

# **Distribution Flexibility Services**

## Procurement Statement for SP Distribution PLC and SP Manweb PLC

**1st April 2023**

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## Contact Details

# Executive Summary

**We are SP Energy Networks, we own and operate distribution networks in Southern and Central Scotland, Merseyside, Cheshire, Shropshire and North Wales. We are the only network operator to serve communities across all three governments: UK, Scottish, and Welsh. Each have bold ambitions to deliver their own sustainability and Net Zero targets. In our unique position to support these objectives, we recognise that each region has distinct opportunities and challenges. We will enable the communities we serve to meet their targets through our industry-leading planning tools, processes and policies to embrace flexibility solutions, enable flexibility markets, and encourage greater flexibility market participation to unlock the network capacity to meet these needs.**

Our strategic vision is to "maintain a safe, secure and reliable network by efficiently delivering the capacity our customers need to decarbonise, in the timescales they need it – so that they can use LCTs immediately and at full capacity". Our RIIO-ED2 plan, beginning on 1st April 2023, will deliver this through a combination of flexible, smart, innovative, and conventional reinforcement interventions. We will depend on new tools and capabilities developed as part of our RIIO-ED2 DSO Strategy, including greater flexibility utilisation from evolving flexibility markets and growing market participation.

We are committed to fair and transparent procurement of flexibility services. During 2020 and 2021 we tendered flexibility services for all locations identified as requiring an intervention due to load growth during the RIIO-ED2 period (2023 to 2028). Amounting to a total of 1.5GW at 1,557 locations. To date, we have accepted bids for over 700MW.

It is our intention to continue to re-tender all existing locations, including for any shortfall in requirements, and any new requirements identified for service windows within a 18-month period from each Tender tranche, allowing providers to submit robust bids, and ensuring we can achieve the most efficient cost for customers.

Our Spring 2023 tender will look to procure approximately 300 MW at over 500 locations – based on requirements over the next 18 months. We will also tender in the Autumn of 2023, again with an 18 month

look ahead of requirements. This means our 2023 Procurement Statement spans the period from Spring 2023 to Autumn 2025.

Alongside our tenders, we will provide visibility of all our identified requirements for the full RIIO-ED2 period, this currently totals around 1.5GW across more than 1700 locations covering all voltage levels. This is a clear demonstration of our commitment to utilising flexibility services. We are continually assessing these requirements using advanced analysis tools, which apply our latest published DFES scenarios to network power flow simulations, to identify our network needs. Additional requirements identified during the year may be tendered for on an ad-hoc basis if they can be managed via flexibility but must be resolved ahead of our planned tender timelines. All our tenders will be published on the Piclo Flex platform.

We encourage participation from a variety of Flexibility Service Providers (FSPs) and will consider bids from those owners and/or operators who have assets that are already connected to our network or are planned to be connected to the network. We will consider applications from aggregators who will look to recruit flexible assets to meet the tender requirements. We also seek participation from FSPs who are unable to offer the full requirements for each service period and we are happy to enter in to single or multi-year contracts.

For each bid submitted, we assess against our published criteria: the overall value of the service offered; the technical parameters; and competing bids. Once bids are received, we will fully assess all solutions to impartially identify the optimal intervention, or combination and sequence of interventions, for the individual constraints.

We continue to look at innovative solutions and new market opportunities for FSPs, highlighted by our successful first phase trials for Demand Shift and Reactive Power (we remain the only DSO to have tendered for reactive power services so far and are committed to further growing this market segment). These trials have proved the concept and shown what is achievable, and we will now move to phase 2 where we assess the commercial arrangements and the management of these services at scale; to maximise the benefits to the network and in turn our wider customer base.

Alongside embedding our business-as-usual flexibility processes, we are continuing to investigate new platforms and contractual processes to develop closer-to-real-time markets, and co-ordinating with the Electricity System Operator (ESO) to realise and optimise whole system benefits. We will continue to contribute to industry working groups to implement further standardisation, and this year will co-Chair two of the Open Networks Technical Working Groups.

Our tenders are widely publicised. In conjunction with Piclo, we undertake ongoing engagement to ensure continuous market development and that potential participants understand what they can offer.

We act on feedback to further develop our processes and procedures, removing barriers and encouraging participation. In 2022, following a low response rate to our Autumn 2021 tender window, we funded Oxera to produce an independent industry report on the potential barriers faced by FSPs with recommendations for us and our DSO partners to improve market participation.

This report is due to be published in Spring 2023, and we will share some of the key findings later in this statement. We have highlighted throughout this statement the direct actions we have taken following stakeholder feedback, findings from the Oxera report, and wider industry developments.

In anticipation of the start of RIIO-ED2, we have re-structured to focus on our DSO obligations and commitments. Our new organisational model and dedicated flexibility function will allow us to build on our learnings to date, further refine our processes and procedures to develop markets and opportunities, and to work with market participants to encourage and enable participation within the distribution flexibility markets.



# Section 1: Introduction

## 1.1 Who we are

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



This document is our opportunity to publicise our forward-looking approach to procuring flexibility services to manage network requirements over the next 18-24 months. It has been prepared by us in accordance with the requirements of our Licence issued under the Electricity Act 1989 (as amended) ('the Act'), specifically Condition 31E. It sets out what Flexibility Services<sup>1</sup> SPEN intends to procure in the next regulatory year, as well as describing how we are complying with the licence condition that requires each licensee to set out the rules and technical requirements governing the procurement of Flexibility Services, the actions taken to ensure active participation of prospective FSPs, and the actions to be carried out to coordinate with other distribution licence holders and the ESO in the procurement and use of Flexibility Services.

<sup>1</sup>Ability to modify energy generation and/or consumption patterns in reaction to an external signal (such as a change in price, or an instruction).

## 1.2 Our Flexibility Approach

**Our strategic vision is to "maintain a safe, secure and reliable network by efficiently delivering the capacity our customers need to decarbonise, in the timescales they need it – so that they can use LCTs immediately and at full capacity".**

We will deliver this vision through flexible, smart, innovative, and conventional reinforcement interventions. We will depend on the new tools and capabilities that our DSO Strategy<sup>2</sup> will give us, not least higher flexibility utilisation from more efficient, co-ordinated, and competitive flexibility markets.

We began tendering for flexibility services in 2019, but the level of services required increased significantly in 2020, when we tendered for all locations with manageable constraints arising from forecast load growth during the RIIO-ED2 period (2023 to 2028). We sought a total of 1.5GW of flexibility services at 1,557 locations across our two licence areas and covering all voltage levels.

The year-on-year increase in flexibility service requirements over the RIIO-ED2 period are significant both in the number of locations and volume of capacity required as shown in Figure 1.

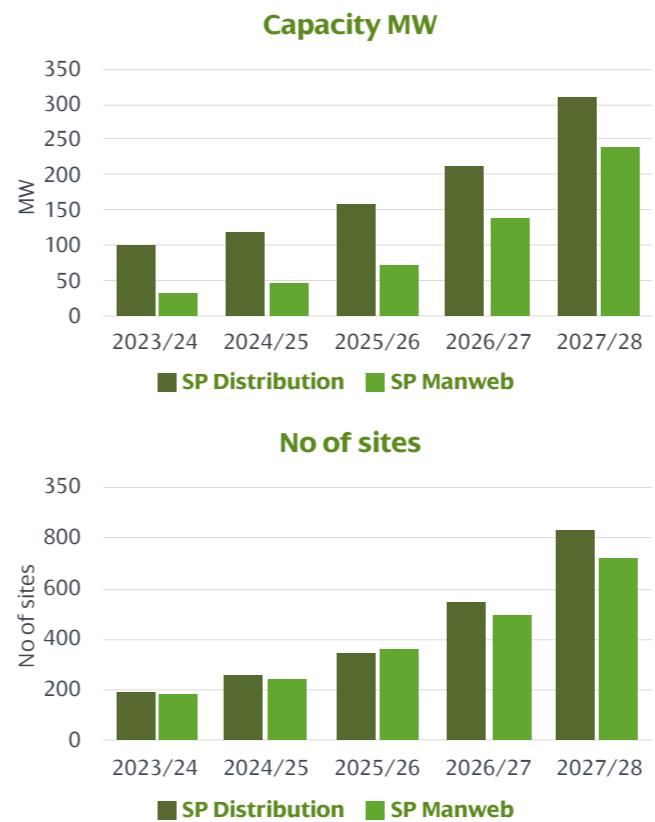


Figure 1 shows the increasing scale of flexibility capacity required and constraint locations year on year.

We re-assess these requirements on an annual basis to inform our flexibility tenders, tendering for the following 18-month period at each tender window.

To manage the forecast growth in services required, we made the commitment to implement a DSO functional model within SP Energy Networks by the start of RIIO-ED2. In light of a highly successful tender window, followed by a low tender turn-out perceived to be due to market saturation from our successful tenders, we agreed a tendering hiatus for 2022 with Ofgem, instead concentrating the necessary time and resources to develop the structure, policies and procedures required to maximise the future flexibility market participation, and maximise the benefits of flexibility procurement and operation. We also agreed with Ofgem to fund an independent investigative study into the potential barriers to FSP market participation and inform future processes.

As we enter RIIO-ED2, our new functional model is now in place, and we are ramping up our recruitment activities to bring in the new skills and resources to deliver on our ambitious flexibility forecasts. Our dedicated Flexibility Team is expanding, and our Head of Flexibility Services is supported by a:

- Flexibility Procurement team, who are responsible for the objective, transparent and market-based procurement of flexibility services to meet our businesses needs.
- Flexibility Performance team, who are responsible for the over-arching operation of our flexibility services, including forecasting, contract management, budgeting, dispatch and settlement.

We are now re-starting tendering for any shortfall in our existing requirements and new requirements identified from November 2023 onwards, with shorter term and closer to real time tenders to be introduced. Each of our tender windows will focus on the requirements of the next 18 months.

