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## 1.0 Document Purpose

#### 1.1 Preamble

This document provides a brief overview of Flexibility and explains how National Grid Distribution System Operator (DSO) procures Flexibility Services and its approaches. It is designed to give Flexible Service Providers (FSPs) and wider Stakeholders a clear, straightforward understanding of our process.

### 1.2 About Our Procurement Activities

National Grid facilitates its procurement activity through its online portal, <u>Market Gateway</u>. FSPs seeking to deliver flexibility services should register on the Market Gateway and complete the pre-qualification requirements to enable their eligibility to enter into flexibility Trades.

Pre-qualification is always open and can be completed at any time. Further Guidance can be found on the National Grid DSO <u>website</u>.

## 1.3 About Our Engagement Activities

In addition to our formal engagement activities, we are happy to engage with interested parties at any time, please email nged.flexiblepower@nationalgrid.co.uk.

Where registration for engagement activities are TBC, we will update relevant document and the National Grid DSO website as early as possible after these are known

### 1.4 Modifications

We reserve the right to add, amend or remove procurement and engagement activities at any time and will update relevant document accordingly and periodically when required.

### 1.5 Further Guidance and Contact

Document	Description
Flex in Five	A brief overview of flexibility
End to End Market Gateway Guide	A guide through the process of using Market
	Gateway for trades
Participation Diagrams	An overview of the steps to participation
Procurement and Engagement Timetable	Timetable and dates of our activities
Guidance for Electricity Distribution FSPs	A complete in-depth guide to flexibility

#### Contact us:

The Flexibility team can be contacted with the details below.

## nged.flexiblepower@nationalgrid.co.uk

# 2.0 About Flexibility Services

Flexibility is the capability of energy resources- such as generators, batteries, and consumers- to shift in time or location the generation or consumption of energy.

## 2.1 Why we need Flexibility

National Grid DSO are committed to ensuring the safe, secure and efficient operation of the electricity network through the use of flexibility services. These services allow us to adapt to network demands and constraints dynamically, ensuring a more resilient energy system while minimising costs for consumers.

Flexibility is one of the tools we use to ensure the capacity of the network can meet the needs of our existing and future customers when and where they need it at the lowest costs. For example, flexibility helps us make the best use of existing assets by avoiding the need for permanent network upgrades to meet a temporary spike in demand.

Flexibility allows us to maximise system access for all network users. To support the UK's net zero targets, we must ensure that clean, cheap, renewable energy types that are already connected onto our network are ready to supply customers when they are available.

## 2.2 Who can participate

Where there are known constraints on the electricity distribution network, National Grid DSO may wish to enter into contracts with Flexible Service Providers (FSP's) which will allow us to utilise demand and generation flexibility in return for financial payment.

We work with a number of different FSPs, including suppliers and aggregators, each managing unique portfolios of assets, that may include;

- 1. Residential demand response through assets such as EV charge points and heat pumps.
- 2. Industrial and commercial sites who can reduce or shift their demand, switch to back-up generation or generate energy to the grid.
- 3. Owners and operators of storage and generation such as battery energy storage site, gas turbines peaking assets and biomass.

# 3.0 Where We Buy Flexibility

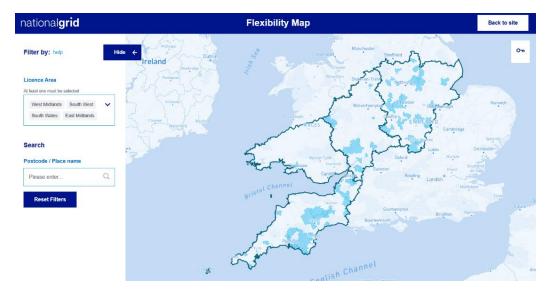
Our teams highlight areas of constraints on our electricity network which are confined to specific geographical locations, we call these Constraint Management Zones (CMZ's). CMZs are locations where we want additional capacity on the network. We publish all our requirements data on our <a href="Connected Data Portal">Connected Data Portal</a> (CDP).

