

Serving the Midlands, South West and Wales

# Distribution Flexibility Services Procurement Statement

April 2021

#### 1. Introduction

Western Power Distribution (WPD) is a Distribution Network Operator (DNO) and a Distribution System Operator (DSO), responsible for distributing electricity to 7.9 million customers. We look after a network of wires, poles, pylons, cables and substations; distributing electricity to homes and businesses across the West Midlands, East Midlands, the South West and South Wales as shown in Figure 1.

The distribution network sits between the transmission network and our customers. The drive towards a low carbon economy has led to increasing levels of generation directly connected to our distribution network along with new forms of electricity demand such as electric vehicles, heat pumps and battery storage.

Our main responsibilities to our customers are illustrated below:

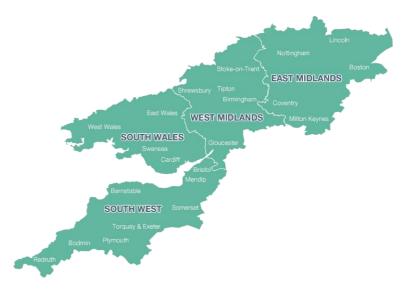
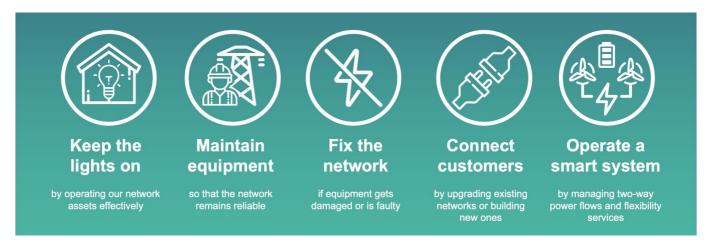


Figure 1: WPD licence area



The energy system is undergoing a huge transition because of the changes to electricity generation and use, including the growth of distributed generation and the increasing popularity of electric vehicles and heat pumps. These changes and the associated increases in demand have required us to develop new processes and systems, such as adopting flexible solutions to manage different power flows on the network. To continue to operate a smarter, more efficient energy system, we are carrying out the functions of a Distribution System Operator.

As these functions develop, we are committed to providing clear information about what Flexibility Services we need and how we procure them.

This document, our first Distribution Flexibility Services Procurement Statement, is one element of that commitment and draws together information to provide an overview of how we intend to procure services over the next year (April 21-March 22). It will sit alongside the Distribution Flexibility Services Procurement Report which will detail what services we have procured over the same period. These will form an annual process with the Procurement Statement submitted to Ofgem by April and the Procurement Report published in the April of the subsequent year. We see these documents, required as part of our Distribution Licence, as base requirements for market information and transparency, which are supported by a host of publically available information and data to provide more details where necessary.

# 2. Flexibility Service Requirements

#### 2.1 Why we procure Flexibility Services

Traditional network design was based on passive networks designed to deliver peak demand with minimal intervention with a specified level of redundancy. To enable a greater volume of demand, generation and storage to be connected, our networks are becoming smarter and more active. Creating a more efficient and flexible system will benefit all customers and empower them to be at the centre of the energy revolution. The core driver for our procurement of flexibility is the deferral of network reinforcement. By managing temporal peaks on the network, we can avoid overloading assets and hence push back the need to invest in more assets.

As detailed in section 5.1, we have developed robust processes to help us understand where the deployment of flexibility services is the most cost effective solution

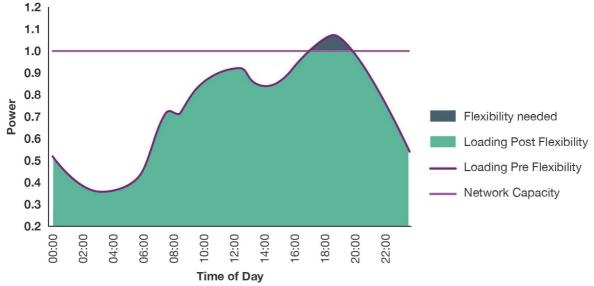


Figure 2: The need for Flexibility

Flexibility can provide more granular increases in network capacity, better reflecting the in-year requirements of network users. Flexibility can also help to manage capacity shortfalls economically and responsively until the need for conventional reinforcement is established. In some circumstances, a longer period of flexibility may allow for more appropriate, long term investment plans to be implemented. Flexibility can also be used to connect new customers to heavily loaded parts of the network without the need for reinforcement. Our 'Flexibility First' approach can soften the criticality of timing for the intervention, if sufficient flexibility is available and economic, by managing peak demand leading up to and beyond the capacity limit of the network. The extent to which flexibility is used will be determined by an industry standard cost benefit analysis

While we will be making greater use of flexibility, there will still be situations where it is necessary to carry out conventional network reinforcement, for instance, where there is insufficient flexibility provision to tackle the level of network constraint. The following diagram illustrates the different approaches that may arise.

