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API Guidance

A guide to available APIs for flexibility service providers

V1

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1.0 Document Purpose

1.1 Preamble
This document details available APIs across National Grid Distribution System Operator flexibility markets, in our three core platforms; Connected Data Portal, Market Gateway and Flexible Power Portal.

1.2 About Our Procurement Activities
National Grid DSO facilitates its procurement activity through its online portal, Market Gateway. Flexibility Service Providers (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 website.

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 this document and the National Grid DSO website as early as possible after these are known.

1.4 Modifications
We reserve the right to amend, add or remove procurement and engagement activities at any time and will update this 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

The Flexibility team can be contacted with the details below.

Contact us:

nged.flexiblepower@nationalgrid.co.uk

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2.0 Introduction

 National Grid DSO operates its Flexibility Markets with the objective of efficiently maximising the security of our network. At times of peak demand or generation, some of our network equipment can become constrained, flexibility helps us shape loads on the network by shifting demand outside of peaks times or matching electricity demand with times of peak electricity generation. We do this by financially incentivising customers to change their usage patterns, either reducing or increasing consumption or (at a larger commercial scale) switching on or off generation.

In order to provide flexibility, customers must be connected to our network and registered with us either directly or through a third party such as an aggregator or supplier.

Aggregators and Suppliers have an important role within our Flexibility Markets. It would be uneconomical for a domestic property to register with us directly, but these organisations can undertake the contractual and logical aspects of participation more efficiently at scale.

Having scalable, digital solutions is fundamental to support Flexibility Service Providers with large portfolios where using manual process would become unmanageable.

As such, our end-to-end process for flexibility is fully digitalised and we offer a number of integrations over Application Programming Interface (API) to support automation.

Our digitalised end-to-end process presides over 3 core platforms;

1. [Connected Data Portal](#) - Full transparency of all dataset relating to our flexibility requirements

2. [Market Gateway](#) – Where Flexibility providers register their organisation, flexible assets and enter bids.

3. [Flexible Power Portal](#) – Our delivery platform, where successful bids are instructed to start/stop delivery and where verification and settlement of delivery is calculated.

All three of these platforms offer APIs, the following pages describe which APIs are available in each platform, and at the end of the document we have descried some of the key differences across these which may be useful to aid understanding and support trouble shooting.

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3.0 Available APIs

3.1 Connected Data Portal (CDP) APIs

We publish a range of data relating to our flexibility requirements on the CDP, these are mainly aimed at parties who are interested in getting early visibility of flexibility requirement before, or outside of, their published on the Market Gateway for Flexibility Service Providers (FSPs) to place bids against. These describe future looking flexibility needs, active flexibility needs and an archive of past flexibility activity.

These datasets can be downloaded for use in CSV format, or can be integrated with via API using a third-party API building platform like Postman or cURL.

Useful CDP API guidance as well as how to obtain and API Token can be found here; API Guidance - Connected Data Portal | National Grid

Some datasets require users to have a CDP registered account; Register - Connected Data Portal | National Grid

Dataset Group	Purpose	Dataset Location
Flexibility Forecast Data	Contains the forecast flexibility requirements for the current year and up to 5 years ahead, with the aim to give an indication of the future value potential available.	Flexibility – Forecasts - Dataset - Connected Data Portal	National Grid
Flexibility Trade and Result Data	Contains information on upcoming trades, with the aim to provide more visibility ahead of the actual trade opportunities opening in the Market Gateway.	Flexibility – Trades Data and Results - Dataset - Connected Data Portal	National Grid
Flexibility Archive	Historical datasets that have been superseded and/or are no longer in active use.	Flexibility – Archive - Dataset - Connected Data Portal	National Grid

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3.2 Market Gateway (MG) APIs

As well as supporting entry via the User Interface (UI) and via CSV upload for Asset Registration, Market Gateway also offers a number of APIs that support with in platform data exchanges, particularly useful for Flexibility Service Providers who have a large number of assets to register or bids to enter where the UI may be overly time consuming.

Detailed API guidance can be found in the Account area of your Market Gateway Account, this is also where you will be able to obtain an API Token. You will need an approved Market Gateway Account to access this information.

