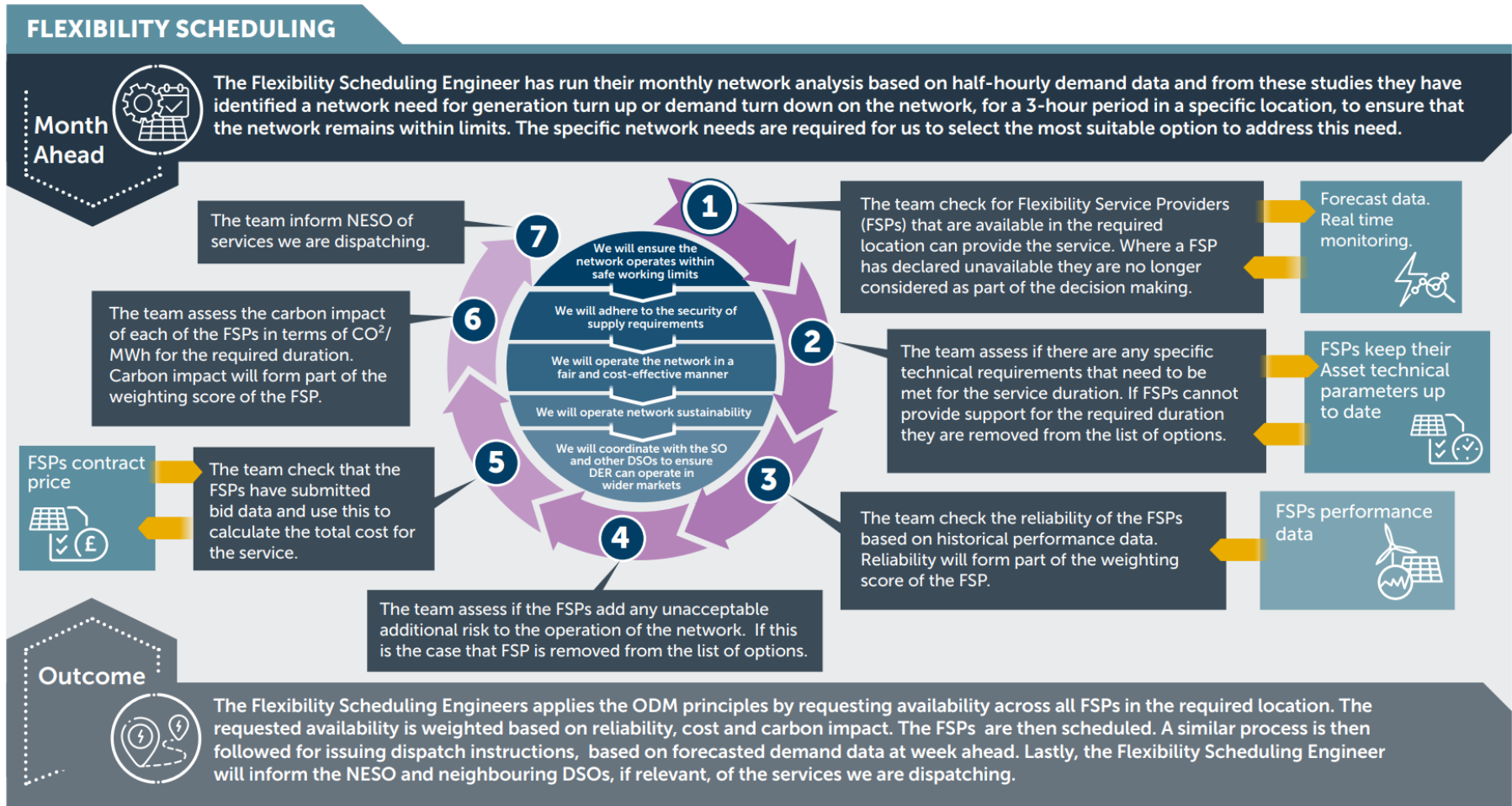


Figure 11: Operational Decision-Making process part 1.