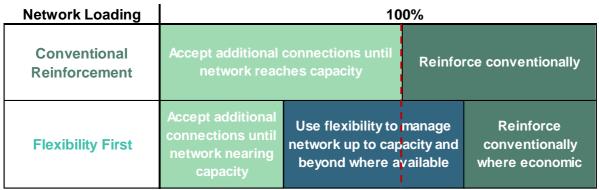


Figure 3: Options for constraint resolution

Flexibility Services are one of many new active solutions being used DSOs to help manage networks effectively including the use of smart grid technologies such as enhanced voltage optimisation or automated load transfers.

#### 2.2 How we procure Flexibility Services

When we created our initial Flexibility Service offerings, we established the Flexible Power brand. This aimed to create clear distinction between more traditional DNO roles of offering connections, and the new requirements around the procurement of flexibility services.

The Flexible Power brand remains at the centre of our procurement and operation of services. It has a suite of core processes which can then be linked to wider market platforms. Since its development, Flexible Power has now been adopted by the majority of UK DNOs, bringing a level of standardisation across the industry.



Figure 4: Flexible Power Logo

More details can be found on the Flexible Power website: www.flexiblepower.co.uk

#### 2.2.1 Services

We currently procure three services: Secure, Dynamic and Restore. These align with the <u>Open Networks Service</u> <u>definitions</u>. We do not currently procure Sustain Services (see section 6 for details on future developments). Each Constraint Management Zone (CMZ) has either Secure or Dynamic as well as the Restore services.

# Secure

Our **Secure** service is used to manage peak demand loading on the network and pre-emptively reduce network loading.

It offers a higher availability payment and lower utilisation payment.

# **Dynamic**

Our **Dynamic** service has been developed to support the network in the event of specific fault conditions, such as during maintenance work.

It offers a low availability payment and higher utilisation payment.

# Restore

Our **Restore** service supports power restoration following rare fault conditions.

No availability payment, instead it offers a premium utilisation payment.

Figure 5: Overview of our Flexibility Services

These services are used to manage constraints at the higher voltage levels (EHV and Primary networks), however we look to recruit Flexibility Service Providers (FSPs) at all voltage levels below the constraint being managed. We seek flexibility from a wide range of providers and have not set a contractual minimum capacity limit for participation to make participation possible for a larger range of FSPs, including those connected at lower voltages.

We do not currently procure services to manage LV constraints due to the challenging economics and very small associated geographic locations. As flexibility services mature and volumes grow, this position may be revisited.

To date most procurements have focussed on demand turn down or generation turn up. However we have recently launch a demand turn up/generation turn down zone. The delivery of further zones will be depending on learning from this zone, and future network need.

#### Secure

The Secure service is used to manage peak demand loading on the network and pre-emptively reduce network loading. As these requirements are predictable, payments consist of an Arming fee which is credited when the service is scheduled (irrespective of whether it is used) and a further Utilisation payment awarded on delivery (related to the amount of flexibility provided).

Secure service requirements are declared in advance for the following week. The week-ahead declarations are scheduled to allow FSPs to participate in alternative services when not required for the Secure service.

#### **Dynamic**

The Dynamic service has been developed to support the network in the event of specific fault conditions, often coinciding with other outages for maintenance work.

As the service is required following a network fault, it consists of an Availability fee and Utilisation fee. By accepting an Availability fee, FSPs are expected to be ready to respond to Utilisation calls within 15 minutes. Availability under the Dynamic service is usually expected to be of a longer duration compared to the pre-emptive Secure service.

Dynamic availability windows are also declared in advance for the following week.

#### Restore

The Restore service is intended to help with restoration following rare network fault conditions. Under such circumstances, the Restore service can be used to reduce the stress on the network.

As the requirement is inherently unpredictable, Restore is based on a premium 'Utilisation only' fee. This rewards response that aids network restoration, but pays no Arming or Availability fees. FSPs who are declared available for the Restore service are expected to respond to any Utilisation calls within 15 minutes and receive an associated Utilisation fee.

Each service is subject to the specific payment mechanics. These are designed to encourage full delivery, whilst balancing the level of penalties to ensure the services remain attractive. These are detailed in our Payment Mechanics document (<a href="https://www.flexiblepower.co.uk/downloads/603">https://www.flexiblepower.co.uk/downloads/603</a>). They are also currently subject to simple baselining methodology outlines in our Baselining document (<a href="https://www.flexiblepower.co.uk/downloads/600">https://www.flexiblepower.co.uk/downloads/600</a>). Our Baselining methodology is currently under review and will be amended building on the output of the Open Networks WS1A P4 Baselining work.