Alongside our tenders we will publish our full five-year RIIO-ED2 flexibility requirements to allow FSPs visibility of future tender opportunities and allow them to plan without the burden of submitting applications many years in advance.

We will continue to follow our impartial and fair processes when identifying our flexibility requirements, following the same assessment process and using the same tools we used to produce our RIIO-ED2 Investment Plan. Our unbiased approach when assessing types of interventions was endorsed by Ofgem as we were the DNO with the highest number of approved EJPs<sup>3</sup> submitted as part of the RIIO-ED2 Business Plan.

<sup>2</sup> Annex 4A.3 - [DSO Strategy.pdf](#) ([spenergynetworks.co.uk](http://spenergynetworks.co.uk))

<sup>3</sup> Engineering Justification Papers. For each major intervention, these capture the intervention options considered and the justification for our proposed solution.

# Section 2: Flexibility Services Requirements

## 2.1 Evolving Network

**As society decarbonises to Net Zero, our customers are increasingly turning to electric vehicles and heat pumps, and we are going to see further leaps in renewable generation to power these.**

This increase in LCTs and distributed generation, amongst other Net Zero energy demand changes will increase network power flows, stressing the network harder than ever before, and in turn requiring additional capacity.

In preparation, we have developed systems and processes to better understand and forecast our customers' requirements, assessing the impact on the network, identifying a range of intervention options to provide the additional capacity. We have implemented an impartial decision-making process to ensure that selected investment options are the best solution to meet our customers' and stakeholder's priorities and deliver net benefits for existing and future consumers.

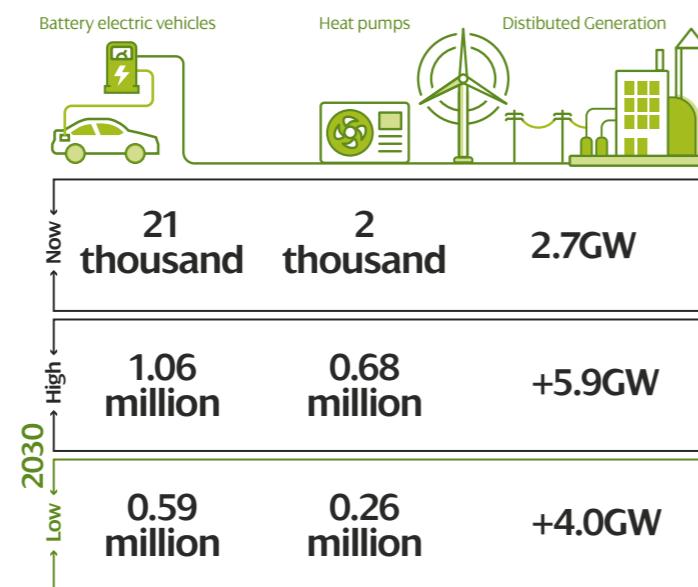


Figure 1 LTC Uptake Forecasts

Flexibility services are a key type of intervention, which can be used on their own or in combination with other solutions to efficiently provide the necessary capacity on the network, helping to defer or avoid traditional reinforcement.

## 2.2 Why we use Flexibility Services

**There are a number of use cases where we will look to use flexibility services, namely:**

- To defer major reinforcements where it is appropriate to do so, and sufficient flexibility services are available. Often the flexibility services will be combined with, for example, network monitoring and automation, to defer conventional reinforcement schemes.
- To reduce the number of hours the network is at risk of constraint, where this is in customer's best interests. For example, flexibility solutions may be able to manage constraints for a few years, but the increasing hours the network is at risk of constraint, and growing magnitude of the constraint are such that an alternative intervention is required. In these scenarios we will consider the timing of the intervention and the flexibility services available to optimally intervene. Similarly, where flexibility has been sought but is not sufficient to fully manage the constraint, we consider whether the level received may help reduce the hours the network is at risk of constraint. This will help us manage the network whilst we deliver reinforcements.
- To manage uncertainty. We will use flexibility to manage areas of the network where the forecast loading is approaching limits and flexibility can reduce the risk of network constraints – particularly under higher uptake scenarios. These are the network areas where demand forecasts are high with marginal exceedances over the network firm capacity. The network constraints in these areas depend on the forecast demand/ generation being fully realised. Capacity exceedances are minimal and predicted to occur for a few hours in a year. Flexibility services can manage these high loadings, deferring potential investments associated with high uptake scenarios.

- To manage network events. We will use flexibility to support the network when planned outages could put the network at increased risk, especially if a fault should occur at the time. Also, in areas of the network that could be at risk should a network event such as a fault occur, we will contract with FSPs to be available and ready for dispatch when required.
- To provide wider network capacity to accommodate new connections where it is appropriate to do so and manage curtailment limits for larger curtailable connections. Flexibility may be used as an enduring solution or as an interim solution whilst reinforcement is delivered, enabling quicker connections.

## 2.3 Our Decision Making Framework

We recognise the importance of transparently explaining how we decide whether we contract and dispatch flexibility services instead of other interventions. This transparency helps give customers and stakeholders confidence that we are implementing the most appropriate interventions, give flexibility service providers confidence that we are a neutral market facilitator, and address any residual perceived conflict of interest concerns. Given the system-wide benefit of flexibility services, it's important we co-ordinate their use with other industry parties. The Decision-Making Framework is one measure to provide that **transparency** and **co-ordination**.

In summary, the overarching process we follow to establish where, when, and how we should intervene to provide capacity for a constraint is:

- Step 1, identifying the constraint and minimum requirements of any solution:** We develop our network to accommodate our customers' demand and generation requirements. Therefore, the first step of network planning is to understand what these are and how they are changing. We do this using forecasts. We then enter these forecasts into an industry-leading model of our network and run analysis. This analysis shows us where constraints will occur (and so where additional network capacity is required). For each constraint, it shows us the location, scenario (i.e. why does it occur/what triggers it; this in turn defines what flexibility service product would be required), timing (which defines flexibility service windows), type (e.g. thermal, voltage, fault current), and magnitude of the forecast constraint (and how this changes over time) – this information forms the minimum requirement that any solution (or combination or solutions) must meet. We run this process using our latest DFES forecast information annually.
- Step 2, gathering information on the cost, availability, and viability of interventions – flexibility tenders:** we tender for flexibility services for all viable<sup>4</sup> constraints. The information from Step 1 forms the specification for each tender. From the bids received we understand the availability and cost of using flexibility to solve the constraint. We don't issue Contract Awards at this stage – we only do that where the Step 3 options assessments establish flexibility is the best solution. In parallel to the flexibility tender we work up other solutions. The output from Step 2 is the range of viable interventions, and their cost and availability – this is the information we need to make a decision in Step 3.
- Step 3, deciding how to intervene – options assessment:** to provide the capacity in the optimal way, we fairly, impartially and economically assess different types and combinations of interventions (flexibility, energy efficiency, smart, innovation, and reinforcement), and how they could be coordinated with other interventions to reduce customer cost and disruption. Step 3 shows us which intervention we should choose.

The above influences our tender timeline and the process steps within it. Sections 2.5 and 2.6 set out our key flexibility procurement decisions, and key dispatch decisions respectively.

<sup>4</sup> For example, we can't use flexibility to solve fault level constraints, so flexibility isn't considered for those.

## 2.4 Network planning and development documents

Sharing data is key to the efficiency of the energy system as we decarbonise to Net Zero, it enables customers and stakeholders to assess market opportunities and participate in flexibility markets as well as promote network companies and key stakeholders to work together to facilitate efficient whole system planning and operation.

We publish a number of documents to increase the transparency of how we plan and operate our distribution network. From these publications, stakeholders can access information relating to the specific locations we look to procure flexibility services and the data behind these decisions.

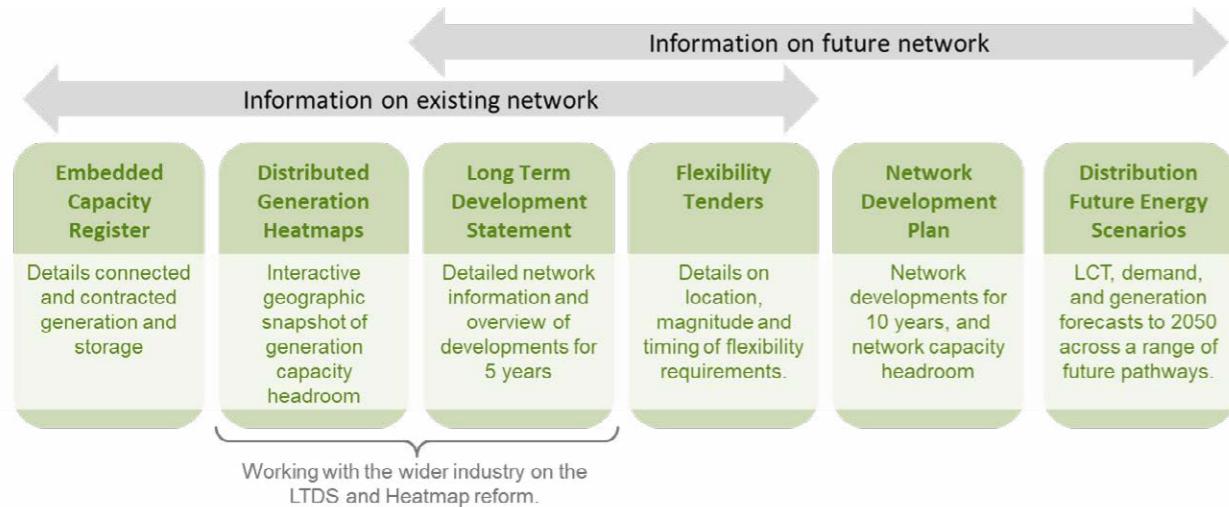


Figure 2 Publications providing information on our existing and future networks.