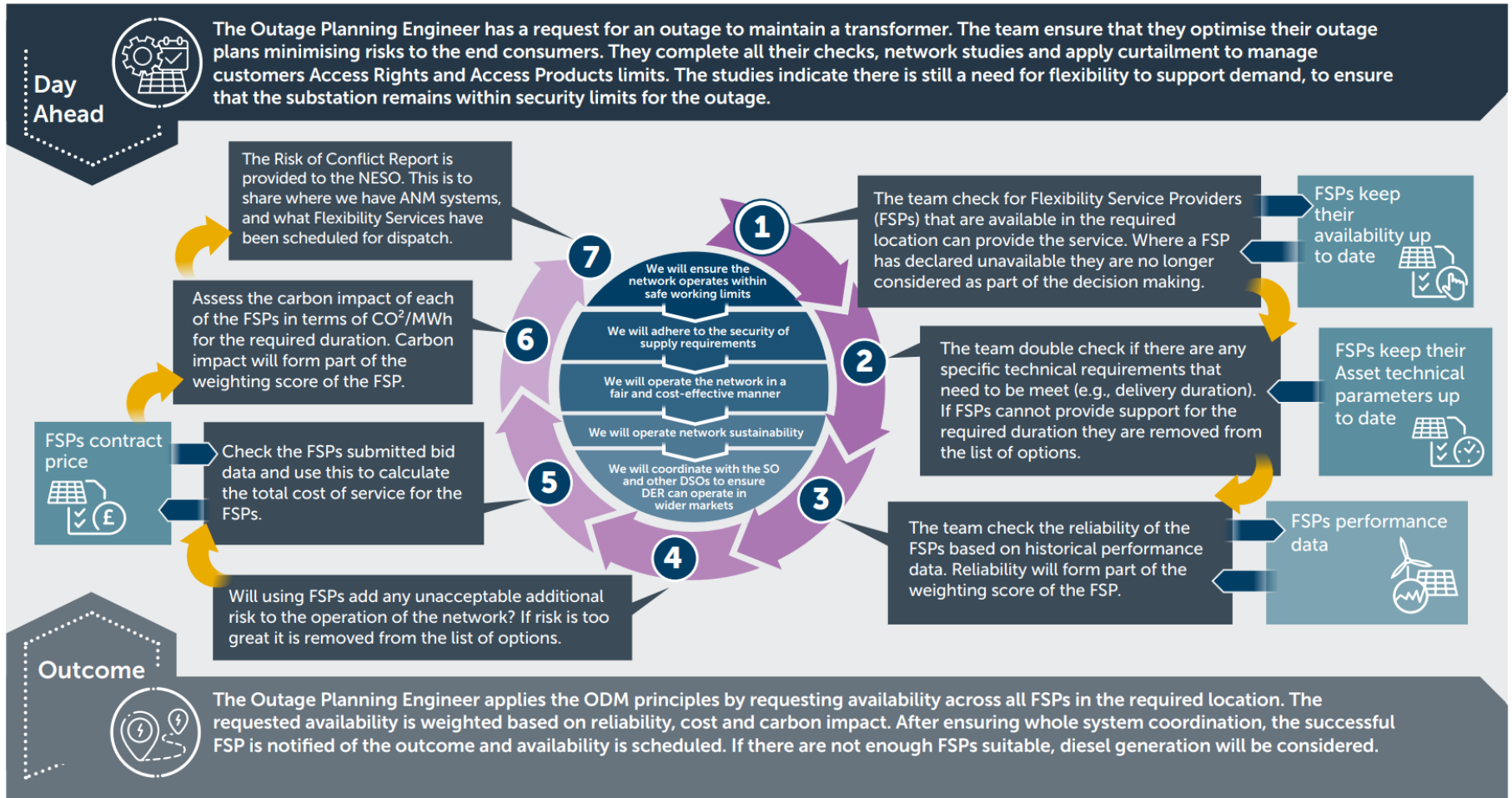


Figure 12: Operational Decision-Making part 2.