### 3.1 Links to Data Sets on CDP

Dataset	Low Voltage CMZs	High Voltage CMZs
Postcode and polygon data: to match your assets to our CMZ's	Polygon Postcode	Polygon Postcode
Ceiling prices: maximum price you can bid		Click here
Requirement volumes: how much we need	Click here	Click here
Requirement profiles: when we need flexibility		Click here
Short Term Trade Parameters	Click here	Click here

## 3.2 Flexibility map

Our <u>Flexibility Map</u> allows you enter a postcode to see whether you asset (by postcode location) falls within a CMZ. **It only contains the areas of our High Voltage constraints**, which are open to all assets connected at the same or lower voltage than the constraint. We also procure flexibility for Low Voltage constraints, which we signpost every year in September on our CDP



# 4.0 What Flexibility We Buy

National Grid DSO is procuring flexibility across three different services, each service has a specific use case, and are procured to facilitate our long term trades and short term trades;



# Scheduled Utilisation

This service is a scheduled constraint management service with fixed delivery periods. It offers a utilisation only payment.



## Scheduled Availability, Operational Utilisation

This service has been developed to support the network in the event of specific fault conditions, such as during maintenance work. It offers an availability and utilisation payment.



# Operational Utilisation

This service supports power restoration following rare fault conditions. No availability payment, instead it offers a premium utilisation payment.

## **Long Term**

## **Short Term**

## 4.1 Ceiling Prices and Potential Earnings;

We publish the ceiling prices associated with our flexibility requirements on our <u>Connected Data Portal</u>. Ceiling prices vary from zone to zone depending on the volume of our requirement. For information on our market activities please see our <u>Market Insights Report</u>.

We also publish a <u>Revenue Calculator</u> which has been designed to provide an estimate of potential revenue in our Long Term and Short Term flexibility markets.

# 5.0 When We Buy Flexibility

We procure flexibility across two timeframes, Short Term (Weekly) and Long Term (Annual), we also procure flexibility across both our High Voltage (HV) and Low Voltage (LV) network.

We will soon be launching Day Ahead flexibility procurement to tender on a daily basis. This will provide flexibility for the following day alongside our weekly and annual flexibility tenders.

## 5.1 Short Term Opportunities;

In our short-term market, flexibility is procured on a week ahead basis for delivery the following week.

Every Thursday From midday	Short Term Trade Opportunities for FSPs open for bids
Every Tuesday By midnight	Deadline for Trade Responses
Every Thursday By midday	Trade Awards announced for delivery from the next Monday

## 5.2 Long Term Opportunities;

These are procured once a year, for delivery over a 12-month period.

In August/September (exact date announced via our Engagement and Procurement Timetable)	Publish flexibility locations and requirements for; Scheduled Utilisation (SU) Scheduled Availability, Operational Utilisation (SAOU) Operational Utilisation (OU) to the Connected Data Portal
+4 weeks	Trade Opportunities for FSPs open on the Market Gateway
+6 weeks	Deadline for Trade Responses. Launch date +6 weeks
+6 weeks	Trade Awards announced

Please see our **Engagement and Procurement Timetable** for full details of procurement activities and timelines

# 6.0 How We Buy Flexibility

National Grid DSO procures flexibility through its online portal, <u>Market Gateway.</u> To provide flexibility, FSP's will need to register and complete pre-qualification to participate in National Grid DSOs flexibility trading activities.

There are four steps in the overall process, which are outlined below:



Trades
Market Gateway

Delivery Flexible Power Portal

- 1. Register organisation on Market Gateway and receive log in details
- 2. Digitally sign Overarching Contract
- 3. Download and complete Billing Form and return to the Flexibility Team
- 4. Receive Award Letter to confirm qualification success
- Receive email to confirm Flexible Power Portal Account

- 1. Register assets though the Market Gateway Interface, or via an API upload. You can also bulk upload with a CSV
- 2. We will check your assets and approve them within 24 hours. You will be notified of Approved or Rejected assets with an explanation
- 3. Approved Assets can then be assigned into a Meterable Unit (MU)
- 4. Prove metering for an MU through Flexible Power Portal to confirm communication. Assets within MUs will then be set to Ready To Trade status

- 1. Flexibility requirements will be populated into the calendar view
- 2. Respond to requirements by selecting times of availability and providing a bid price
- 3. Awarded availability and accepted cleared price will be available to view in Market Gateway after Trade Awards are announced, and Trade Award Letters will be sent to successful FSPs
- 4. Awarded availability will be visible in Flexible Power portal ahead of the delivery requirements to support day ahead delivery when awarded availability is dispatched

- Deliver Flexibility Services as per dispatch start/stop signals over API and in line with your awarded delivery requirements
- Submit metering for MUs over API or through manual upload so we can measure delivery
- 3. Performance and earnings reports and Invoices available to view in Flexible Power Portal

Following on from <u>Market Gateway</u> registration, qualification, and trade responses, FSP's will then be given access to the <u>Flexible Power Portal</u>, which facilitates;

- 1. **Dispatch** (receiving stop/start signals and submitting event metering)
- Settlement (view performance and earning statements, and view and approve invoices)

## 7.0 How We Calculate Earnings

The delivery of flexibility services is settled monthly. Self-billing invoices, along with performance and earning statements for every delivery event are produced in the Flexible Power Portal for FSPs to review.