More detail on each service can be found at <a href="https://www.flexiblepower.co.uk/about-flexibility-services">www.flexiblepower.co.uk/about-flexibility-services</a>

#### 2.2.2 Volumes and requirements

Building from initial procurements in our Entire NIA project in 2017/18, we now hold procurements every 6 months (see more details in section 3). Each procurement sets out in detail its specific requirements.

At the time of writing we have 440MW under contract across 54 CMZs covering 256 primary substations as shown. There was also over 100MW of unfulfilled requirements in our CMZs.

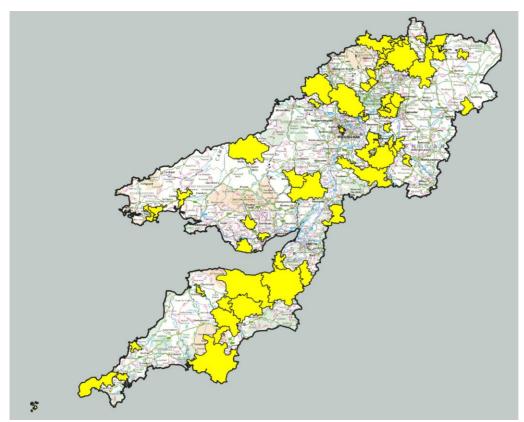


Figure 6: CMZs at time of publishing

Figure 7 highlights the volumes we have sought in our flexibility tenders up to the time of publishing.

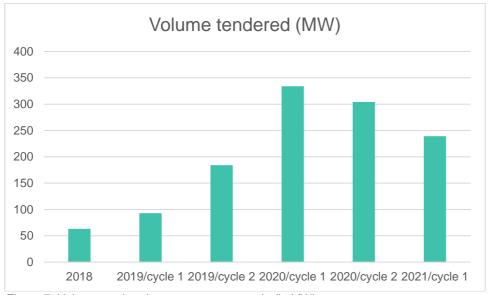


Figure 7: Volume tendered per procurement cycle (in MW)

We continue to review our requirements for Flexibility Services (see section 5) and expect the volume of flexibility services needed will increase over time.

Each Constraint Management Zone is focussed on the mitigation of a specific network constraint. As such the times and volumes needed are highly diverse. Across the portfolio of zones we have requirements in every month in the year, every day of the week and all half hours for some days. We acknowledge the requirement for comprehensive market information on our detailed procurement needs for each zone and therefore have created a suite of information to the market to communicate our latest needs. These include:

**Network Flexibility Map** (https://www.westernpower.co.uk/network-flexibility-map-application): We publish comprehensive data on signposting and forecasting through our Network Flexibility Map. This includes the availability windows and expected market volumes required for all our Distribution Future Energy Scenarios (DFES) for a five year period under the Signposting process. Visualisations of the data are available online through the mapping tool and datasets are downloadable without registration. The Network Flexibility Map also presents our firm flexibility requirements which feed into our procurement process. This shorter term view, gives clarity on our needs and is refreshed every six months in line with our procurement timeline.

Flexible Power Map (<a href="https://www.flexiblepower.co.uk/map-application">https://www.flexiblepower.co.uk/map-application</a> ): The Flexible Power Map replicates much of the functionality of the Network Flexibility Map but focusses on the requirements against which we will procure. It highlights the required volumes and forecast availability windows. This map is held on the Flexible Power website and hosts data from the other DNOs who are also involved in the Flexible Power Collaboration.

**Procurement documents** (see latest here: <a href="https://www.flexiblepower.co.uk/downloads/426">https://www.flexiblepower.co.uk/downloads/426</a>): For every six monthly cycle of procurement, we publish market information detailing the requirements for procurement at each of the CMZs. This includes information such as the MW required, expected MWh availability windows and MWh estimated utilisation volumes.

**Distribution Networks Options Assessment (DNOA)** (<a href="https://www.westernpower.co.uk/DNOA">https://www.westernpower.co.uk/DNOA</a>): Our DNOA process provides a systematic methodology to recommend a single investment option for potential constraints. (See section 5.1). As part of the DNOA process we publish the outcomes of our assessment on a six monthly basis. This highlights why we have gone out to procurement for each zone

We also provide a number of additional tools to aid FSPs in understanding our requirements such as a Post Code checker, a service value calculator and more detailed monthly forecasts highlighting operation needs.

