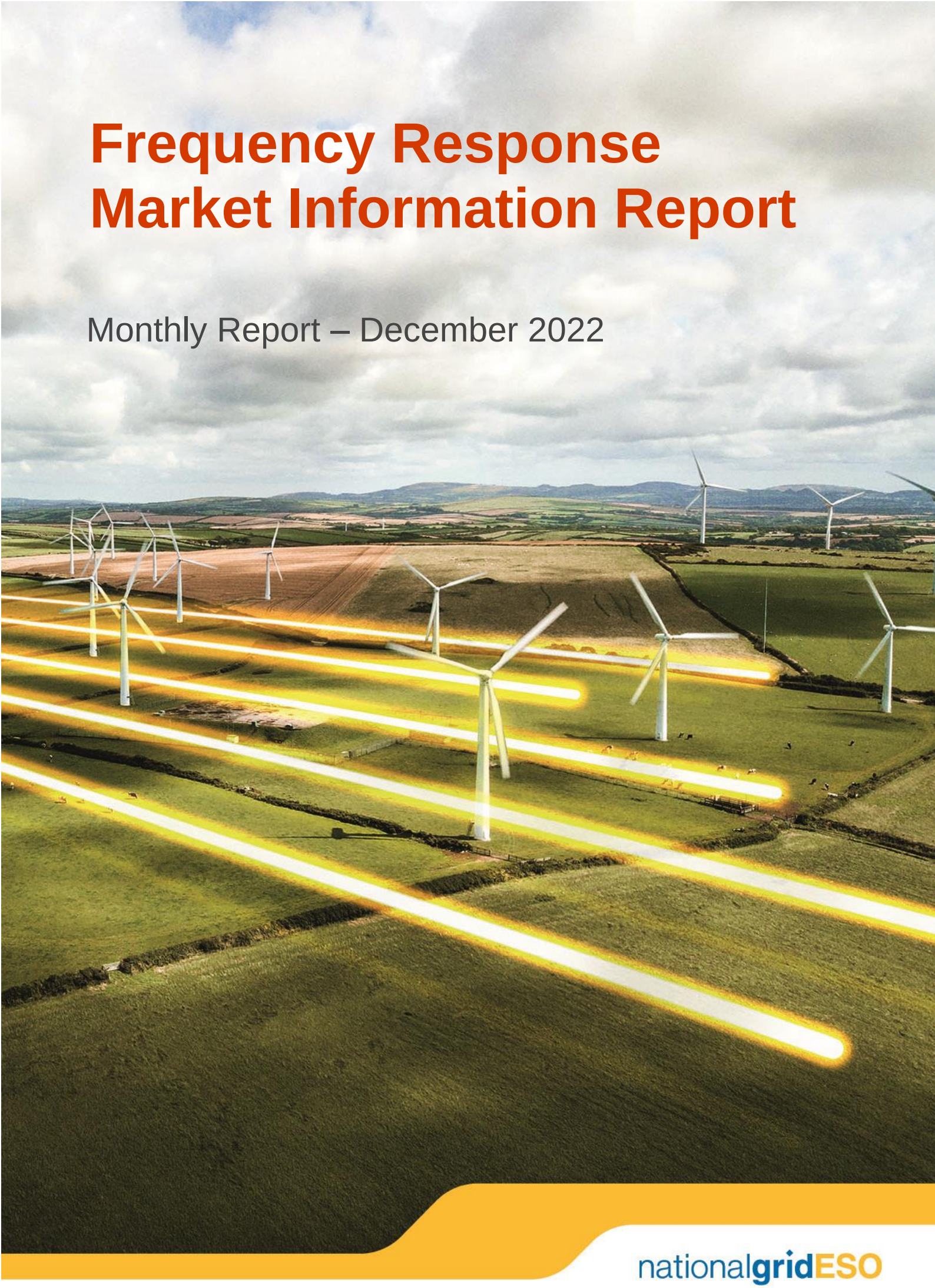
# Frequency Response Market Information Report

Monthly Report – December 2022



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# Contents

# Introduction

The report covers essential information related to procurement of frequency response products, such as month ahead tender for Firm Frequency Response (FFR) and day ahead auction for Dynamic Containment (DC) Low and High Frequency (DC-LF and DC-HF). We provide our forecast requirements for these products and give guidance on how to participate in the tenders and auctions. Within this document you will also find information on the frequency response services, such as Dynamic Regulation (DR) and Dynamic Moderation (DM). For longer-term requirements please take a look at our Operability Strategy Report.

