Distribution Flexibility Services

Procurement Report for SP Distribution PLC and SP Manweb PLC

1ST MAY 2022

SP ENERGY NETWORKS

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Executive Summary

We are SP Energy Networks, who own and operate distribution networks in Southern Scotland (our SP Distribution network), and in Merseyside, Cheshire, Shropshire and North Wales (our SP Manweb network), providing 3.5 million homes, businesses and public services with a safe, economical and reliable supply of electricity.

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", and we will deliver this through flexible, smart, innovative, and reinforcement interventions.

We are committed to fair and transparent procurement of flexibility services and during 2021 we continued to tender for flexibility services for all locations identified as requiring an intervention due to load growth during the ED2 period (2023 to 2028). We tendered for a total of 1.4GW in 1554 locations and to date, we have accepted bids for over 500MW, bringing the total from all our tenders to over 700MW.

Tenders Launched	Period	Capacity	No of CMZs	Voltage levels	Products
Spring 2021	ED2 (2023-2028)	1.4GW	1554	132kV, 33kV, 11kV & LV	Sustain, Secure, Dynamic, Restore & Reactive
Autumn 2021	ED1 (2022-2024)	110MW	25	33kV, 11kV & LV	Sustain, Secure, Dynamic & Restore

We have encouraged 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 in development, plus from aggregators who will look to recruit assets to meet the flexibility requirements. We have also considered services from FSPs who are unable to offer the full requirements for each service period and we have entered in to single year and multi-year contracts.

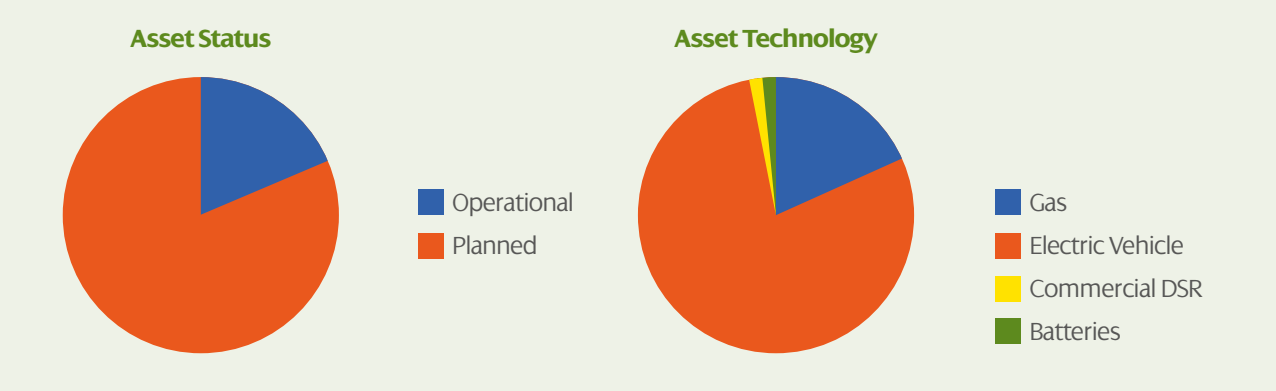
For each bid received, we assess against our published criteria, namely: the overall value of the service offered against the scheme budget; the technical parameters; and competing bids. The flexibility service is then assessed alongside all possible solutions, ensuring the most economic intervention is selected to manage specific constraints.

Tender Results	Period	Capacity Bid	Capacity Accepted	Voltage levels	Products
Spring 2021	ED2	1.7GW	555MW	132kV, 33kV, 11kV & LV	Sustain, Secure, Dynamic & Restore
Autumn 2021	ED1 & ED2	200kW	-	33kV, 11kV & LV	Sustain, Secure, Dynamic & Restore

Executive summary cont/...

Bids accepted have contractual effect when they are covered and contained in the express terms of an executed Flexibility Services Agreement which is based on the ENA developed common contract and are contractual process continues to capture the bid capacity within individual agreements.