Payments are split into two separate parts: **Availability** and **Utilisation**. Availability payments are paid for every accepted availability window. Utilisation payments are made for every instance of Utilisation

## 7.1 Availability

Availability represents a "payment of readiness". This means that payments are made for being ready to respond to a dispatch instruction.

Availability payments can be recovered if the delivered capacity is lower than the contracted capacity.

#### 7.2 Utilisation

Utilisation is a payment made for delivery of flexibility after the dispatch instruction. The response to a dispatch instruction is expected within 15 minutes. Payments for utilisation are subject to a grace factor and an under-delivery penalisation multiplier for every 1% of delivery below the grace factor.

The 'Scheduled Availability, Operational Utilisation' service is subject to both availability payments and utilisation payments.

All of the other services are subject to a utilisation payment only.

Attribute	Scheduled Utilisation (Low Voltage and High Voltage)	Scheduled Availability, Operational Utilisation	Operational Utilisation
Availability Grace Factor	N/A	5%	N/A
Utilisation Grace Factor	5%	5%	0%
Penalisation Multiplier	3	3	2

Key values for payment mechanics

For more information on earnings, you can read the <u>Standardised DNO Settlement Methodology</u> published by the Energy Networks Association.

## 8.0 Baselines

Baselines are fundamental to the delivery of flexibility services, they;

- 1. Set the level of delivery expectation
- 2. Set the level for delivery verification
- 3. Allow delivery quantification enable settlement of services

The FSP must register its assets through the <u>Market Gateway</u> and receive confirmation of their validity before their applicable baseline option(s) is confirmed. We reserve the right to update the baseline options and the methodology for the calculations.

## 8.1 Baseline Types

There are currently four types of baselines currently available;

- 1. Zero
- 2. Asset capacity
- 3. Self-nominated based on historic demand
- 4. Based on planning profiles.

Asset Scale	Response Type	Metering Location	Baseline
Industrial OR Commercial	Generation	Any	Zero
Industrial OR Commercial	Stored Energy	Any	Asset Capacity
Industrial OR Commercial	Demand	Any	Self-Nominated
Domestic	Demand	Any	Baseline calculated by NGED based on Planning Profiles. Calculated Baselines=Capacity
Domestic	Stored Energy	Any	Baseline calculated by NGED based on Planning Profiles. Calculated Baselines=Capacity
Domestic	Generation	Asset Level	Zero
Domestic	Generation	Point of Connection	Baseline calculated by NGED based on Planning Profiles. Calculated Baselines=Capacity

Summary of baseline profiles

Please see our **Baselines Values Spreadsheet** for full detail.

## 9.0 Answers to Common Questions

Below are a series of common questions with answers around all processes of tendering for flexibility.

Question	Answer
Are there any specific technology types that National Grid DSO contract with?	We work with any technology that can provide a response, either through demand reduction/ generation turn up or demand turn up/ generation turn down.
Are there minimum or maximum asset sizes that can participate?	No, we will work with assets of any size.
Are distribution level flexibility services stackable?	We do not impose any exclusivity on our services so where other services allow, you can stack. Improving service stacking is a subject of ongoing work across the industry, see our recent work on Revenue Stacking.
How long do you expect CMZ's to operate flexibility?	CMZs will operate for a minimum of one year, in most cases they will go onto operate for multiple years.
Is it possible to participate in both Long Term and Short Term Trades?	Yes, you can. And the Joint Utilisation Competition (JUC) has been launched. It provides FSPs an opportunity to submit a reduced utilisation price in the Short Term for an accepted Long Term availability declaration, in order to make it more competitive in comparison to prices in the short term market.
Can I participate through an aggregator or third party?	Providers can contract with National Grid DSO directly, or via a third party. In either instance, the contracting party must be registered and qualify to tender via their chose entry route.
How do I contract to provide flexibility services?	As outlined in section 6, start by registering on our Market Gateway.

### 9.1 Useful links

National Grid DSO website – DSO and flexibility information

Market Gateway – Registration, Qualification, Contract, Asset Registration and Trades

Flexible Power Portal – Dispatch and Settlement, API Documentation

Flexible Power Website – Guidance Documents

Connected Data Portal (CDP) – Flexibility Requirements, Trade Results and Data

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