# Future Requirements and New Services

We know that a successful transition relies on clear and timely signals to facilitate growth and competition in our new markets and to support this we are committed to continuing to improve transparency of both how and when we communicate our future needs. We are in a period of transition where both existing (P, S, H) and new (DC, DM, DR) frequency response products will be procured. Our end state is to meet our dynamic pre- and post-fault frequency response needs with the new suite of dynamic products (Containment, Moderation and Regulation).

A key milestone in meeting our end state is the phasing-out of monthly FFR tenders. This will happen gradually as we launch, grow, and establish the new pre-fault dynamic frequency response products - Dynamic Regulation (DR) and Dynamic Moderation (DM).

Earlier in the year we shared a report providing details of how we intend to transition to our new services, as well as indicative requirements for 2022 based on our current assumptions regarding system needs and delivery timeframes, the report can be accessed via the ESO Data Portal.

We are currently working to move procurement of Static FFR (SFFR) from monthly to daily procurement to be compliant with the Clean Energy Package. All existing tested SFFR assets will not need to prequalify again for this daily procurement and the service is not materially changing. Our ambition is to launch daily procurement from 1 April 2023 although this is subject to change depending on ESO resource requirements to manage Winter 22/23 operability.

We ran an EBR consultation from 28th September 2022 - 28th October 2022 and have been working to respond to the feedback received from industry. The consultation responses and updated legal documents have now been submitted to Ofgem for review and approval. There are minor changes to the Dynamic FFR terms to remove references to SFFR and the Dynamic FFR service will continue to be procured monthly. Please refer for further details in this document.

# Firm Frequency Response

## Requirements for February 2023 (TR 157)

*This section provides information to FFR providers on the requirement for the tender (TR 157) for delivery in February 2023 and onwards.*

As System Operator, we are required to operate the system economically and efficiently. In TR 156 all the dynamic and static FFR volume which was accepted cost less than the alternative actions.

As a prudent System Operator, we seek to optimise our requirements to ensure system security at least cost. As we transition to new response products, we are therefore applying a procurement strategy to our PSH dynamic requirements, as there is operational benefit in optimising across the services of which FFR only forms part of our total frequency requirement. Next month we require up to 300MW for dynamic FFR during EFA 1- 4 and up to 350MW during EFA 5-6. Static response requirement is flat 250 MW across all EFA blocks.

| Month | EFA block | Dynamic Response Required (MW) | | | Static Response Required (MW) |
|---|---|---|---|---|---|
| | | Primary | Secondary | High | Secondary |
| February 2023 onwards | EFA 1 | 300 | 300 | 300 | 250 |
| | EFA 2 | 300 | 300 | 300 | 250 |
| | EFA 3 | 300 | 300 | 300 | 250 |
| | EFA 4 | 300 | 300 | 300 | 250 |
| | EFA 5 | 350 | 350 | 350 | 250 |
| | EFA 6 | 350 | 350 | 350 | 250 |

*Figure 1: FFR requirements for February 2023*

Please note that, where there is operational benefit and it is deemed economic to do so, the requirement will be taken from either dynamic or non-dynamic providers. This means that part of the requirement for an EFA block may be reallocated in either the non-dynamic market or dynamic market if considered more beneficial.

In the move to standard EFA block window durations, the minimum of the total requirement across each EFA block outlines the level to be procured. In light of this transition, the minimum dynamic requirement remains a key component to be satisfied and outstanding volume against this will continue to be procured for operational purposes.

**January 2023 Contracts Awarded**

**155** active FFR contracts are due to provide FFR in January 2023. These contracts are made up of:

- **67** dynamic contracts
- **88** non-dynamic contracts

Figure 2 displays the number of tenders submitted in the FFR market for the last 12 months by service type.