These publications link together as shown in the figure below.

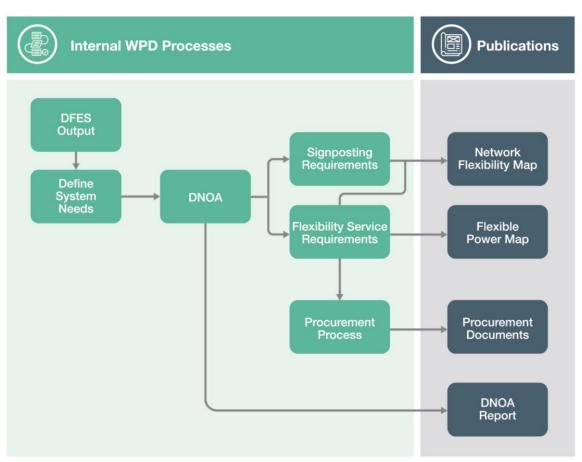


Figure 8: Network Requirement publications

#### 2.2.3 Operational Processes and Dispatch Principles

Once services have been procured (see section 3), we have clear and transparent processes for operating our services.

#### Monthly Forecasting

On a monthly basis we update the market with the outcomes of the previous month as well as our best forecast of requirements for the coming month. These are published on the Flexible Power website (<a href="https://www.flexiblepower.co.uk/tools-and-documents">https://www.flexiblepower.co.uk/tools-and-documents</a>) and a link is emailed to relevant FSPs each month

#### Weekly Operational Process

Our Operational Processes are focussed around the Flexible Power Portal (<a href="https://flexiblepowerportal.co.uk">https://flexiblepowerportal.co.uk</a>) and it's associated API (see our guide <a href="https://www.flexiblepower.co.uk/downloads/606">https://www.flexiblepower.co.uk/downloads/606</a>). This is used to facilitate a weekly operational process (<a href="https://www.flexiblepower.co.uk/downloads/678">https://www.flexiblepower.co.uk/downloads/678</a>).

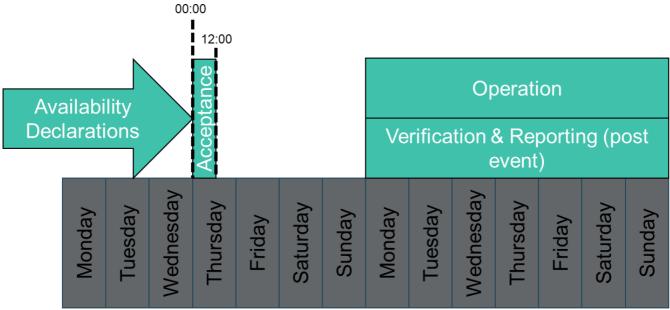


Figure 9: Weekly Operational process

#### **Availability Declarations**

By midnight on Wednesday, FSPs provide us with their asset availability for the following operational week (Monday to Sunday).

This includes providing details such as the available capacity they can provide as well as key operational parameters such as maximum and minimum run times.

#### **Acceptance**

On Thursday morning, before 12:00, we assess the available volume declared and accept availability to meet the volumes required for us to manage the relevant constraint.

As Restore has no availability payment, all availability declarations are accepted automatically.

After 12:00 this is communicated to FSPs via the portal.

#### Operation

When we instruct FSPs to deliver flexibility depends on the service being used. These will always be within periods of accepted availability.

- For Secure, the default is that once accepted, the service will be utilised. FSPs can opt to schedule their asset operations and a Utilisation Instruction is sent via the API 15 minutes ahead of the requirement.
- For Dynamic, Utilisation is triggered by network conditions, after the acceptance of availability. A Utilisation instruction is sent via the API 15 minutes ahead of the requirement.
- For Restore, Utilisation is triggered in response to network conditions. FSPs are expected to provide response as soon as possible following receipt of the Utilisation Instruction sent via the API.

As we currently operate a fixed price or pay-as-clear pricing structure (see section 3.3), there is no differentiation in price between FSPs. However we do optimise our instructions, instructing in an order which most closely aligns to the required flexibility. We will consider the following factors to optimise our decisions.

Table 1: Dispatch Principles

Principle	Description	In Practice
Security	The needs of the system will be met using flexibility in such a way that security of supply is maintained.	DSO/DNO requirements: Conform with applicable standards with an appropriate management of risk.
Cost	Flexibility will be operated to meet system need at the minimum level of cost.	Lowest prices per MWh and minimum levels of over procurement. Flexibility will be procured in cost order and will not unduly discriminate against any provider.
Operability	DSOs will seek to instruct services that offer compatible levels of operability.	Provider characteristics: availability, reliability, run times, response times etc Accepted offers need to match/partially match requirements.