### Key publications to inform and/or report on our flexibility requirements include:

**Long Term Development Statement (LTDS):** The LTDS provides information on the operation and development of our 33kV, and 11kV distribution network. This includes a range of information such as network asset technical data, network configuration, geographic plans, fault level information, demand and generation levels, and planned works. Future network development plans are included to advise existing and potential users of significant changes to the system.

#### Long Term Development Statement.

**Distribution Future Energy Scenarios (DFES):** these documents are forecasts for key customer demand and generation metrics up until 2050. We develop these considering a range of sources, including UK and devolved government targets and other industry forecasts. Given the uncertainties out to 2050, we create forecasts for four main energy scenarios. These scenarios represent differing levels of customer ambition, government and policy support, economic growth, and technology development. [Distribution Future Energy Scenarios - SP Energy Networks.](#)

**Network Development Plan (NDP):** the primary objective of the NDP is to provide information on available network capacity to accommodate demand and generation growth, and interventions the DNO plans which will increase network capacity (such as flexibility use and reinforcement). The NDP is a medium-term outlook and is designed to sit between shorter-term LTDSs and long-term DFES forecasts. [Network Development Plans.](#)

**Open Data Portal:** We have recently implemented an Open Data Portal, which can be accessed at <https://spenergynetworks.opendatasoft.com>. This is our centralised repository for data that we will be sharing openly with our Customers and Stakeholders, allowing users to easily search our open data catalogue, along with detailed metadata and the ability to consume data via an API. All data that we publish on this portal is processed through our Data Triage process, enabling thorough assessment of all potential sensitivities and identification, and implementation, of any required controls.

Our initial focus on the implementation of our Open Data Portal has been to fulfil our operational data sharing commitments made under the ENA's Open Networks Project. The next phases of implementation for our Open Data Portal will focus on publishing additional datasets aligning with our Stakeholder priorities. This will include a review of the data published on our flexibility market operation, in line with the proposed changes made under Ofgem's consultation on Data Best Practice Guidance.

## 2.4 Procurement activities to date

Building on our initial smaller tenders issued in 2019 for requirements during the latter years of ED1 (2020- 2023), we issued flexibility tenders for each network constraint identified during the RIIO-ED2 period (2023 – 2028), looking to procure a total of 1.5GW across 1,557 locations.

| Tenders              | Spring 2019 | Autumn 2019 | Autumn 2020 | Spring 2021 | Autumn 2021 |
|----------------------|-------------|-------------|-------------|-------------|-------------|
| No. of sites         | 3           | 10          | 1138        | 1554        | 97          |
| Price Control Period | ED1         | ED1         | ED2         | ED2         | ED1/ED2     |
| MWs tendered         | 116         | 250         | 960         | 1420        | 110.9       |
| MWs awarded          | 0           | 53.3        | 139.6       | 555         | 0           |

For our Autumn 2021 tender we tendered for the services required in 2022/23 and 2023/24 only, however, we received only 200kW in response, with FSPs confirming their limited ability to offer more capacity in the shorter timeframes.

To date, we have contracted with FSPs on a bilateral basis following the acceptance of bids, with the majority of FSPs offering services from planned assets. We have experienced a reduction in contracted capacity compared to accepted bids as FSPs confirm what they are confident to deliver:

| Capacity           | 2023/24 | 2024/25 | 2025/26 | 2026/27 | 2027/28 |
|--------------------|---------|---------|---------|---------|---------|
| Accepted Bids (MW) | 49      | 85      | 140     | 199     | 221     |
| Contracted (MW)    | 22      | 52      | 92      | 160     | 172     |

Through our tenders we will look to increase the capacity contracted, however should assets not be available or there is insufficient capacity offered to manage individual locational constraints, we may need to revert alternative solutions such as conventional reinforcement.

## 2.5 2023/24 Procurement strategy

### 2.5.1 Tenders

We will be tendering twice this year, in Spring and Autumn for all four industry products and for all voltage levels.

| Spring 2023                | SP Distribution           | SP Manweb                | Autumn 2023                | SP Distribution           | SP Manweb                |
|----------------------------|---------------------------|--------------------------|----------------------------|---------------------------|--------------------------|
| Sustain (LV)               | 33.15 MW (274 Locations)  | 37.01 MW (260 Locations) | Sustain (LV)               | 19.88 MW (274 Locations)  | 22.81 MW (260 Locations) |
| Secure (132kV 33kV & 11kV) | 47.37 MW (21 Locations)   | 40.12 MW (12 Locations)  | Secure (132kV 33kV & 11kV) | 62.67 MW (26 Locations)   | 57.14 MW (15 Locations)  |
| Dynamic (33kV)             | –                         | 4.58 MW (1 Locations)    | Dynamic (33kV)             | –                         | 4.85 MW (1 Locations)    |
| Restore (33kv)             | 141.25 MW (3 Locations)   | –                        | Restore (33kv)             | 157.6 MW (3 Locations)    | –                        |
| Total                      | 221.77 MW (298 Locations) | 81.7 MW (273 Locations)  | Total                      | 240.15 MW (303 Locations) | 84.8 MW (276 Locations)  |

All our tenders for the Reporting Year will be issued via the Piclo Flex platform and prior to each tender, our requirements will be reviewed, and any new requirements identified will be included. We include estimated utilisation hours as part of our tender supporting information to inform potential FSPs of the likely usage which allows them to estimate the revenue they might receive. We will only dispatch these hours if the forecast network constraint emerges – this will protect our wider customer base from unnecessary costs (the optionality advantage of reduced risk of stranded assets is eroded if flexibility is dispatched unnecessarily).

A full list of our tender requirements for the Reporting Year is included in Appendix 3. Once issued our requirements can be viewed on Piclo Flex [picloflex.com](http://picloflex.com).

## 2.5.2. Products

We will procure all four products developed by the ENA Open Networks Project, namely:

| Product | Description  | Dispatch   | Fee                                 |
|---------|--|--|-------------------------------------|
| Sustain | Pre-agreed flexibility to prevent the network going beyond its firm capacity | Scheduled in advance   | Utilisation Fee only                |
| Secure  | Pre-agreed flexibility base on real time conditions                          | Scheduled week ahead (or as otherwise agreed) or may be dispatched | Arming Fee<br>Utilisation Fee       |
| Dynamic | Accesses flexibility following network abnormality                           | Dispatched following network event<br>Dispatch Notice: 15 minutes  | Availability Fee<br>Utilisation Fee |
| Restore | Accesses flexibility to support increased load restoration                   | Dispatched following network event<br>Dispatch Notice: 3 minutes   | Utilisation Fee only                |

In addition, we will tender for Reactive Power (MVar) which is aligned to the Active Power (MW) product required within the constraint location (i.e. Secure) with regards to dispatch and payment structure.

## 2.5.3 Pricing strategy

We request that FSPs offer their best price and we will pay as bid. We do not set fixed prices for any service. We will calculate the ceiling price for each tendered constrained location using the CEM model and will continue to provide pricing signals.

 **RESEARCH RECOMMENDATION:** However rather than just provide one pricing signal per constrained location via the Piclo Flex platform, we will now provide a range of prices to allow for the year-on-year variances which result from the changing capacity and estimated risk hours that apply over time.

Where we provide guide prices, these will be for individual constrained locations, and we will provide a range to give FSPs an understanding of the potential level of revenue available. These ranges are based on the net present value of the alternative solution and will differ for each constrained location as they are based on the individual scheme cost, the capacity required and the estimated utilisation. For LV constrained locations we will aim to provide a single range guide price. Such guides are indicative only, when bids are received, they will be fully assessed based on the budget for individual constrained locations, likely utilisation, offered capacity and product.

Further details on our pricing strategy, charging structure and application can be found within our Pricing Strategy document [Click Here](#).

We will consider all bids that meet the technical and operational requirements, regardless of whether they are within a pricing signal range.

## 2.5.4 Tendered Service Windows

We have previously tendered for the full five years of RIIO-ED2. Following feedback from FSPs, we will now tender for flexibility services for the next 18 months, rolling forward by 6 months for each subsequent tender. For example:

| Tender      | Service windows             |
|-------------|-----------------------------|
| Spring 2023 | November 2023 to March 2025 |
| Autumn 2023 | April 2024 to October 2025  |
| Spring 2024 | November 2024 to March 2026 |
| Autumn 2024 | April 2025 to October 2026  |

 **STAKEHOLDER FEEDBACK:** The feedback we received related to the robustness of bid prices for services contracted years in advance. We are continuing to develop our processes for closer to real time procurement and operation but in the interim we will tender for shorter term contracts to allow FSPs to provide bids that reflect their current market prices.

We will continue to re-tender for all our requirements until we have sufficient services available, or the reinforcement is delivered, as appropriate.

## 2.5.5 Visibility of Requirements

Although we are only tendering for requirements up to March 2025 during the reporting year, we will publish all our identified constraint requirements for the full RIIO-ED2 period (up to March 2028). This is to provide potential FSPs and stakeholders with visibility of all requirements and demonstrate our commitment to using flexibility services where it is appropriate to do so. These requirements will be reviewed annually, and any new requirements will be added.

These requirements will be published alongside our tender requirements on the Piclo Flex platform.

## 2.5.6 Ad Hoc Tenders

We are committed to tendering twice a year, however, should network need require services to be procured outside of these tender windows (e.g. unplanned maintenance) we will issue further tenders as required. These tenders will follow the same processes as described in Section 3, albeit with a shorter tender window if required.

In these instances, we will undertake location specific, targeted engagement to encourage FSPs within the relevant network area to participate.