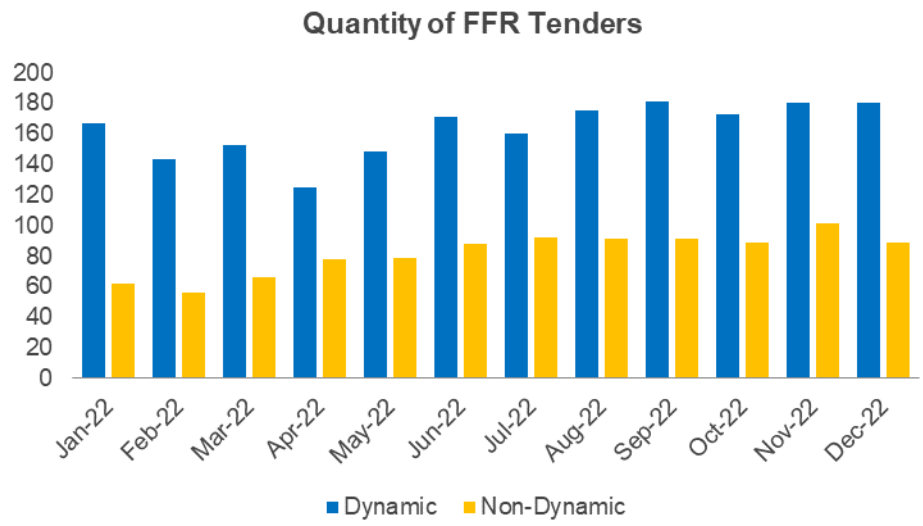



*Figure 2: Quantity of FFR Tenders*

## Key Dates

This Market Information Report is relevant for tenders submitted in **January 2023 for delivery in February 2023.**

Tenders from eligible service providers for Firm Frequency Response should be submitted on **4th January 2023 by 17:00** (1st business day) for all tenders.

National Grid ESO will notify service providers of the outcome of the tender assessment, and preliminary nominations, by **Wednesday 18th January 2023** (12th business day).

**From January 2018, non-compliant tenders are rejected prior to assessment.**

# Dynamic Containment

*This section provides information on requirements for Dynamic Containment Low Frequency (DC-LF) and Dynamic Containment High Frequency (DC-HF). These requirements are indicative and subject to change.*

In order to improve our view of anticipated level of procured volumes for DC-L and DC-H, from November 2022 we started publishing a new 12 month rolling forecast to determine the requirement for those services. The volumes are driven by actual forecast for demand, inertia, and infeed loss sizes (including progress in the ALoMCP) and reductions in the contracted volumes of legacy services (Enhanced Frequency Response), rather than relying on historical data when determining the requirement.

### DC-LF Requirements for next 12 months

Figure 3 presents an indicative view of our expected requirements for the DC-L service. This is split into 200MW volume bands which can be seen in the top middle section of the graphic. For each month the % of time we expect the DC-L requirements to fall within the associated band (based on current assumptions) for each EFA block is represented by the shading of the associated cells as described at the bottom of figure 3.