To date, the bids we have received to date have largely been from planned assets offering demand side response:



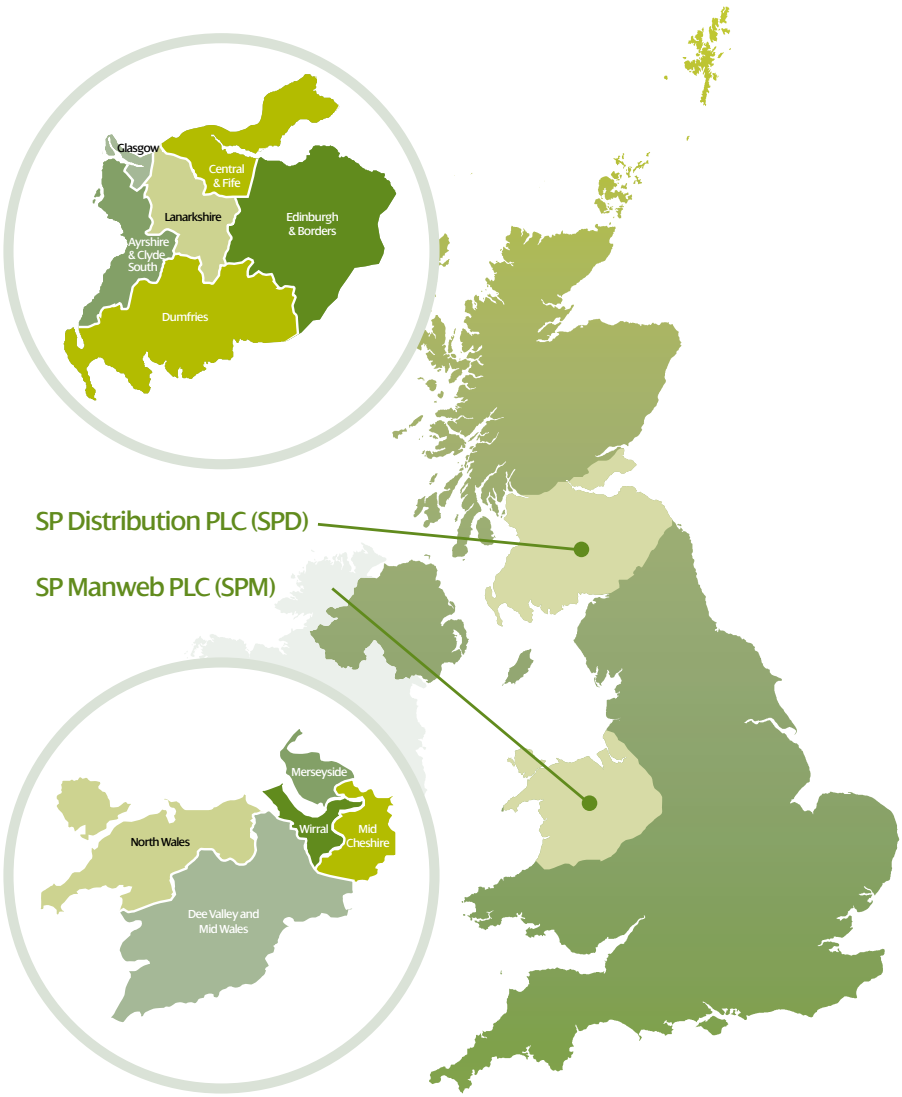
Stakeholder engagement continues to be key to ensure the market develops and allows potential participants to understand what they can offer. To facilitate our tenders, we use Piclo, the independent marketplace for trading energy flexibility, ensuring they are widely publicised and easy to access. In conjunction with Piclo, we undertake continuous engagement, acting on feedback to further develop our processes and procedures, removing barriers, and encouraging participation.

Understanding the carbon impact of using flexibility is an important consideration and we have started to develop processes to enable carbon reporting to be considered within our Cost Benefit Analysis. We are working with the industry, via the Open Networks Project, to develop consistent evaluation and reporting methods.

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 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 the Distribution Flexibility Services and Energy Efficiency Services which SPEN has tendered for, contracted and dispatched in the period of 12 months preceding the Annual Submission Date (1st April 2022), and is structured as per the guidance provided by Ofgem on 14th February 2022[1].

1. **SLC31E Procurement and use of Distribution Flexibility Services reporting requirements guidance (ofgem.gov.uk)**

1.2 Our Flexibility Approach

As we move towards ED2, 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 reinforcement interventions. We will depend on the new tools and capabilities that our DSO Strategy[2] will give us, not least higher flexibility utilisation from more efficient, coordinated, and competitive flexibility markets.

We began tendering in 2019 for flexibility services required during the remainder of ED1, with the level of services required increasing significantly when, in 2020, we began tendering for all Constraint Management Zones (CMZs) identified with forecast load growth that would require an intervention during the ED2 period (2023 to 2028). We sought a total of 1.4GW of flexibility services at 1554 locations across our two licence areas and covering all voltage levels.