## 2.6 Dispatch and settlement

We will operate the dispatch of Flexibility Services in a fair and transparent manner, all the time ensuring that we meet our obligation to maintain a secure and efficient network. As the Flexibility Services market develops, and services are available from multiple FSPs to meet the requirements in individual constraint locations, we will follow the dispatch decision guiding principles published by the ENA Open Networks project, namely:

| Principle           | Description   | Implementation  |
|---------------------|---|---|
| <b>Security</b>     | The needs of the system will be met using flexibility in such a way that security is maintained | Conform with applicable standards with an appropriate management of risk.   |
| <b>Cost</b>         | Flexibility will be operated to meet system need at the minimum level of cost                   | The use of flexibility services should be cost effective and expenditure proportional to the benefits it brings to the network  |
| <b>Operability</b>  | DSOs will seek to dispatch services that offer compatible levels of operability                 | Operability is a measure of how well an offer of a flexibility service meets actual or potential system needs. We will seek to develop an objective and transparent method for assessing operability of offers of flexibility services  |
| <b>Competitions</b> | DSOs will provide transparency of their dispatch decisions and activities                       | We will procure flexibility using simple, fair, and transparent rules and processes. Services should be developed such that flexibility service providers can participate easily in different markets   |
| <b>Fairness</b>     | DSOs will operate a fair dispatch methodology and provide equal opportunities to participate.   | Flexibility Services shall be assessed and selected impartially purely on their technical and commercial merits. Where multiple technically sufficient Flexibility Services are available at a comparable cost, we will share the dispatch of services across these providers |

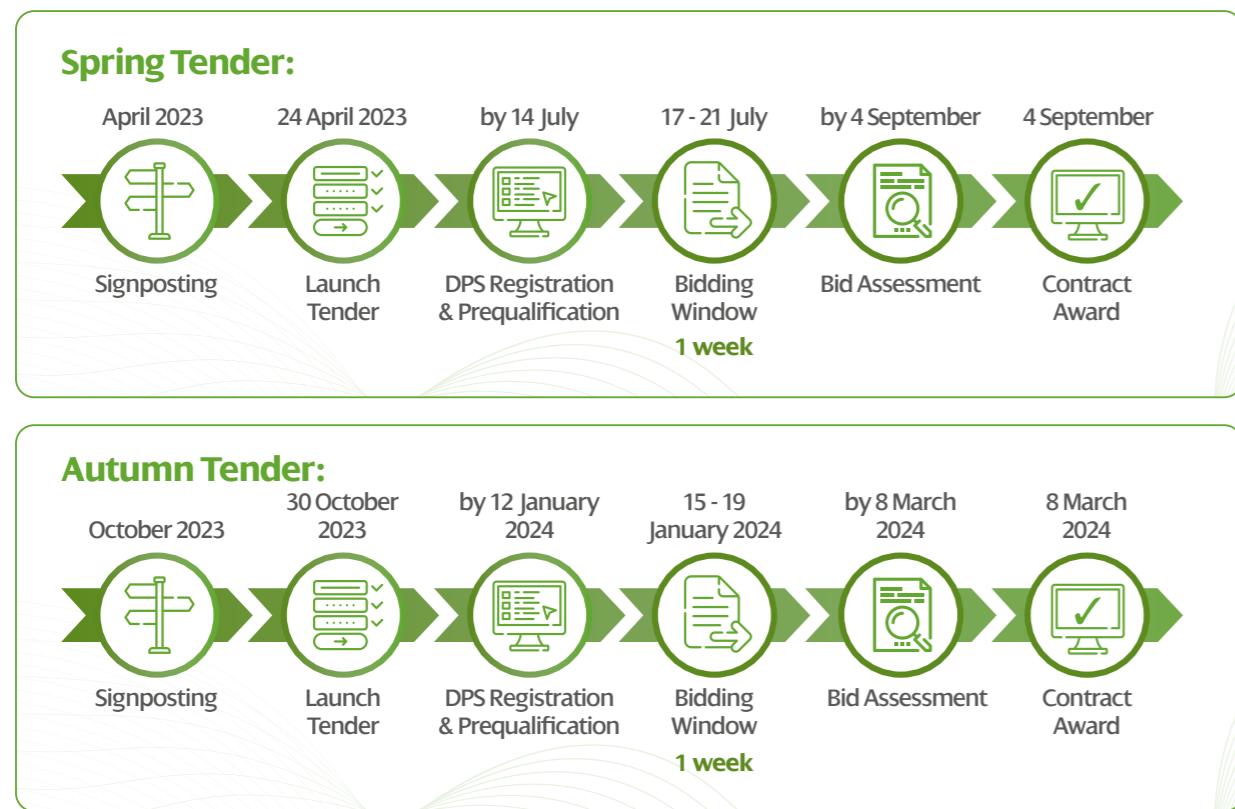
We are part of the collaboration developing the Flexible Power portal, working with three other DNOs to provide consistency and standardisation for the operation of Flexibility Services. Once we award a contract, FSPs are onboarded to the system in advance of the first service window.

Details and guidance relating to Flexible Power, plus a copy of our Dispatch Principles, are can be accessed at [Flexible Power](#)

## Section 3: Tendering Process

### 3.1 Our approach

We are committed to procuring Flexibility Services in a fair and transparent manner and have developed processes to ensure all FSPs are treated equally. Where it is possible to do so we will procure Flexibility Services via competitive tender and will run at least two tenders a year (Spring and Autumn).



We publish a number of downloadable documents detailing our flexibility procurement processes, a full list and access is included in Appendix 2.

### 3.2 Tender platform

We use the Piclo Flex platform to facilitate our tenders. Piclo Flex is an independent marketplace for trading energy flexibility, it has more than 300 FSPs registered on its platform and is well recognised within the industry. Our continued relationship with Piclo has provided a consistent and simple process for FSPs to access our tenders. The platform hosts all our tender requirements, along with key Invitation To Tender documentation, enabling FSPs to access information and user-support quickly and easily. [picloflex.com](http://picloflex.com).

Piclo Flex operate a Dynamic Purchasing System (DPS) which enables FSPs to register on the site, facilitates the pre-qualification process and issues invitations to pre-qualified FSPs to bid for the services required.

A key activity that Piclo offer is their enhanced marketing and engagement function which we have contracted for to further encourage and facilitate participation. They offer structured support to FSPs during the procurement process and beyond to ensure a smooth onboarding of assets, prequalification, and bidding. Further information on this is included in Section 4.

### 3.3 Tendering process

The process steps for FSPs to follow in order to take part in our tenders are as follows:



**STAKEHOLDER FEEDBACK:** The ENA Open Networks project has been working to develop a framework agreement, moving towards alignment with the ESO process for procuring services. We will implement this at the first opportunity in response to feedback from FSPs.

It is our intention to implement the ENA standard framework contract as a default as soon as it is available, with the process as follows:

- Flexibility Services Agreement terms and condition plus accompanying schedules are issued as part of the ITT documentation.
- FSPs review, complete and return the Signature Page to SPEN to countersign.
- FSPs can now participate in the individual tender competitions and submit bids.
- Once a bid is accepted, SPEN will issue a Contract Award Notification detailing the individual services. This Contract Award Notification will form part of the Flexibility Services Agreement.

The services bid by FSPs are only bound by a contract when they are covered and contained in the express terms of an executed Flexibility Services Agreement, and a Contract Award Notification has been issued as part of the same.

Whilst we would like to use the framework contract for our Spring 2023 tender, should it not be available in time we will continue to use the current bilateral standard agreement, rather than delay our tender cycle.

Further details on our Procurement Process can be found at: [picloflex.com](http://picloflex.com).

### 3.3 Tendering Documentation

For each tender we issue an ITT Pack, which includes the following:

| Invitation to tender Pack  | Details  |
|--|--|
| <b>ITT Letter</b>  | A tender specific letter which provides the terms on which we will run our tender.   |
| <b>Part 1 – Tender Timeline</b>  | Tender specific dates for each stage of the tender.  |
| <b>Part 2 – Tender Scope</b>   | Details the services, and specific requirements we are looking to procure.   |
| <b>Part 3 – Company Policies</b>   | Provides access to SPEN policies potential FSPs are to comply with   |
| <b>Part 4 – Flexibility Services Agreement &amp; Contract Award Notification</b> | Provides a copy of the Terms and Conditions that the FSPs are required to sign on to and the process for Contract Award Notification |
| <b>Part 5 – Prequalification</b>   | The pre-qualification requirements we have for the FSPs and their assets.  |
| <b>Part 6 – Bid Assessment</b>   | To inform FSPs on how we will assess their bids.   |
| <b>Appendices</b>  | Downloadable excel file of the tender requirements.  |

All ITT documentation will be available on the [Piclo Flex platform](#).

### 3.5 Pre-qualification requirements

Prior to bidding, FSPs are required to:

- Apply to the Dynamic Purchasing System (DPS). FSPs will submit company specific information which will be reviewed by SPEN for completion and validity. Following acceptance the FSP will be admitted to the DPS.
- Complete PQQ questionnaire, providing technical information relating to the assets they will use to provide the flexibility services for each individual location. SPEN will assess the technical and location details to confirm suitability and approve the individual assets.
- Where assets are planned (i.e., not yet connected or to be recruited), provide a Delivery Plan detailing the dates when assets will become operational (which must be a month prior to the first service window). SPEN will advise acceptance or rejection of the Delivery Plan. The Delivery Plan will form part of the Flexibility Services Agreement.
- Sign or confirm agreement to sign, the terms and conditions of the Flexibility Services Agreement.

All FSPs on the DPS who have completed the above will be invited to submit bids when the bidding window opens.

### 3.6 Bidding

All bidding takes place on the Piclo Flex platform, with pre-qualified FSPs uploading their bids for each individual competition.



**STAKEHOLDER FEEDBACK:** Following previous tenders, where the number of individual constrained locations increased significantly, the platform introduced a “bulk upload”, allowing FSPs such as aggregators who want to take part in multiple competitions the ability to upload bids as one file. This has reduced the burden on resources and made it easier for providers to submit timely bids.

Details are included within our ITT documentation and detailed instructions available on the Piclo Flex platform [picloflex.com](#).