Available APIs	Description
POST createAsset	Support Asset registration, edits and deletion
PUT editAsset	
GET getAssets	
GET getSingleAsset	
DELETE decommissionAsset	
POST createMeterableUnit	Support the creation of Meterable Units, logical groupings for one or more assets that will be traded and instructed for delivery together.
PUT editMeterableUnit	
GET getMeterableUnits	
GET getSingleMeterableUnit	
DELETE decommissionMeterableUnit	
GET getMeterableUnitBaselines	
GET getTradeOpportunities	Support the process of bidding Meterable Units into flexibility competitions; the Trading process.
GET getSingleTradeOpportunity	
POST createTradeResponse	
PUT editTradeResponse	
GET getTradeResponses	
GET getSingleTradeResponse	
DELETE deleteTradeResponse	
GET getTradeAwards	Allows FSPs to retrieve the outcomes of their Trade responses.
GET getSingleTradeAward	

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3.3 Flexible Power Portal (FPP) APIs

The Flexible Power APIs cover;

- The sending of Utilisation Instructions from the DSO to the FSP via the Dispatch API. Within the signal it will detail the component Meterable Unit IDs.

- The collection of metering from the FSP to the DSO via the readings API. This is built of two sub APIs to collect either minute by minute or half hourly metering data. This needs to be built out per Meterable Unit.

In addition to the API process we also accept metering data in the form of a CSV upload. Details for this process can be found in the FAQ section of the Documentation page of the Flexible Power Portal; Flexible Power - Frequently Asked Questions (flexiblepowerportal.co.uk).

All FPP APIs are optional, apart from the dispatch API for the Operation Utilisation 15min Instruction API. This product instructs in near real-time and there is no manual instruction alternative. FSP not wishing to build APIs are advised not to enter bids for this product.

A testing area for the FPP dispatch APIs is available within the Portal itself once you are logged in, logins are provided following completed registration on the Market Gateway.

PUT v2/dispatch	Mandatory API dispatch instruction for delivery of Operation Utilisation 15min Instruction Product. Optional API dispatch for all other products.
PUT readings	Submission of minute by minute meter readings
PUT readings/energy	Submission of half hourly meter readings
PUT v1/dispatch/start	Only available for legacy users prior to V2 Dispatch availability
PUT v1/dispatch/stop	Only available for legacy users prior to V2 Dispatch availability

Additional APIs are also available that allow user to get data related to utilisation event performance and invoice data.

Flexible Power Portal API swagger descriptions for those detailed in the table and the additional performance APIs are publicly available to view here; Flexible Power - Participant API Documentation.

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4.0 Notable differences between available APIs

As we operate our end-to-end flexibility across 3 different platforms, inevitably there will be differences in how these platforms have been designed to receive and communicate certain data. Most notable are; the descriptors used for flexibility products and the way Time Zones are used to account for local time.

4.1 API Product Descriptors

Active Product	Market Gateway Product Code	Flexible Power Portal Product Code
Scheduled Availability, Operational Utilisation – Day Ahead Notice	SAOU_DA	saou_da
Scheduled Availability, Operational Utilisation – Day Ahead Notice – DTU/GTD	SAOU_DA_DTUGTD	saou_da
Scheduled Utilisation - HV	SU_HV	su
Scheduled Utilisation – LV Night	SU_LV_AM1	su
Scheduled Utilisation – LV Morning	SU_LV_AM2	su
Scheduled Utilisation – LV Afternoon	SU_LV_PM1	su
Scheduled Utilisation – LV Evening	SU_LV_PM2	su
Operational Utilisation – 15min Instruction	OU_15	ou_15
Legacy Products	**Market Gateway Product Code**	**Flexible Power Portal Product Code**
Dynamic	DYNAM	dynamic
Secure	SECUR	secure
Restore	RESTR	restore
Sustain AM	SUSAM	sustain
Sustain PM	SUSPM	sustain
Scheduled Utilisation – Settlement Periods	SU_SEP	su_sep
Scheduled Utilisation – Settlement Periods - DTU/GTD	SU_SEP_DTU/GTD	su_sep
Scheduled Utilisation – Specific Periods - AM	SU_SPP_AM	su_spp
Scheduled Utilisation – Specific Periods - PM	SU_SPP_PM	su_spp

4.2 Time Zone treatment

Connected Data Portal	Market Gateway	Flexible Power Portal
Clock Time	Clock Time	Clock time on User Interface, but UTC on API interactions

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Flexibility Markets Team

nged.flexiblepower@nationalgrid.co.uk