As our operational experience increases, we will use this information to provide feedback to FSPs in areas and support them to maximise their value to the system.

In the future, as our procurement strategy matures towards full market-led pricing, then pricing submitted for each flexibility asset will be the dominant factor for consideration.

More details about this process can be found in our Acceptance and Dispatch Document: https://www.flexiblepower.co.uk/downloads/681.

#### Reporting

Event performance and earnings reports are created shortly after the close of each instruction. These allow FSPs to easily assess their performance. Invoices are then created on a monthly basis aggregating all the monthly events. More details about our settlement process can be found in our Billing Guide (https://www.flexiblepower.co.uk/downloads/594)

# 3. Tendering Process

#### 3.1 Process

We have developed our tendering process to be as simple as possible whilst maintaining compliance with the Utilities Contract Regulations. These regulations impose strict requirements on how utilities procure services. Since 2019 we have used a Dynamic Purchasing System (DPS) to manage pre-qualified parties enabling their eligibility to tender into all our published procurement cycles. Our experience of using the DPS has fed into the procurement processes developed within the Open Networks project.

The DPS splits the procurement activities into two key stages.

- Initially FSPs pre-qualify, joining the DPS. The DPS holds a record of all parties who have completed a
  pre-qualification process to be eligible to tender for demand response services in any of our current or
  future zones. Eligibility to join the DPS is not assessed on technical ability or on geographical location of
  assets, only company/individual address and contact details must be provided. To join the DPS, FSPs
  respond to our annual PIN. They are then sent our simple Pre-Qualification Questionnaire, which once
  completed and assessed completes their registration to the DPS.
- Once parties have successfully been added to the DPS will be invited to all future tenders. In line with our Procurement Timeline (see section 3.2) we launch two Invitation to Tenders (ITTs) a year. These focus on the geographic locations of assets, as well as the technical ability of the participant. They also invite FSPs to enter a best and final price that will be used should stage 2 pricing be achieved (see section 3.3).

This is highlighted in the figure below. More details can be found in our procurement process document (https://www.flexiblepower.co.uk/downloads/136).

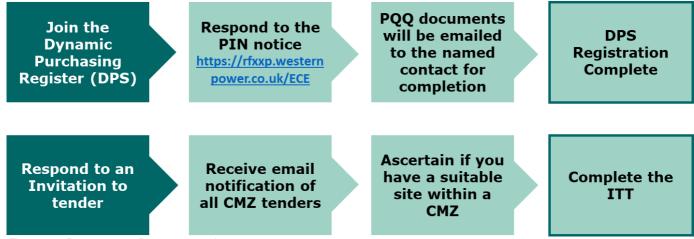


Figure 10: Procurement Process overview

Once procured, FSPs must integrate with the Flexible Power Portal and can then enter the weekly operational process (see section 2.2.3).

#### 3.2 Timelines

We operate two procurement cycles every year. These are spaced roughly every 6 month and are detailed in our Procurement Timetable document (<a href="https://www.flexiblepower.co.uk/downloads/585">https://www.flexiblepower.co.uk/downloads/585</a>). This is updated yearly and covers the dates for the next 2 years. For information the dates relevant to the next reporting year are shown below.

# Procurement cycle 1 of 2021

- 11.01.21: Proposed CMZs published
- 8.02.21: ITT issued
- 19.03.21: ITT Deadline
- 09.04.21: Procurement results

Figure 11: Procurement Timeline

# Procurement cycle 2 of 2021

- 28.06.20: Proposed CMZs published
- 02.08.21: ITT issued
- 10.09.21: ITT Deadline
- 01.10.21: Procurement results

# Procurement cycle 1 of 2022

- 10.01.22: Proposed CMZs published
- 07.02.22: ITT issued
- 18.03.22: ITT Deadline
- 08.04.21:-Procurement results

## 3.3 Pricing Strategy

Since 2019, we have been operating a pricing structure that is dependent on the level of competition revealed through the procurement process. Each CMZ is assessed independently because of variations in the number of FSPs and scale of flexibility provision. We have established a three phase strategy, with each phase reflecting the maturity of the market. The prices paid are based on the availability of flexibility in each CMZ. This starts with fixed pricing for non-competitive markets, pay-as-clear arrangements for markets with some competition and excess of suppliers, and shorter term contract pricing for fully mature and liquid markets.

Phase 1 Fixed

- Where the procurement process finds there is not a sufficient amount of flexibility to provide a competitive market, then we will continue to use a fixed price in that zone.
- •This will be set at around £300/MWh for the contract.