Tenders	Spring 2019	Autumn 2019	Autumn 2020	Spring 2021
No. of Sites	3	10	1138	1554
Price Control Period	ED1	ED1	ED2	ED2
MWs Tendered	116	250	960	1420
MWs Awarded	0	53.3	139.6	555

Our largest tender in Spring 2021 saw a significant increase in participation and we were able to accept 555MW from 9 FSPs. The contractual process remains underway as we look to secure this bid capacity in individual Flexibility Services Agreements.

In Autumn 2021 we focused on tendering for the shortfall from the previous tenders plus any new requirements identified and this tender covered the periods 2022/23 and 2023/24 only, however the response was limited, and we received bids for only 200kW. We are now dedicating the time and resources to develop the structure and processes to facilitate closer to real time/real time procurement and encourage more participants to understand what services they can provide.

Our next tender will be issued in April 2023.

1.3 Contact Details

If you have any questions about this Statement, please contact us at:

SP Energy Networks
Network Planning & Regulation
320 St Vincent Street
Glasgow

Email: flexibility@spenergynetworks.co.uk

2. Annex 4A.3 - DSO Strategy.pdf (spenergynetworks.co.uk)

Section 2: Flexibility Procurement and Use Summary

2.1 Flexibility Services Procurement

To date we have looked to procure Flexibility Services via long term contracts, namely:

Tender	Price Control	Periods Covered
Spring 2019	ED1	2019/20
Autumn 2019	ED1	2020/21, 2021/22 and 2022/23
Autumn 2020	ED2	2023/24, to 2027/28 inclusive
Spring 2021	ED2	2023/24, to 2027/28 inclusive
Autumn 2021	ED1 & ED2	2022/23 and 2023/24

Therefore, our Autumn 2019 tender procured the services for use within the reporting year this Procurement Report covers (April 2021 to March 2022).

The tenders we issued during the Reporting Year were for all requirements identified within the ED1 period 22/23 and ED2 period (2023 to 2028).

2.2 flexibility contracted for use in the reporting year

Tender	Licence	CMZ Name	Product	Voltage	Service Period	Capacity Required (MW)	Capacity Bid (MW)	Capacity Contracted (MW)	Capacity Dispatched (MW)	Comments
Autumn 2019	SPM	Flint	Restore	33	Mar-Nov 21	19.36	7.50	7.50	-	Part capacity met
Autumn 2019	SPM	Flint	Dynamic	33	Nov 21-Feb 22	4.73	4.73	4.73	4.73	Full capacity met
Autumn 2019	SPM	Flint	Restore	33	Mar-Nov 22	20.90	7.50	7.50	-	Part capacity met
Autumn 2019	SPM	Crewe	Restore	33	Mar-Nov 22	33.00	33.00	-	-	Capacity withdrawn by FSP
Autumn 2019	SPM	Carrington FF	Dynamic	132	Mar-Nov 22	11.44	11.44	11.44	-	Full capacity met

(Full details are included with the Template appended to this Report).

Whilst bids were not received for the full capacity in the Flint CMZ, we contracted for the offered capacity of 7.5MW as in the event of a restoration event on the network, this capacity would offer some support to the network whilst supplies were restored. Further support would be provided by network reconfiguration and balancing.

The products we have procured for the reporting year are all post fault services and therefore dispatch is only required should a fault or event occur on the network. There was no network need to dispatch the services during the Reporting Year.

As a trial, one service was dispatched (Flint) to confirm our internal processes operated successfully. As this went beyond our contractually required API testing, the FSP was compensated for this test in line with the contracted rates.

2.3 Flexibility not contracted

In addition, we tendered for the following sites for services for use during the Reporting Year but were unable to place contracts for the reasons given below:

Tender	Licence	CMZ Name	Product	Voltage	Service Period	Capacity Required (MW)	Capacity Bid (MW)	Comments
Autumn 2019	SPM	North Shropshire	Dynamic	33	Nov-Feb	8.80	0.12	Insufficient Capacity offered
Autumn 2019	SPM	North Shropshire	Dynamic	33	Mar-Oct	7.15	0.12	Insufficient Capacity offered
Autumn 2019	SPD	Broxburn	Dynamic	33	Nov- Jan	1.40	1.40	Interim services no longer required
Autumn 2019	SPD	Berwick	Dynamic	33	Oct-Feb	3.89	3.89	Bid was too expensive
Autumn 2019	SPD	Durie House	Dynamic	11	Nov- Jan	0.67	0.67	Interim services no longer required
Autumn 2019	SPD	Paulville	Dynamic	11	Nov- Jan	1.98	1.98	Interim services no longer required

For the locations where post-fault services were required, support was provided by network reconfiguration and balancing.