# APPENDIX 4: FLEXIBILITY PROCUREMENT TIMETABLE

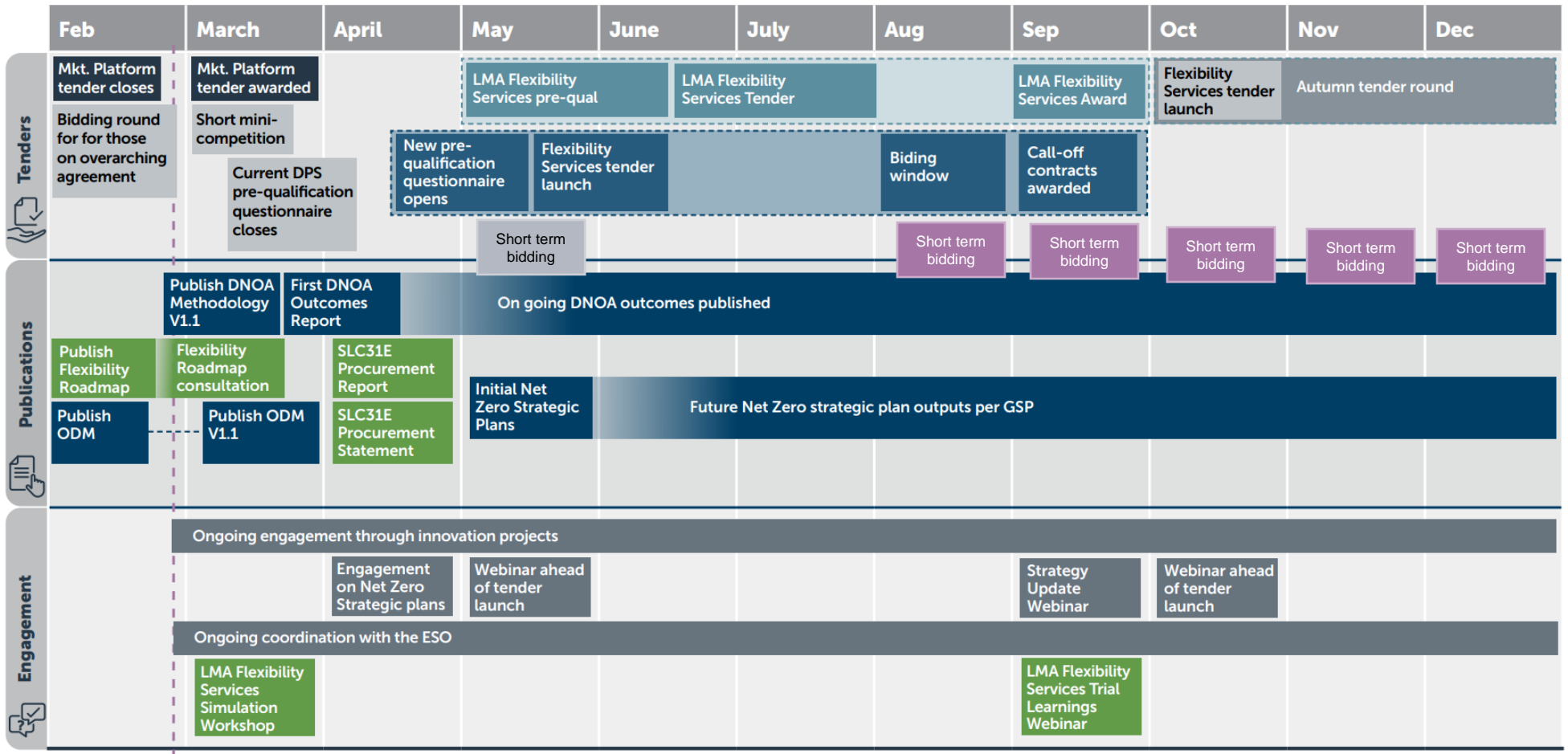


Figure 13: Flexibility procurement timetable.



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