Phase 2 Pay-as-Clear

- Where there is sufficient competition within flexibility, the procurement process will derive a clearing price for the zone to be used in the contract.
- This will be based on the highest price submitted by the group of lowest priced participants that can meet the full amount of system needs, including redundancy.

Phase 3 Full Market

- As the liquidity in distribution flexibility markets improves and our visibility, procurement, dispatch and settlement systems mature, we will shorten the length of the window for which the contract price applies to.
- This will be a progression towards close to real-time market operation.

Figure 12: Pricing Strategy

Given the early stages of the market development, most zones are currently in Phase 1. However as volumes and competition grow we expect more zones to move into the phase 2 and 3 stages. To facilitate this, since 2020 we have been carrying out competition test to see if market pricing can be established through the pay as clear process.

The fixed pricing utilised in our services in Phase 1 is highlighted below. These feed into the performance related payment mechanics.

Table 2: Fixed Prices

	Arming	Availability	Utilisation
Secure	£125/MWh	N/A	£175/MWh
Dynamic	N/A	£5/MWh	£300/MWh
Restore	N/A	N/A	£600/MWh

More details can be found in our competition testing and pay-as-clear process in our Clearing Process document (https://www.flexiblepower.co.uk/downloads/178)

#### 3.4 Contract Award Process

Contracts are awarded following the conclusion of the ITT.

We have worked collaboratively with industry through the ENA's Open Networks project WS1A Product 4 to develop a common set of terms and conditions and were the first DNO to adopt these. We will continue to use the latest version of the common terms as they get updated. Informed by stakeholder feedback, the terms and conditions provide low barriers of entry, maximise participation and reduce complexity. They include:

- Mutual and capped liabilities
- Performance based payment mechanisms to incentivise participation
- No penalties for non-delivery, only loss of potential revenue
- No exclusivity clauses
- No obligation to provide availability

Our contracts do not have any exclusivity, maximising the ability for a flexibility provider to increase revenue opportunities by providing services to other parties. Following feedback from FSPs, we have altered our contractual length to give better certainty for market FSPs. Since 2019, we have been allowing FSPs to choose their optimum contract length, from between one and four years

The Contract is available on the website (<a href="https://www.flexiblepower.co.uk/tools-and-documents">https://www.flexiblepower.co.uk/tools-and-documents</a>). The terms must be accepted as part of the response to the ITT. As it is a standard, cross party contract, it is non-negotiable, however feedback will be collated and fed back into future reviews, both within WPD and with the wider ENA standard terms.

Since 2018, we have published a procurement cycle results document within one month of contract award (see example here: <a href="https://www.flexiblepower.co.uk/downloads/582">https://www.flexiblepower.co.uk/downloads/582</a>), summarising the various stages and results of the tendering process. As the tendering process has developed, more information has been published. Going forward we expect to publish:

- Volumes of flexibility coming through all stages of the procurement process
- The counterparty, technology type, MW capacity, length of contract, payment structure and price agreed for each contracted party
- A summary of the outcomes per CMZ. This includes, the volumes required, the number of bid received, the MW awarded and the zone price.

# 4. Stakeholder Engagement

#### 4. 1 Engagement around Flexibility requirements

As detailed in Section 3.2 we operate two procurement cycles a year. These are surrounded by a mix of promotional activities to maximise participation, as well as feedback processes to allow us to continually improve our processes.

The publication of our requirements are accompanied by promotion to increase market awareness and drive participation. This includes webinars and surgeries, one to one engagement and the attendance of relevant events. This targets a wide range of stakeholders to ensure all relevant parties are aware of the opportunity.

Once procurement has been completed, we then focus on collecting feedback on how we could improve how we publish requirements and the DNOA process. The associated timings are covered below.

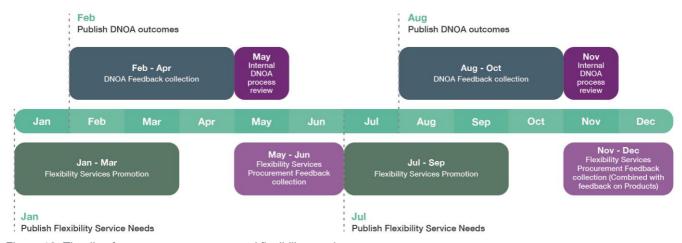


Figure 13: Timeline for our engagement around flexibility requirements

## 4.2 Engagement about products and process

In addition to what we procure, we also seek stakeholder feedback on how we procure services. We aim to target key stakeholders including those who have been involved in various elements of the process as well as wider industry stakeholders, including the ESO and other DNOs. As well as ad hoc feedback we see two key processes;

- Our work as part of the Open Networks project (see section 4.3) we collaborate with the other DNOs to deliver more standardised processes for procurement. As part of the WS1A process, a formal consultation is conducted in July. We used this feedback to inform ON work as well as WPD internal process.
- As part of the development of future Distribution Flexibility Statements, we will create a formal process to feedback on WPD process. Informal discussions will be carried out alongside the collection of feedback following the 2<sup>nd</sup> yearly procurement. This will be used to help us assess changes needed to the statement. These will feed into a formal consultation we aim to run in January and February.