We had also tendered for Reactive Power Services in three locations in SP Manweb (Flint and North Shropshire and Ringway), however no bids were received.

2.4 Flexibility tenders issued

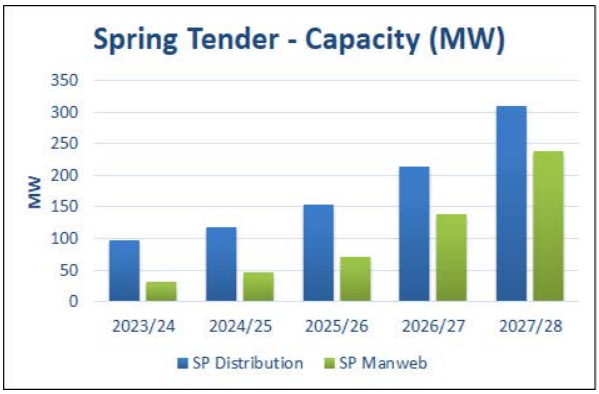
In accordance with our **Flexibility Procurement Statement – April 2021**, we issued tenders in Spring and Autumn 2021.

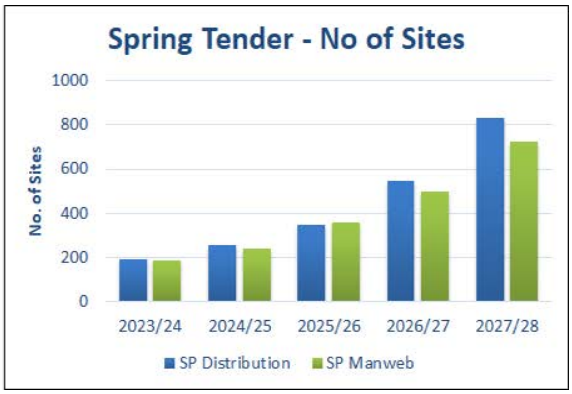
Spring 2021

In Spring 2021, we issued a further tender for each network constraint identified during the ED2 period (2023 – 2028), looking to procure a total of 1.4GW across 1554 locations.

Spring 2021	Pre-Fault		Post Fault		Reactive
Total requirements	**Sustain**	**Secure**	**Dynamic**	**Restore**	**Reactive**
	Intact System, Scheduled Support	Intact System, Dispatched Support	Post Fault System Support	Post Fault Restoration	Reactive Power Support
132kV		**65.4MW** (2 locations)			
33kV		**252.8MW** (12 Locations)	**23MW** (2 Locations)	**394.5MW** (3 Locations)	**253.MVAr** (2 Locations)
11kV		**239.6 MW** (58 Locations)			
LV	**454.4MW** (1477 Locations)				

This tender for long term flexibility services, looked to procure single or multi year contracts and demonstrates the scale of our forecast flexibility requirements during the ED2 period:



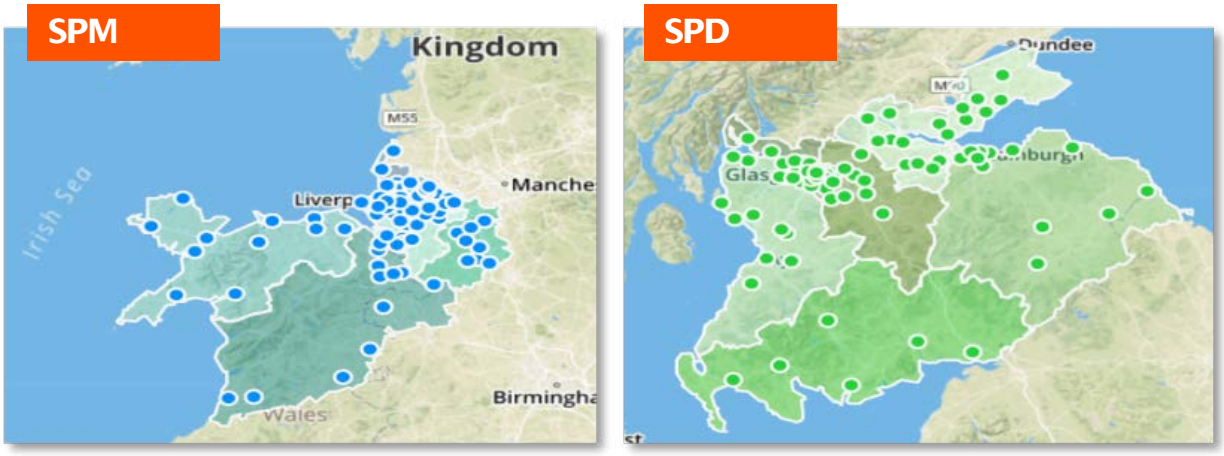


Autumn 2021

Following our Spring Tender, which tendered for all locations for the full ED2 period, our Autumn Tender focused on the years 2022/23 (12MW) and the shortfall for 23/24 (98.8MW) only:

Spring 2021	Pre-Fault		Post Fault	
Total requirements	**Sustain**	**Secure**	**Dynamic**	**Restore**
	Intact System, Scheduled Support	Intact System, Dispatched Support	Post Fault System Support	Post Fault Restoration
33kV		**11.6MW** (4 locations)	**2.2MW** (1 Location)	**72.5MW** (3 Locations)
11kV		**18.7MW** (17 Locations)		
LV	**5.7MW** (72 Locations)			

For both tender, locations of 132kV, 33kV and 11kV schemes are throughout our licence areas:



For LV, we have tendered for all substations with constraints due to forecast load growth, looking to procure services in 683 locations in the SP Manweb licenced area and 794 in the SP Distribution licenced area. In addition to the location information available on Piclo during each tender round, we provide a full list of post-code data for each location to inform potential FSPs where we require their **asset to be located**.

Full details of our tenders can be found **HERE** together with the results. In addition, the template appended to this Report provides details of all our tenders to date.

2.5 Flexibility Tender Results

For our Spring 2021 tender we received an encouraging response and were able to accept bids for 555MW from 9 individual FSPs, however for our Autumn 2022, we only received 200kW, with FSPs confirming that they were not yet in a position to offer any additional capacity within the shorter timeframe, with the time between procurement and first service window is not sufficient to allow for recruitment of the required assets / capacity.

2.5.1 Bids Recieved

We received bids from 9 FSPs:

Bids Received	Pre-Fault		Post Fault		Reactive
	Sustain	Secure	Dynamic	Restore	Reactive
	Intact System, Scheduled Support	Intact System, Dispatched Support	Post Fault System Support	Post Fault Restoration	Reactive Power Support
132kV		151.2MW			
33kV		377.8MW	13.1MW	234.9MW	
11kV		325.8mw			
LV	556.2MW				

2.5.2 Bids Accepted

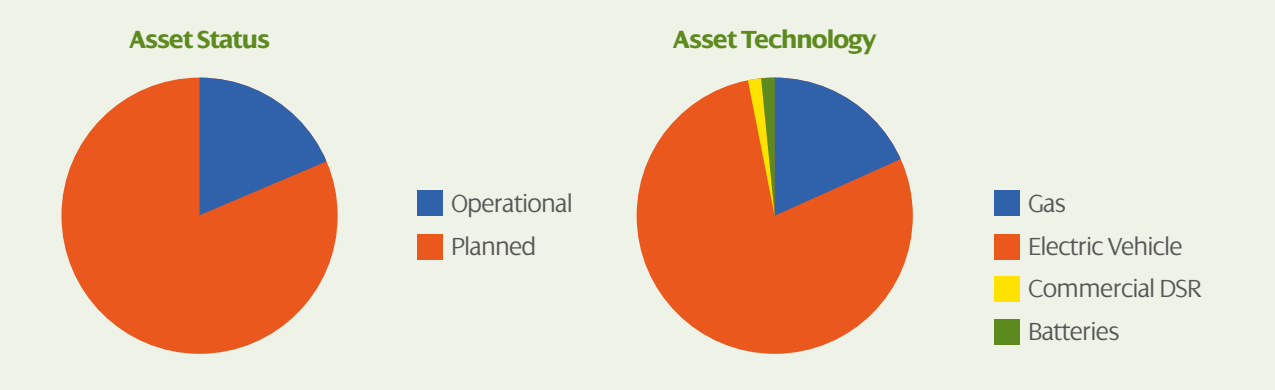
We were able to accept some bids from all 9 FSPs:

Bids Accepted	Pre-Fault		Post Fault		Reactive
	Sustain	Secure	Dynamic	Restore	Reactive
	Intact System, Scheduled Support	Intact System, Dispatched Support	Post Fault System Support	Post Fault Restoration	Reactive Power Support
132kV		69.9MW			
33kV		167.0MW	13.1MW	8.2MW	
11kV		193.3mw			
LV	103.5MW				

The contractual process remains underway as we look to secure this bid capacity in individual Flexibility Services Agreements.

2.5.3 Asset Status & Technology

To date the majority of assets offered are from aggregators offering demand side response from planned electric vehicle assets:



For those offering planned assets, we include milestones within our Flexibility Services Agreements to monitor the progress of these assets to ensure they are available in time for the contracted services. This requirement is included within our ITT documentation to ensure FSPs are fully aware.

Section 3: Stakeholder Engagement

3.1 Tender publication

Since our first tender for flexibility services in 2019, we have used the **Picloflex procurement platform**. Picloflex 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 provides a consistent and simple process for FSPs to access our tenders.

The platform automatically notifies those who have signed up to their mailing list, informing them that our tender has been launched and hosts all our service requirements along with links to key tender documentation, enabling FSPs to access information and support quickly and easily.

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**.

In conjunction with the engagement provided by Piclo, we will engage with stakeholders via:

- Easily accessible and downloadable information
- Posts on social media and adverts in trade press
- Webinars, conferences and events (e.g. SPEN hosted Flex Forum, LCNI)
- Direct contact with those who register for information
- One-to-one surgeries with potential FSPs
- Consultation on new processes

3.2 Prequalification

In order to take part in our tenders, there are a number of pre-qualification steps required.

Via Picloflex, SPEN procures Flexibility Services by issuing Invitation to Tenders (ITT) using a Dynamic Purchasing System (DPS). A DPS is run using a two-stage process. Firstly, during the initial setup stage all potential FSPs who meet the set criteria will be admitted to the DPS. The second stage invites all FSPs on the DPS who meet the requirements criteria to bid for the contracts and following assessment of the bids, contracts are then awarded.

As part of the first stage process, we require FSPs to complete company specific questions and once approved they will be admitted to the DPS plus information relating to the assets that will provide the services. We will assess the technical and locational details to confirm suitability for the individual constraint zones. Once approved, the asset can be submitted as part of the bid.

Our prequalification requirements and the processes to follow are included within our **tender documentation**.

3.3 Stakeholder Feedback

Feedback from stakeholders following our earlier tenders identified that FSPs like a longer period to consider the requirements, we have therefore re-scheduled our tender steps to give sufficient time for FSPs to assess the requirements and for them to seek clarification if required. Other feedback has influenced the format of our data, given the volume of CMZs and the requirements Stakeholders informed us that excel spreadsheets that can be downloaded make assessing the information easier. Maps are useful, however as the volumes increase, they can become less clear.

Piclo is also very active in this area, and host regular FSP Round Table meetings to understand any issues FSPs may be experiencing or any barriers identified, during our Autumn 2021 tender, a round table event attracted 40 attendees. Piclo also provide an efficient way of advising potential FSPs of any updates and/or clarifications during the pre-qualification stage, with automatic notification to registered FSPs, supporting our transparent and fair procurement process.

After each tender, we held one-to-one meetings to discuss the next steps for those who have been successful and to discuss any rejected bids.

3.4 Engagement Channels

We ensure several channels are available to facilitate continuous engagement throughout our tender processes, including:

Channel	Description	Where
Website	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.	**SP Energy Networks**
Procurement Platform	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. Our dedicated page on Picloflex requests feedback and provides details on how stakeholders can request a one-to-one meeting with us.	**www.picloflex.com**
Dedicated Mailbox	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.	**flexibility@ spenergy networks.co.uk**
Downloadable Documentation	To ensure potential FSPs and stakeholders are informed on how we identify, procure, dispatch and settle Flexibility Services, we provide several downloadable documents.	**Flexible Power**

3.5 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. Our processes are aligned with the good practices already identified and the new processes implemented.

We are part of the Flexible Power collaboration with four other DNOs, aiming for standardised dispatch and settlement processes for Flexibility Services which is key to providing consistency for FSPs.