#### 3.6.1 Bidding Rules

Recognising the differing business models and capabilities of individual FSPs, we include the following bidding rules, enabling those who may not be able to meet the full requirements for individual constrained locations to take part:

|                          |   |
|--------------------------|---|
| <b>Flexible Capacity</b> | can offer the flexible capacity at a single price, or split the Flexible capacity into smaller volumes but at different prices.   |
| <b>Service Windows</b>   | must be for whole Service Windows of the individual competition bidding for.  |
| <b>Service Duration</b>  | can offer assets that may not be able to run for the entire service times as long as they meet the minimum duration included for each constrained location.   |
| <b>Service Period</b>    | The duration of contracts within the ITT may be for more than one service window depending on the specific constrained location requirements, however bids can be submitted for individual service windows.                               |
| <b>Status of assets</b>  | we are happy to consider bids from FSPs who own or operate assets already connected to our network, those in development or planned, and from those who will recruit assets (e.g. Electric Vehicle aggregators) to meet the requirements. |

This approach simultaneously supports longer and shorter contracts by enabling customers to bid for individual service windows within multi-year flexibility tender needs. We can then stack different flexibility services together, or stack them with other solutions, to fulfil the constraint need.

We request that FSPs offer their best price and we pay as bid.

#### 3.6.2 Bid Assessment Criteria

To provide the capacity in the optimal way, we fairly, impartially and economically assess different types and combinations of interventions (e.g. flexibility, smart, reinforcement), and how they could be co-ordinated with other interventions to reduce customer cost and disruption.

Once the bidding window has closed, we will assess all bids received against our published bid criteria. For each bid submitted, we will assess: the overall value of the service offered; the technical parameters; and competing bids. Guidance is provided as part of our ITT documentation on the Piclo Flex platform [picloflex.com](#).

Once we know the cost and availability of flexibility services, we will compare it to other potential solutions on a like-for-like basis and impartially identify the optimal intervention, or combination and sequence of interventions, for each individual constraint.

### 3.7 Contract award

#### 3.7.1 Bid decisions uploaded to the Platform

Following assessment bid decisions are uploaded to Piclo Flex, which automatically notifies bidders of the decision. For those bids rejected, we include the reason to advise FSPs if it is due, for example, to insufficient capacity offered.

#### 3.7.2 Contract Award Notification

If we have implemented the framework Standard Flexibility Services Agreement, once a bid is accepted, we will issue a Contract Award Notification detailing the individual services. This Contract Award Notification will form part of the individual FSPs Flexibility Services Agreement.

If we are still utilising the standard bilateral agreement, we will issue a full agreement once a bid has been accepted for signature by a duly authorised signatory.

The services bid for only have any contractual effect when they are covered and contained in the express terms of an executed Flexibility Services Agreement and a Contract Award Notification has been issued and received.

The applicable contract and process will be clearly detailed within the ITT documentation to remove any confusion for potential FSPs.

### 3.8 Publication of results

We will publish the full results of our [tenders here](#) in accordance with Condition 31E. It is our intention to keep the Condition 31E template updated following each tender.

In addition, and in line with the proposed changes made under Ofgem's consultation on Data Best Practice Guidance, developments for our Open Data Portal will focus on publishing additional datasets aligning with our Stakeholder priorities which have been identified as including data published on our flexibility market operation.

## Section 4: Stakeholder Engagement

We develop our stakeholder engagement strategy with the aim to reach as many potential participants and interested parties as possible, facilitating easy access to our flexibility requirements and information on our policies and procedures for identification, procurement and operation of the services. We continuously seek feedback to inform and influence our approach.

### 4.1 Tender publication

Our live tenders are published on the Piclo Flex platform, which automatically notifies those who have signed up to their mailing list, informing them that our tender has been launched. In addition, our SPEN website provides flexibility specific information, directing interested parties to the relevant portals and platforms and advising how to contact the Flexibility Team. [Click Here](#).

Press releases and social media are used to highlight the launch of our tenders and are supported by our engagement strategy.

### 4.2 Engagement strategy

We engage with stakeholders via:

- Press releases
- Easily accessible and downloadable information
- Posts on social media and adverts in trade press
- Dedicated webinars, industry conferences and events
- Direct contact with those who register for information
- One-to-one surgeries with potential FSPs.

Piclo also provide significant support in helping create a liquid, efficient marketplace. This includes providing a regional team to help engage, enrol and on-board FSPs onto the Piclo Flex platform, developing the engagement strategies and materials to make sure FSPs are aware of competitions and actively supporting the recruitment process. They also provide FSPs with support regarding competition enquiries and platform troubleshooting to ensure active participation in competitions, providing an efficient way of advising potential FSPs of any updates and/or clarifications during the pre-qualification stage. This includes automatic notification to registered FSPs, supporting our transparent and fair procurement process.

Piclo host a dedicated profile page for [SPEN](#) with specific details for how to participate and stay informed of SPEN flexibility events. This also includes the provision of self-help articles and FAQs to aid the FSP participation lifecycle. This service addresses FSP engagement, FSP asset registration and qualification, bid participation as well as general FSP support, enquiries and troubleshooting. Piclo also facilitate 'DSO forums' for all DSOs using the Piclo platform - to discuss issues and updates with the

platform, sharing lessons learnt and stakeholder feedback. Live events and roundtables are arranged to improve FSP engagement and drive greater participation.

For our Spring 2023 Tender, the Engagement Plan will include:

- Monthly Newsletter to announce new competitions launched
- LinkedIn and social media campaigns on value proposition of Flex
- Blog to highlight the Best Practices we comply with
- Introduce a "Cost Calculator" to promote the value to FSPs of providing services
- SPEN/Piclo co-hosted webinar to provide information about the tender and give a demo of how to use the platform.

### 4.3 Stakeholder feedback

We continuously seek feedback from stakeholders and have a number of routes available for this:

- Dedicated e-mail address [flexibility@spenergynetworks.co.uk]
- Support function at Piclo Flex
- One-to-one surgeries with potential FSPs
- Interactive webinars.

We use the feedback from stakeholders to refine our processes and reduce barriers.

 For instance, FSPs have stated that they prefer a longer period to consider the requirements. We therefore scheduled our tender steps to give sufficient time for FSPs to assess the requirements and for them to seek clarification if required.

We are going further in 2023/24 by publishing our 5-year requirements alongside our 18-month tenders.

 Stakeholders also informed us that excel spreadsheets make assessing the information easier. Maps are useful, however as the volumes increase, they become less clear. This has influenced the format of our data, especially given the volume of constrained locations and varying capacity requirements over time.

On 14 June 2022 we, along with Piclo, ENWL and UKPN hosted a joint event on "Growing DSO Flexibility Markets to reach Net Zero" which attracted over 50 attendees. The aim of the session was to stimulate market engagement to boost confidence, participation and liquidity. The day was a mix of presentations and collaborative roundtables which

were used to drive engagement and feedback from FSPs and other guests and concentrated on RIIO-ED2 flexibility priorities and overcoming market barriers.

Following feedback at the meeting commitments were made, namely:

| Topic                       | Ask  | Response  |
|-----------------------------|--|---|
| <b>Short term markets</b>   | Publish information on short term market including future plans.   | We will tender for shorter term markets (i.e. service windows within the next 18 months).   |
| <b>Market data</b>          | Increased visibility of future flex procurement plans.   | We will provide visibility of all our Flex Requirements for the full RIIO-ED2 period and not just those service windows we are tendering for.   |
| <b>Dispatch certainty</b>   | Provision of clear dispatch forecasts, taking into consideration recommendations for monthly dispatch forecast including probability of dispatch.                            | We are working with FSPs to develop monthly forecasts and schedules for dispatch.   |
| <b>Manual vs automation</b> | Make all information about our APIs public.  | API information is published: Piclo ( <a href="#">click here</a> ) Flexible Power ( <a href="#">click here</a> )  |
| <b>Contracting</b>          | Develop and implement a framework contract.  | We will implement the Standard Framework Flexibility Services Agreement at the first opportunity.   |
| <b>Standardisation</b>      | Raise the concerns regarding product differences in the Open Networks Product working technical group, plus highlight standardisation concerns in the Settlement workstream. | We fully support further standardisation with the areas identified and these had been fed back to the Open Networks technical working groups.<br><br>We are also Co-Chairing the Open Networks product standardisation group. |

### 4.4 Post tender review

After each tender, we are keen to understand FSPs experience of the process and will arrange one-to-one meetings to discuss the next steps for those who have been successful and also arrange to discuss any rejected bids.

Understanding why some FSPs upload assets to the platform but choose not to bid, and why some large global FSPs are not operating within our licence areas is also key to identifying and understanding how we can improve participation. This engagement is ongoing.

We undertake "Lessons Learnt" exercises with Piclo which is supported by the analytics the platform provides to facilitate platform performance monitoring, such as number of competitions ongoing/finalised and volumes allocated.