Figure 14: Timeline for engagement around products and processes

In addition to these two formal routes. We collect ad-hoc feedback which is fed into the relevant processes. Stakeholder engagement is also a key part of any new service development work (see section 6).

## 4.3 Engagement with ESO and DNOs

We recognise that WPD is one actor amongst many in an ever more complex energy market place. As such, in addition to our wider engagement, we endeavour to engage heavily with the other network licensees.

A key part of this is through our active involvement at the Energy Network Association, especially the Open Networks project, where we work with the other licensees to develop and adopt common approaches across a range of DSO related activities. Workstream 1A is focussed on the development of Flexibility Services. Its key objectives include:

- Bringing more transparency in how DNOs facilitate local markets for flexibility and make decisions to provide more confidence in independent decision making.
- Simplifying participation in local flexibility markets through standardisation of approaches across DNOs and between DNOs and the ESO.
- Addressing barriers to participation in flexibility markets and facilitate stacking of revenues across multiple markets.

In addition we engage actively with other licensees directly when needed. Examples of this include:

- Our collaboration with the ESO and other relevant DNOs on the Regional Development Programmes
  (RDPs). The RDPs look across the whole-system landscape to identify key areas of development to unlock
  additional network capacity, reduce constraints and open up new revenue streams for market FSPs.
  Building on the work of Open Networks we are developing flexibility markets to manage distribution and
  transmission system needs.
- By opening up our Flexible Power brand and processes to other DNOs we have looked to increase
  alignment and collaboration within the industry. The collaboration will help streamline the process for
  flexibility providers and make interfacing with DNOs simpler and easier by avoiding the complexities and
  resource intensity associated with liaising with numerous network operators. We intend to work in
  partnership to further develop the Flexible Power brand and develop the portal functionality to enable
  interface capability with other flexibility platforms so wider market participation options can increasingly be
  made available to providers.

## 5. Detailed Quantitative Assessment

#### 5.1 Flexibility Service Requirements

Our Distribution Future Energy Scenarios (DFES) provides data on the predicted growth in generation and demand across the 4 licence areas on a yearly basis. This scenario growth data allows areas on the network expected to be constrained to be identified. Forecasts carried out using this data feed into a number of other processes (such as the Long Term Development Statement (LTDS), and the upcoming Network Development Plans (NDP) and are used to plan conventional network build solutions and/or flexibility procurement based on system needs. The decision making process for determining the optimal solution for each constraint is called the DNOA. This is carried out on a biannual process, leading to two rounds of Flexibility Service Procurement each year. The DNOA process is used to both look forward and identify which services should have services procured to help mitigate them, as well as looking backwards to ensure they continue to provide value.

The DNOA outlines the decisions made to meet the future needs of the distribution network. A smarter network needs smarter decisions: the DNOA outlines the options considered to provide the best consumer value in investments made on the distribution network and how cost-benefit analysis is employed to determine the optimal investment path. The decisions show in a transparent manner how we are optimising our investment to deliver secure, sustainable and affordable electricity to meet the changing needs of the areas we serve.