Section 4: Economic Viability

4.1 Evaluation Approach

When considering network inventions, we assess all solutions, including flexibility services, on an equal and impartial basis ensuing the most economically viable solution is progressed.

All load related intervention schemes are subject to technical scrutiny via our internal System Review Group, which is a forum for peer to peer review of proposed changes to the distribution network. It is an integral part of our authorisation process ensuring that projects submitted for financial authorisation have received the appropriate level of technical scrutiny.

All schemes are underpinned by robust Engineering Justification Papers (EJPs) and Cost Benefit Analysis (CBAs). Each EJP presents the needs case for the investment with relevant supporting evidence. A structured optioneering process is followed, outlining the list of possible solutions that were considered to manage the forecast constraint; which options were taken forward into detailed analysis; and why any solutions were discounted. The scope, cost, risks, benefits and other relevant factors are considered and summarised in the EJP.

The CBAs use the RIIO-ED2 Ofgem template to consider the Net Present Value associated with both capital and operational expenditure over 45 years. Each CBA has been carried out to deliver consistent and transparent modelling that is objective, accurate and of high quality. We will also be using the Common Evaluation Methodology to support our decision-making.

4.2 Economic Assessment

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.

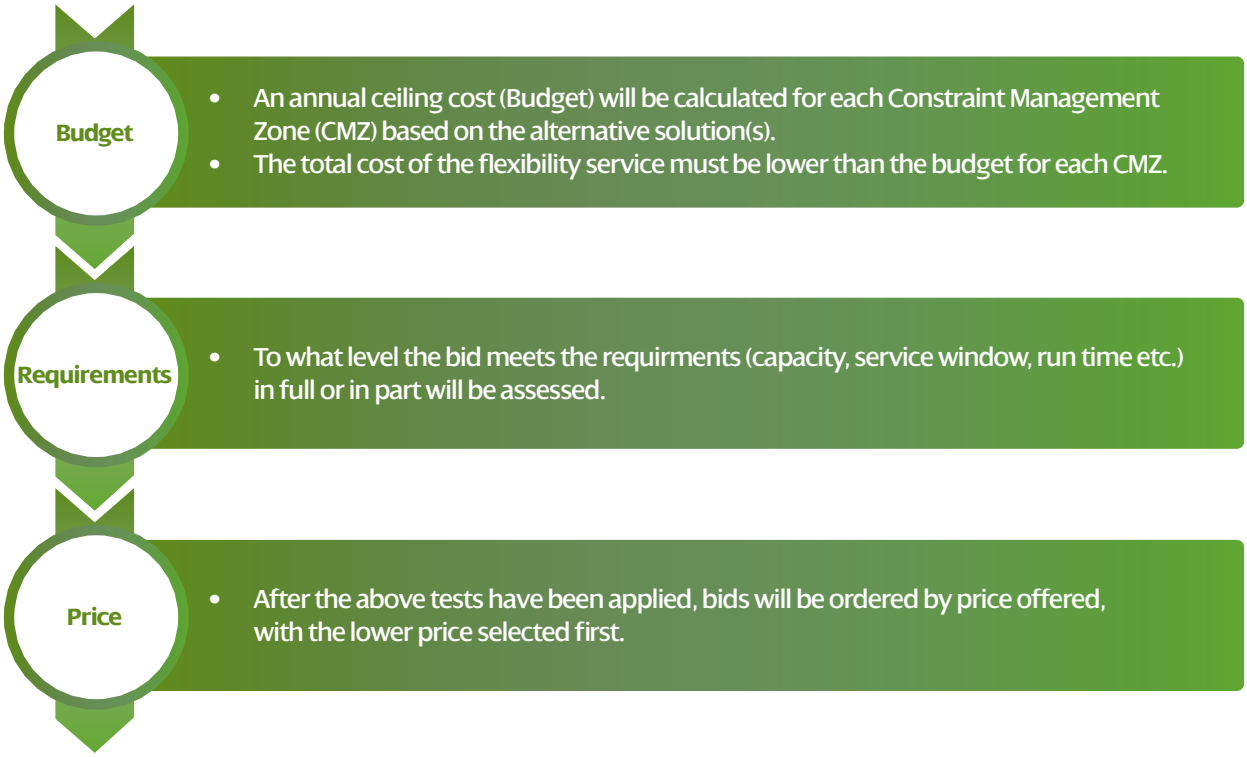
Our flexibility financial model converts the counterfactual solution(s) to a £/year basis, allowing us to consider solutions on the same financial basis. This is necessary, for example, to get an equitable comparison of a 45-year reinforcement scheme with a three-year flexibility contract.