## 4.5 Engagement channels

We ensure multiple channels are available for continuous engagement throughout our tender stages and beyond, including:

| Channel                           | Description   | Where  |
|-----------------------------------|---|--|
| <b>Website</b>                    | The SPEN website hosts dedicated flexibility pages providing information and links to our Flexibility tenders, our policies and processes, and how to contact our Flexibility Team.   | <a href="#">SP Energy Networks</a>   |
| <b>Procurement Platform</b>       | Working with the Picloflex platform provides ongoing engagement and allows potential FSPs and stakeholders to access our specific tender information, procurement policies and processes and step by step instruction on what is required at each tender stage, whether registering for the DPS, uploading assets or submitting bids.<br><br>Our dedicated page on Picloflex requests feedback and provides details on how stakeholders can request a one-to-one meeting with us. | <a href="#">www.picloflex.com</a>  |
| <b>Dedicated Mailbox</b>          | We have a dedicated flexibility mailbox for stakeholders to contact us with any query they have relating to Flexibility Services. This is widely published on Picloflex, Flexible Power and the SPEN website, and included on all our external communications relating to Flexibility.  | <a href="mailto:flexibility@spenergynetworks.co.uk">flexibility@spenergynetworks.co.uk</a> |
| <b>Downloadable Documentation</b> | To ensure potential FSPs and stakeholders are informed on how we identify, procure, dispatch and settle Flexibility Services, we provide several downloadable documents. A full list of these documents and where they can be accessed is included in Appendix 2.   | Various  |
| <b>Social Media</b>               | We use social media platforms such as LinkedIn to promote the launch of our tenders.  | Various  |
| <b>Blogs</b>                      | Piclo develop and publish blogs to provide information on how to get involved in our tenders.   | <a href="#">www.picloflex.com</a>  |
| <b>Conferences</b>                | We attend relevant conferences and arrange specific events such as the "Growing DSO Flexibility Markets to reach Net Zero" event we ran in conjunction with ENWL, UKPN and Piclo in 2022, the next one will take place in May 2023.   | <a href="#">Event Bright</a>   |
| <b>Industry Papers</b>            | We provide updates on our trials, for example we submitted a synopsis of our Demand Shift Trial to CIRED and were invited to submit a full paper.   | <a href="#">www.spenergynetworks.co.uk</a>   |
| <b>Mailing List</b>               | Piclo have an extensive mailing list to contact potential providers when our tenders are launched. In parallel we are also developing a mailing list for those who would like to be kept informed but do not necessarily want or need to register on the Piclo platform.  | <a href="#">www.picloflex.com</a>  |

## 4.6. Planned Stakeholder Engagement

We will actively engage with stakeholders during the forthcoming Reporting year, such engagement includes:

- DSO Event – a further joint event with Piclo, ENWL and UKPN, inviting feedback from FSP and covering: our flexibility processes, priorities and discussions on any market barriers. This is planned for 24th May and will be an in-person event taking place at Coin Street, London, SE1. [Click here](#). The day will be a number of workshops largely focusing on the different aspects of flexibility procurement, namely: Engagement, Pre-Qualification and Tender Competitions.
- We intend to share and use learnings from the Oxera report into barriers into flexibility market participation.
- Trials – we will work with stakeholders to trial appropriate new products and processes to facilitate market development.
- Conferences, including the Energy Innovation Conference, allow us to publicise our tenders and provide up to date information on our current priorities and the outcome of trials that we have undertaken.
- Councils and Enterprise organisations within our licenced areas are becoming increasingly interested in how they can become involved in flexibility markets which enables us to reach more potential participants who may not have previously been aware of what they can offer.
- Community Groups – liaising with community groups that are proactively seeking help to manage energy usage and costs allows us to raise the awareness of flexibility services and how they can take part in these markets.
- International conferences (e.g. CIRED) – allows us to the opportunity to feed into the wider international debate regarding the procurement and utilisation of flexibility services and to listen to other countries experiences. In addition, a number of our potential providers have international owners and therefore we can reach a wide audience at such conferences.

## 4.7 Industry Engagement

SPEN are represented on all workstreams within Open Networks, contributing to the development and alignment of procurement and use of Flexibility Services alongside other DNOs and the ESO to improve whole system coordination.

For 2023, our Flexibility Procurement Manager is co-lead with the ESO of the Standard Contract Technical Working Group, and our Flexibility Performance Manager is co-lead of the Products Technical Working Group. We ensure our processes are aligned with the good practices already identified and the new processes implemented.

In addition, we are part of the Flexible Power collaboration with three other DNOs, providing standardised dispatch and settlement processes for Flexibility Services. A single point of contact helps to provide consistency for FSPs.

## 4.8 Investigating Barriers

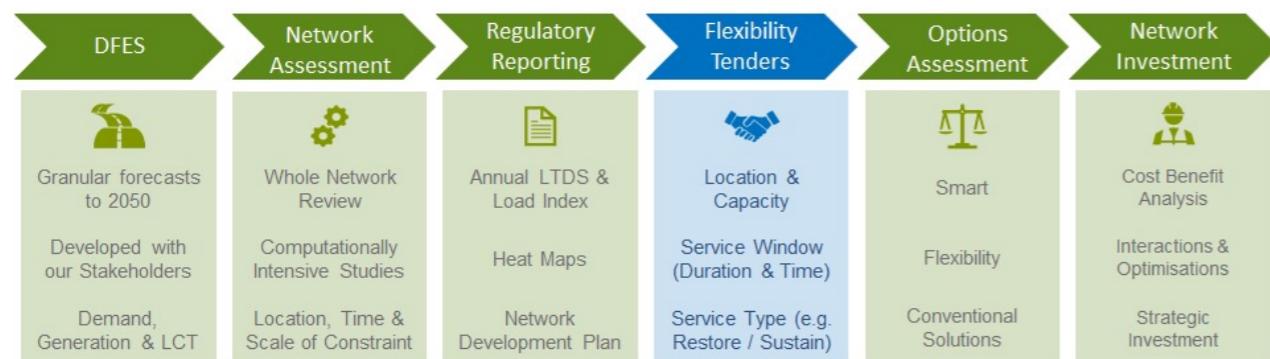
Following the reduced response to our Autumn 2021 tender, we funded Oxera to undertake independent research on our behalf to understand the barriers currently faced by FSPs. The purpose of the review was to understand:

- why there has been an inconsistent uptake of flexibility services so far in the case of SPEN;
- what barriers are faced by various provider types in each licence area;
- what changes or enablers can SPEN consider to procure flexibility services at scale and in the most economic and efficient manner possible.

This initial work has been concluded and a summary of the initial findings is included in Appendix 4, together with the actions we have taken or will take. We will now digest the full report and determine any further actions required to maximise our procurement of flexibility services.

# Section 5: Detailed Quantitative Assessment

As part of our Decision-Making Framework (referenced in Section 2.3), the stages we follow to determine the optimum solution for individual constraints are as follows:



## 5.1 Identifying requirements

We have developed granular DFES forecasts which include demand and generation forecasts that are regionally reflective and have been stakeholder tested. They have been compared against Net Zero compliant scenarios from the ESO and the Climate Change Committee (CCC) sixth budget. Then, using our advanced analysis software, known as our Engineering Net Zero (ENZ) model, we apply these DFES forecasts to our network power-flow simulations. This comprehensively assesses the power-flows through each network in over 175,000 half hour periods from now to 2030 to establish the location, magnitude and timing of emerging constraints.

The network assessments are used to specify both the design requirements for smart/conventional options and also detail the requirements included in flexibility tenders such as the location, service type (e.g. scheduled in advance as a "Sustain" product), service window and time and capacity required. The level of service requirements and service windows are forecasted for each year as they change as network constraints evolve with increasing LCTs.

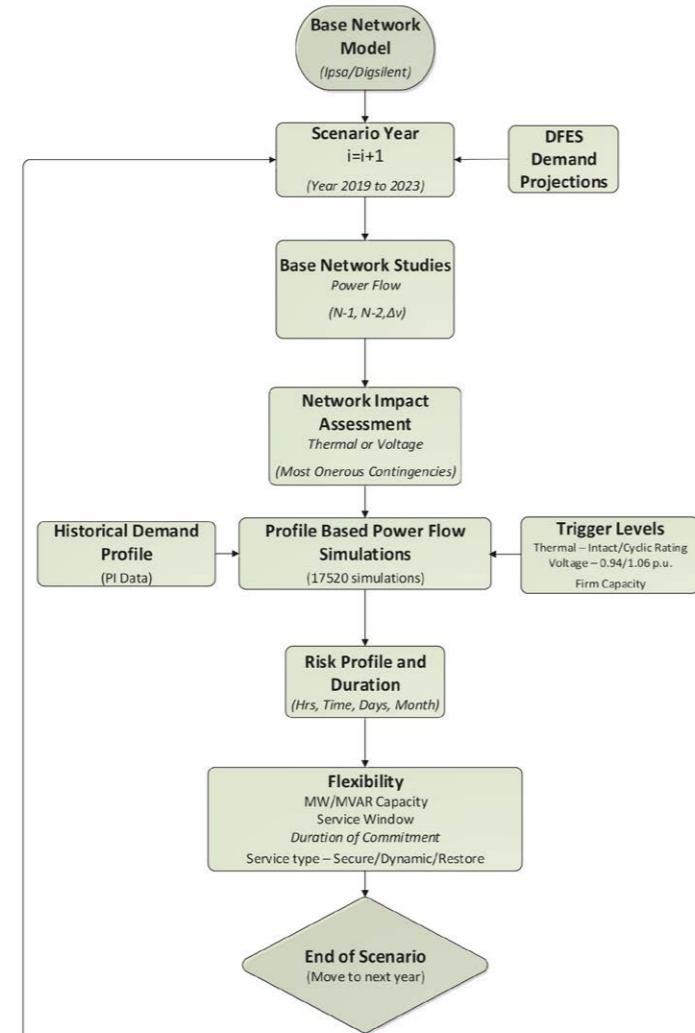


Figure 3 Process to quantify the magnitude and timing of flexibility requirements

## 5.2 Quantitative assessment

For each constraint location, we consider a wide range of possible solutions to manage each individual network constraint. We use an impartial decision-making process to ensure that selected investment options are the best interventions to meet our customers' and stakeholders' priorities and offers the most efficient solution.

We consider potential solutions against a number of factors:



1. Does it provide the required volume of capacity in the right location? If not, can it be considered in combination with another solution?
2. Is it deliverable in the timescales required by customers? For example, planning processes may delay particular solutions.
3. Is it technically acceptable? Is it compliant with technical standards and statutory limits, and will it cause any unintended consequences (e.g. voltage issues)?
4. What is the whole life cost of the solution? Consideration of upfront capital costs and ongoing operational costs.
5. What is the environmental impact? Consideration of the impact on network losses, noise, visual impact and carbon footprint.
6. Whole systems considerations? Are solutions coordinated from a whole energy system perspective?