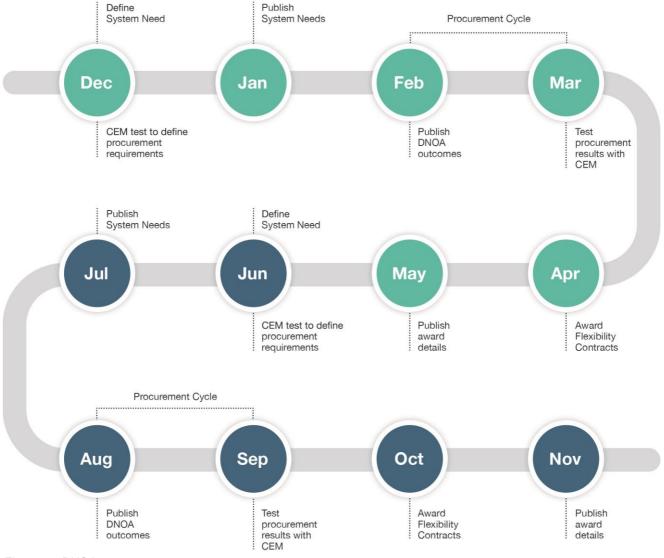


Figure 15: DNOA process

To improve transparency in how DNOs reach decisions for the flexibility procurement and the potential to delay conventional reinforcement, a common evaluation methodology (CEM) cost-benefit analysis (CBA) tool has been created by Baringa Partners as part of the Open Networks project. This tool is used in the DNOA process to assess the net benefit of flexibility against a baseline of conventional reinforcement for scenarios over a number of years. The economic analysis is based on the Time Value of Money wherein delaying reinforcement costs creates a significant economic benefit. If this benefit is greater than the cost of flexibility required during the deferral period, then flexibility procurement is deemed the optimal solution and could create savings that can be passed on to customers and stakeholders.

The decision tree below demonstrates the different choices our analysis can lead to. Firstly, the schemes that do not require any intervention are removed from future DNOAs. Among the schemes which do require intervention, if the constraint cannot be managed using flexibility then reinforcement is pursued. If the constraint can be managed using flexibility but no intervention is required within the next year signposting is published. The schemes which require flexibility services within the next year are put through cost-benefit analysis to determine if flexibility can be used to defer reinforcement. This is further detailed in the latest DNOA document

(https://www.westernpower.co.uk/DNOA)

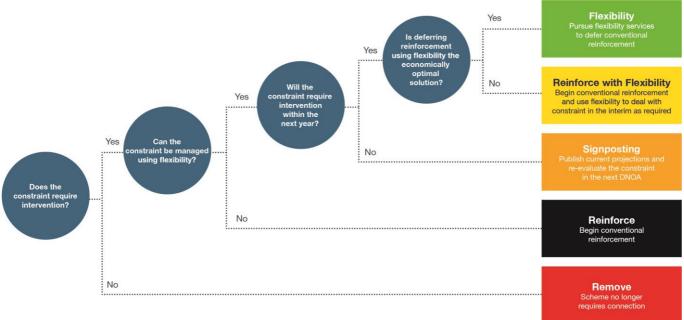


Figure 16: DNOA decision tree

#### 5.2 Flexibility Service Selection

As detailed in section 3, we have a detailed process for procurement of Flexibility Services, including a clear methodology for how we select which services to procure and then instruct services.

At a procurement level, section 3.3 details the various phases we have established which set how the markets operated.

In Phase 1, as the volume offered is less than our requirements, we accept all bids at the fixed price.

#### In Phase 2:

- Tenderers will also be asked to provide their 'best and final offer' per MWh of combined availability/arming & utilisation.
- The combined price is split as per the fixed price product ratios;
- We will carry out an N-2 test to determine which zones have enough participation to be applicable for clearing.
- Where we have CMZs with multiple FSPs with a total capacity that exceeds the CMZs needs the 'best and final offer' price will be used to determine a zonal clearing price.
- The zonal clearing price will be deemed to be the CMZs best market price, and this price will then be
  offered to all tenderers.

• Tenderers whose best and final offer is above the clearing price will be awarded a contract at the zonal clearing price. Tenderers are under no obligation to provide services under the contract.

The process for Phase 3 will be developed following learning from Phase 2.

More details can be found in our Clearing Process document (<a href="https://www.flexiblepower.co.uk/downloads/178">https://www.flexiblepower.co.uk/downloads/178</a>).

Our Dispatch principle have been set out in section 2.2.3.

# 6. Services in Development

Since developing our initial processes and procedures through innovation trials, our processes for procuring Flexibility have been evolving and maturing. As we build learning and scale, we expect to continue developing and improving our processes. Alongside the existing products mentioned in the sections above, we have a number of other services in development. These range from innovation trials to BaU development work.

Depending on the learning generated as part of their development they may, or may not be implemented in the next reporting year.

#### Sustain-H

As part of our Future Flex NIA project we are developing a service modelled on the Open Networks Sustain product. This has been tailored to reflect the specific needs of domestic properties, with scheduled requirements, simple baselines and data requirements. The trial should be finalising in November 2021.

#### Closer to real time Procurement

As part of our IntraFlex NIA project we are trialling the use of the NODES market platform to procure services closer to real time via a continuously clearing market. This provides us and FSPs with a much more dynamic method of procuring services and will be launching its phase 2 trials this year, again reporting learning in November 2021.

#### Coordinated Constraint Management services with the ESO

As mentioned in section 4.3, as part of our RDPs, we are working with the ESO to develop services to help with the coordinated management of Transmission and Distribution constraints.

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