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 assessed alongside all other options, as detailed above.

4.3 Bid Assesment

For each bid submitted, we will assess: the overall value of the service offered against the scheme budget; the technical parameters; and competing bids. Guidance is provided on the **Picloflex platform** and our Bid Assessment criteria is published as part of our **ITT documentation** for each tender we issue.

In summary:



In accordance with Condition 31E, we publish the details of all **Flexibility Contracts entered into**.

In addition, as part of our Business Plan submission we have made available our approach to assessing investment options for each identified scheme. **Annex 4A.2 - Load Related Expenditure Strategy - Engineering Net Zero.pdf (spenergynetworks.co.uk)**

4.4 Evaluation Results

The EJPs for the individual ED2 schemes have been published as part of our Business Plan Submission and can be accessed via: **Chapter 4A Annexes - SP Energy Networks**

Our published network planning and development documents such as the **Long Term Development Statements (LTDS)** and **Distribution Future Energy Scenarios (DFES)**; plus our **Network Development Plan (NDP)** also provide information and forecasts of our existing network and the availability of capacity in the short, medium and long term and tie back to our tendered locations.

4.5 Dispatch Methodology

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 zones, we will consider the following:

Details and guidance relating to Flexible Power, plus a copy of our Dispatch Principles, can be accessed **HERE** and are referenced within our Invitation to Tender (ITT) documentation for each tender providing clear visibility for FSPs wishing to take part.

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

4.6 Supporting Methodology

Alongside our internal assessment processes, we will utilise the Common Evaluation Methodology as part of our decision-making process. To ensure potential FSPs are aware of the CEM tool, we provide access to the CEM methodology and tool as part of our downloadable documents.

4.7 Dispatch of Services

The products we have procured for the Reporting Year are all post-fault services (Dynamic and Restore) and therefore dispatch is only required should a fault or event occur on the network. No such fault or event occurred and therefore we did not need to dispatch the services during the Reporting Year. Where appropriate, availability payments were made to the FSPs.

We did dispatch one service as a trial to confirm and test our instruction and response processes.
The FSP was compensated for this test in line with the contracted rates.

4.8 Market Assessment

By tendering for flexibility requirements for the entire ED2 period, we were keen to assess the flexibility services market. Engaging with providers we wanted to understand what could be offered and any impact the provision of Distribution flexibility services could have on their ability to offer services to others. We informed FSPs that we do not require exclusivity, however stressed the importance of the services, and require notification of any current agreements they have. Such notification is an obligation within the Flexibility Services Agreement.

New participants, offering planned assets have entered the market. However, the risk of contracting with largely planned assets must also be fully considered, and steps taken to mitigate the potential impact of services not being delivered. We include milestones within our Flexibility Services Agreements which rely on planned assets to advise us of progress.

Section 5:Carbon Reporting

5.1 Current Approach

As part of our robust CBA methodology, the Cost of Carbon Is assessed for each intervention solution. Recognising the challenges that the industry is currently facing to understand the true cost of carbon, we have worked alongside carbon accounting specialists at AECOM to link our asset activity category within the Carbon Trusts Environmental Extended Input Output Database (EEIO). This EEIO conversion approach assigns a kgCO2e/£ for each category. We have then converted this to a tonne/CO2E for our activities based on asset unit cost information were possible. This tonne/CO2e is then used to derive a monetary value of carbon using Ofgem's CBA template. Using this approach, we have been able to ensure the carbon costs for preferred and discounted options are captured within the final NPV of our associated CBA.

Each EJP (referenced in Section 4) evaluates the impact of the proposed intervention on our Business Carbon Footprint, for instance through changes to network losses, or the need for new materials, components or construction techniques that will result in embodied carbon and other capital carbon emissions.

Section 3.1.2 of our Environmental Action Plan, Ann 4C.3 provides more information
REDACTED Annex 4C.3 - Environmental Action Plan.pdf (spenergynetworks.co.uk)

5.2 Industry Developments

Collaborative industry work is required to develop the appropriate methods of calculating the carbon cost relating to flexibility services and we very much support the work currently being progressed by the ENA Open Networks project relating to carbon assessment and reporting.

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