Cost benefit analysis and technical optimisation are used to assess different combinations and sequences of solution for each forecast constraint.

**INDUSTRY DEVELOPMENT:** The Common Evaluation Methodology (CEM) has been developed by Open Networks and we will now use this to assist in determining ceiling prices (maximum economic flexibility constraint payments), assess bids and evaluate dispatch decisions, to ensure that we are utilising the most economical solution.

## 5.3 Bid assessment methodology

We assess investment solutions and Flexibility Services on a like for like basis by employing a comparative assessment approach which means that the value of flexibility (i.e. the amount of money we have to spend on flexibility services) in any given scenario is determined by the cost and value of the counterfactual solution (e.g. a reinforcement), and not by the required volume of flexibility services.

Once we receive tender responses, the bids are assessed in detail to confirm that it could technically manage the constraint. We assess the risk associated with using the flexibility and consider the most cost-efficient mix of tender responses (if responses are greater than the requested capacity). Competent bids are then fed into our optioneering and investment assessments and evaluated alongside all other options.

## 5.4 Evaluation criteria

After the bidding window has closed, for each bid submitted we will assess: the technical parameters; the overall value of the service offered; and competing bids. Once we know the cost and availability of flexibility services, we will compare it to other potential solutions and impartially identify the optimal intervention, or combination and sequence of interventions, for each individual constraint.



Guidance is published as part of any tender issued to ensure that potential bidders are aware of the evaluation criteria we will apply. Further information is available here: [Click Here](#).

## 5.5 Supporting methodologies

As part of our decision-making process, we will use the Common Evaluation Methodology to assess the value once bids are received. We include details on this common methodology as part of our downloadable documents listed in Appendix 2.

## 5.6 ESO Co-ordination

We recognise the importance of co-ordination and data exchange with the NGESO and at the procurement stage:

- Whilst we do not require exclusivity we do request, as part of the contractual terms, that FSPs disclose the existence of any agreement or arrangement they may have in respect of the assets that will provide the Flexibility Services that could reasonably impact their availability and/or ability to meet their contractual obligations.
- We encourage FSPs to stack services as long as there is no conflict as a result of the services delivered. We will comply with the primacy rules developed by the ENA Open Networks project. [Click Here](#).
- We publish our contracting of flexibility services, both in our tender results and in our Network Development Plan. This informs stakeholders, such as the ESO, of the details of any flexibility services we plan to use.

With regard to our longer-term flexibility contracts, the main operational coordination with the ESO needs to come at the point of scheduling/dispatch, as that is when the flexibility service will actually be used (and so could result in adverse system impact if not co-ordinated).

## Section 6: Developments and Next Steps

We are committed to market development and during the Reporting Year, will undertake a number of assessments and trials to further facilitate the flexibility market and also identify new opportunities.

### 6.1 Trials

#### 6.1.1 Demand Shift Trial

Phase 1 of this trial tested the potential of domestic demand shifting to a time where there is excess renewable generation. This took place in Dumfries & Galloway within the SP Distribution network – an area that has amongst the highest proportion of renewable generation connected within the UK relative to its own local energy demand. The trial was run in partnership with Octopus Energy and targeted 6 separate events, each looking to enact a bulk demand shift up of a portfolio of domestic customers in response to market signals communicated by SPEN. These test events each lasted for two hours between 7:30pm and 9:30pm and also between 5.30am and 7.30am. Some events were at weekdays and some at weekends.

This successful trial demonstrated that domestic customers were willing and able to respond to external signals and move their consumption at differing times. Further information can be found at: [SPEN Webpage](#)

We plan to undertake phase 2 of this trial in Q3 2023 to further assess and identify the appropriate commercial arrangements and the data required to implement at scale.

#### 6.1.2 Reactive Power

One of the challenges faced by the electricity network is to balance the supply and demand for power and to maintain voltage at a steady level. One aspect of voltage control is to manage the amount of reactive power generated by the system. Any generator or electrical load on a network will produce or consume an amount of power, which is made up of the useful or “real” power, and an amount of system dissipated or “reactive” power.

Reactive Power can be useful in supporting the transfer of power from generation to points of load, SPEN has a requirement for Reactive Power in several constraint locations in SPM and has tendered for this service. Unfortunately, we have not received bids into these competitions to date. To understand the reasons behind

this we worked with Conrad Energy to understand any barriers to entry and the value of the service. We successfully completed an initial trial which delivered 6.25MVar of reactive power over a 5 day trial. Further information can be found at: [SPEN Webpage](#)

We are reviewing the benefits of undertaking a further trial to explore the views and experiences of other providers, if possible.

#### 6.2 Equinox

EQUINOX is an NIC project funded through customers looking at the decarbonisation of heating in the UK. It will trial three commercial methods with customers to determine the signalling needed to get customers to change their behaviours as part of a flexible energy system.

We have recently entered into a collaboration agreement with NGED to become a project partner to undertake trials and access a sufficient customer base, as well as inputting to the commercial arrangements and technical integration and assessing their effectiveness. Further information can be found at: [Equinox Project](#)

#### 6.3 Local Constraint Market (LCM)

LCM project is led by the ESO who is looking to source distribution connected flexibility to manage local constraints on the transmission network, focusing on specific transmission constraints, with assets across Scotland eligible to participate. It is a day ahead and intra-day market with procurement, dispatch and settlement, with the objective to reduce costs to consumers and reduce use of the balancing mechanism as a tool for alleviating constraints. The initial project will be hosted on the Piclo Flex platform.

The first tender will cover the whole of Scotland, and we look forward to working with the ESO to ensure this constraint can be managed optimally. Further information can be found at: [ESO LCM](#)

#### 6.4 Fusion

Project FUSION is trialling the use of commoditised local demand-side flexibility through a structured and competitive market, based on a universal, standardised market-based framework; the Universal Smart Energy Framework (USEF). The purpose of USEF is to accelerate the transition to a smart, flexible energy system to maximise benefits for current and future customers.

In its project direction Project FUSION was tasked with delivering a report, in coordination with the ENA, on hierarchies of control for flexibility. That objective aligned well with the Primacy<sup>5</sup> work being developed by the ENA Open Networks Project. Project FUSION therefore engaged with NGESO to explore opportunities for collaborating on a trial to implement one of the primacy rules developed by the ENA and reporting upon its efficacy for managing a specific primacy use case.

The Fusion project is nearing completion and we are evaluating how learning will feed into and enhance our business-as-usual processes and policy developments. Further information can be found at: [Fusion - SP Energy Networks](#)

#### 6.5 Closer to Real Time Flexibility

In the longer term, to manage the levels of uncertainty implicit in the journey to Net Zero and as the liquidity of the flexibility market increases, we expect that we will move to more frequent flexibility procurement, and this is something we will start to test and develop in RIIO-ED2.

Ultimately, this may lead to a market similar to the GB ESO Balancing Market where services are procured in near real-time. This will need to be supported by adequate systems and skills to manage real-time service procurement, dispatch, and settlement. Key aspects to the development of such services are:

- **Regulatory and Institutional Governance** – at the time of submission of SLC31E; we are actively engaging in a wide range of Ofgem consultations on the Future of local energy institutions and governance,

the Future of Distributed Flexibility, Frameworks for future systems and network regulation, and Updates to Data Best Practice Guidance and Digitalisation Strategy and Action Plan Guidance. We recognise that in order to progress with confidence and investment certainty to develop the right solutions and create market confidence – it is essential that a clear and coherent regulatory position is developed. This does not mean we cannot develop processes and lead progress in parallel, but contributing to industry direction is an essential part of establishing long term certainty.

- **Platforms** – an end-to-end Platform to allow procurement, dispatch and settlement. Not only will this help to lower barriers by requiring FSPs to access only one system, it will also enable the near real time procurement and operation of flexibility services. We have contracted with Piclo to test their end-to-end platform and will be looking to trial services on this basis, to define the requirements and understand the processes.
- **Framework Contract** – bilateral contracts work well for longer term contract however a framework approach enables DSO and FSPs to have signed terms and conditions prior to any bidding, allowing bids to be made and services accepted more smoothly and with significantly reduced timescales. We will be introducing the framework contract developed by Open Networks at the first opportunity and will look to trial what further refinements / automation is required to enable near real time contracting.
- **ESO co-ordination** – ensuring information is shared in real time, and there are clear and mandatory primacy rule obligations, is an important requirement to facilitate near real time markets and will be an integral part of the processes we develop.

<sup>5</sup>Primacy generally focusses on the conflict between different assets within the same electricity network.

## Appendix 1: Glossary

|              |   |
|--------------|---|
| <b>CEM</b>   | Common Evaluation Methodology               |
| <b>DSO</b>   | Distribution System Operator                |
| <b>DPS</b>   | Dynamic Purchasing System                   |
| <b>EJP</b>   | Engineering Justification Paper             |
| <b>SPEN</b>  | SP Energy Networks                          |
| <b>SPD</b>   | SP Distribution plc                         |
| <b>SPM</b>   | SP Manweb plc                               |
| <b>FSP</b>   | Flexibility Services Provider               |
| <b>NGESO</b> | National Grid Electricity Services Operator |
| <b>LTDS</b>  | Long Term Development Statement             |
| <b>LCT</b>   | Low Carbon Technology                       |
| <b>LCM</b>   | Local Constraint Market                     |
| <b>ENZ</b>   | Engineering Net Zero                        |
| <b>DFES</b>  | Distribution Future Energy Scenario         |
| <b>NDP</b>   | Network Development Plan                    |

## Appendix 2: Downloadable documents

We provide a number of downloadable documents, guides and explanations on the various aspect of procuring, dispatching and settling Flexibility Services:

| Title   | Description   | Where  |
|---|---|--|
| <b>Constrained Locations</b>  |   |  |
| <b>DFES</b>   | A copy of our current Distribution Future Energy Scenarios.   | <a href="#">Distribution Future Energy Scenarios - SP Energy Networks.</a> |
| <b>NDA</b>  | Network Development   | <a href="#">Network Development Plans</a>                                  |
| <b>LTDS</b>   | Long term development Statement   | <a href="#">Long Term Development Statement</a>                            |
| <b>Procurement (all issued as part of our ITT documentation with each tender)</b> |   |  |
| <b>Procurement Process</b>  | Details the process all FSPs wishing to participate are required to follow.   | <a href="#">www.picoflex.com</a>   |
| <b>Pricing Strategy</b>   | An explanation of our pricing strategy for Flexibility Services   | <a href="#">www.picoflex.com</a>   |
| <b>Pre-qualification Requirements</b>   | Details of requirements FSPs must meet in order to participate.   | <a href="#">www.picoflex.com</a>   |
| <b>Bid Assessment Criteria</b>  | An overview of how we assess bids received  | <a href="#">www.picoflex.com</a>   |
| <b>Common Evaluation Methodology</b>  | Details of the Common Evaluation Methodology developed by Open Networks.  | <a href="#">www.picoflex.com</a>   |
| <b>Flexibility Services Agreement</b>   | The current version of the Terms and Conditions   | <a href="#">www.picoflex.com</a>   |
| <b>Operation</b>  |   |  |
| <b>Guide to API Set-Up &amp; UAT Testing</b>                                      | A guide on how to build and test the Application Programme Interface and how to carry out necessary testing within the User Acceptance Testing environment. | <a href="#">www.flexiblepower.com</a>                                      |
| <b>Participant Portal Guide</b>   | A guide on how use the participant portal including: access, declarations of availability and viewing statements  | <a href="#">www.flexiblepower.com</a>                                      |
| <b>Payment Mechanics</b>  | A presentation explaining how the payment mechanisms work   | <a href="#">www.flexiblepower.com</a>                                      |
| <b>Billing Guide &amp; Payment Set Up form</b>                                    | An overview of the monthly billing cycle and the form to send us your payment details.  | <a href="#">www.flexiblepower.com</a>                                      |
| <b>Baselining Methodology</b>   | A presentation on the Baselining Methodology that applies.  | <a href="#">www.flexiblepower.com</a>                                      |
| <b>Dispatch Principles</b>  | An explanation of how we dispatch when availability exceeds requirements.   | <a href="#">www.flexiblepower.com</a>                                      |
| <b>Glossary</b>   | A helpful guide to the terms, acronyms and abbreviations used, as provided by the ENA.  | <a href="#">www.flexiblepower.com</a>                                      |

## Appendix 3: Reporting year tender requirements

The attached excel file includes the requirements that will be tendered during the Reporting Year.

All requirements will be uploaded to the Piclo Flex platform.

Note: Although we endeavour to ensure that the attached requirements are as accurate as possible, and consistent with the information uploaded to Piclo Flex - variations may occur. This is possible for a number of reasons, for example; in light of updated or contemporaneous network analysis or counterfactual solution prices / suitability. As such, we confirm that information published on the Piclo Flex platform will take precedence and should be treated as our formal tender requirements.

# Appendix 4 – Oxera report on Understanding Barriers to Participation in Distribution Flexibility Markets

## In summary, the findings include:

### Reducing barriers to entry

#### Open data (from the DNO to the FSPs)

- Examples:** publication of tender results, ceiling prices, and accurate dispatch forecasts/historical data (to the extent that all DNOs are not providing such data already).
- Reasons:** understanding of past and future activation rates will reduce utilisation risk, understanding past prices and future ceiling prices will give FSPs more understanding of pricing to encourage market entry.
- SPEN Response/Action:** We fully support open data and publish full procurement data as part of our Condition 31E annual return. In addition, we will now look to update this template after each tender round so that stakeholders can access the data as soon as it becomes available.

### Standardisation across DNOs

- Examples:** of contracts, pre-qualification, technology (e.g. APIs).
- Reasons:** up-front frictions were cited as a major barrier across all of the activities listed in 'Examples' above.
- SPEN Response/Action:** We agree that standardisation should be introduced where it is appropriate and have contributed to the Open Networks project, implementing the standard approaches developed to date (e.g. Common Contract, products). In 2023 we have stepped up as co-chair to support the implementation of further standardisation. In addition, we are part of the Flexible Power collaboration which has four DNOs utilising a standard API, plus we use the Piclo platform, along with 2 other DNOs, which allows us to standardise some of the processes. However, we fully recognise that more work needs to be done in this area to lower barriers to entry, especially for those who work across multiple DNO license areas.

### Better integration between the DNO and ESO markets

#### More coordination on flex products between the ESO and DSOs (i.e. making it easier, where possible and efficient, for FSPs to stack revenues):

- Examples:** clearer rules on primacy between ESO

and DSO markets. However, on its own this may be insufficient to encourage DNOs and the ESO to allow assets to enter into (potentially) competing markets because they would face the risk of paying penalties under their regulatory regimes when an asset that they thought was recruited for their purposes is prioritized for the other's market. Therefore, this may require other changes, e.g. in the way that DNO and ESO Output Delivery Incentives (ODIs) are calculated.

- Reasons:** There are two primary reasons: (i) FSPs will be able to earn higher revenues, which will encourage participation in flex markets without necessarily increasing costs for the ESO or DNO; (ii) reducing the opportunity cost that FSPs face when they bid into a DNO or ESO market (i.e. currently when they choose one, they cannot bid into the other during the same time-frame) will also increase their willingness to participate and potentially reduce the offers (i.e. the required monetary compensation) that they offer to DNOs in flex tenders.

### Extension of standardisation (discussed above) to cover both DNO and ESO, albeit recognising that there are limits to the extent of standardisation e.g. where different markets have different needs

- Examples:** same examples as given for standardisation across DNOs.
- Reasons:** the extension of standardisation to the ESO should: (i) move towards a system where it is easier to enter the DNO market if you have already entered the ESO market (and vice versa), driving up competition in these markets; (ii) reduce the extent to which FSPs perceive DNO markets as separate (and therefore often not worthwhile due to their smaller size) to ESO markets – automatic qualification into certain DNO markets based on ESO pre-qual questionnaires could help with this.

- SPEN Response / Actions:** Via the ENA Open Networks project, we are working with ESO to introduce further standardisation where it is appropriate to do so. For example, we are co-lead with the ESO for the Standard Contract Technical Working Group. We will assess areas suggested such as automatic qualification which may align with the work on standardising pre-qualification requirements currently underway as part of the Open Networks project.

### Adjustments to DNO flex market architecture

#### Developing a range of markets with different time horizons. For example, it could be practical to regard markets as having two different time horizons because there may be insufficient liquidity at present for more than two, and the market should be monitored in order to identify what sorts of time-frames facilitate effective participation.

- Examples:** some tenders could be for multiple years, some for a few years, some for a couple of months, and in the long-run, with sufficient participation, it may be possible to develop day-ahead or spot markets as well.
- Reasons:** some FSPs want longer-term price certainty, others do not like expressing their availability a week ahead, and EV Aggregators with planned assets do not want to commit their fleet numbers years in advance. A range of markets with different time-horizons would allow different tenders to cater for different types of providers, although at the start you would have to be careful not to split up the markets too much because it could reduce the liquidity of the market.
- SPEN Response / Actions:** We have received similar feedback from potential FSPs. We have therefore decided to publish our long-term requirements but tender for shorter term requirements on a rolling basis. This is to provide FSPs who want to see what markets they can bid in to a number of years in advance, but also allow FSPs to provide a more robust price in the shorter term. Some FSPs who bid to provide services 5 years in advance have advised that the price offered did not necessarily reflect the cost to them of providing the service. Some Aggregators offering planned assets also preferred to bid for short to medium term requirements for which they had more confidence in providing.

### Reduce the length of availability windows where possible

- Reasons:** from the FSPs' perspective, long availability windows when you are not being dispatched increase the opportunity cost of participating in DNO flex. Note that this only applies if there are penalties for failing to deliver in an availability window, which we understand is not the case currently.

- SPEN Response / Actions:** We are developing the forecasting information we will provide to FSPs to enable them to better understand when we will require them to be available. This should reduce the long availability windows included within a tendered service, assisting FSPs to manage their participation in other markets.

### Measures to encourage take-up of assets that can be recruited by FSPs participating in DNO flex

#### Measures to encourage customers to purchase flexible assets

- Examples:** subsidies or financing schemes that enable/encourage more customers to buy flexible assets (EVs, heat pumps, smart appliances, also smart charge points because a 'dumb' EV cannot participate in flex as effectively). Anything which encourages suppliers to reduce wait times for a SM.
- Reasons:** The DNO flex market is locational so Aggregators need a critical mass of assets in each area to provide flex. Once customers have flexible assets, they will have the ability to sign up to flex services and get value from them.
- SPEN Response / Actions:** Information campaigns to allow customers to understand the benefits and what they can offer to the network from different assets will encourage customers to invest in flexible assets. Working with local councils and community groups to provide information and trials should also assist in the uptake of LCTs.

### Measures to encourage suppliers to boost TOU tariff uptake:

- Examples:** information campaigns, regulatory options to encourage suppliers to provide at least 1 TOU tariff if TOU offerings struggle to develop, incentivising the rollout of SMs (e.g. doing it street-by-street, having higher volume drivers).
- Reasons:** engagement with DNO flex would automatically occur for customers on TOU tariffs (as the Aggregator/supplier that optimises the customer's consumption can enter the customer's asset into DNO flex to generate additional revenues). TOU tariffs also build familiarity with changing one's consumption patterns.
- SPEN Response / Actions:** Our Demand Shift trial with Octopus Energy demonstrated that customers are willing and able to move their consumption to match network needs / generation output. The commercial arrangements will be part of phase 2 of our trial and TOU tariffs will likely feature in this assessment.



### **Our Contact Details**

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