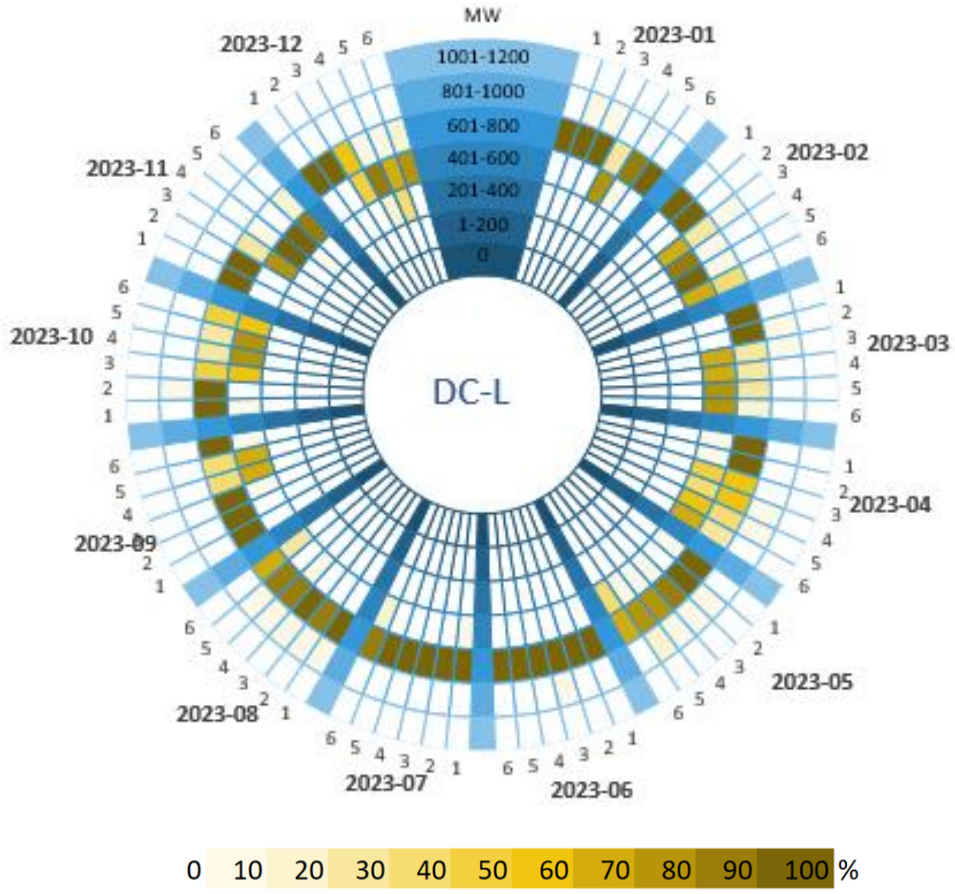



*Figure 3: Indicative DC-L Requirements for next 12 months*

### DC-HF Requirements for next 12 months

Figure 4 presents an indicative view of our expected requirements for the DC-H service. This is split into 200MW volume bands which can be seen in the top middle section of the graphic. For each month the % of time we expect the DC-H requirements to fall within the associated band (based on current assumptions) for each EFA block is represented by the shading of the associated cells as described at the bottom of figure 4.

The DC-H requirements in Figure 4 are indicative requirements based on our actual forecast for demand, inertia and outfeed loss sizes in next 12 months. We aim to buy enough DC-H to manage the largest outfeed losses on the system. The peak requirement generally occurs during lower demand/inertia EFA blocks

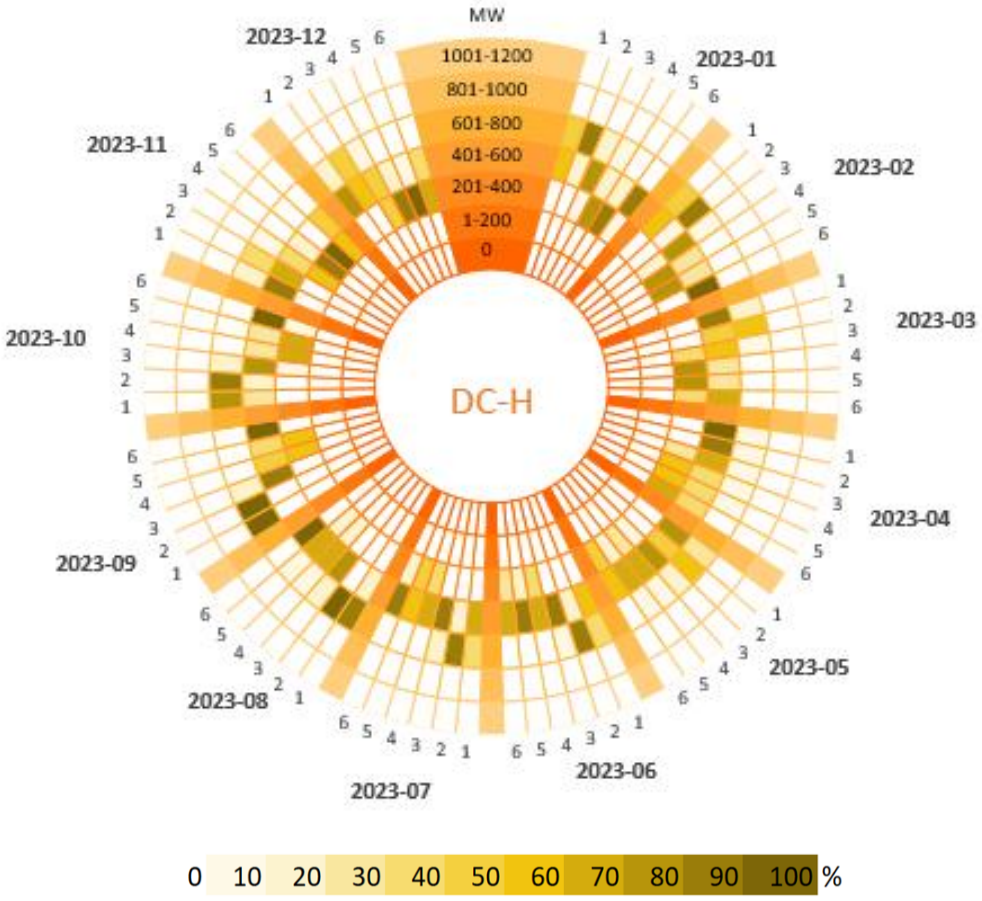



*Figure 4: Indicative DC-H Requirements for next 12 months*

### 4 Day Ahead Forecast

You can find daily updates on the ESO Data Portal.

### Related Data & Information

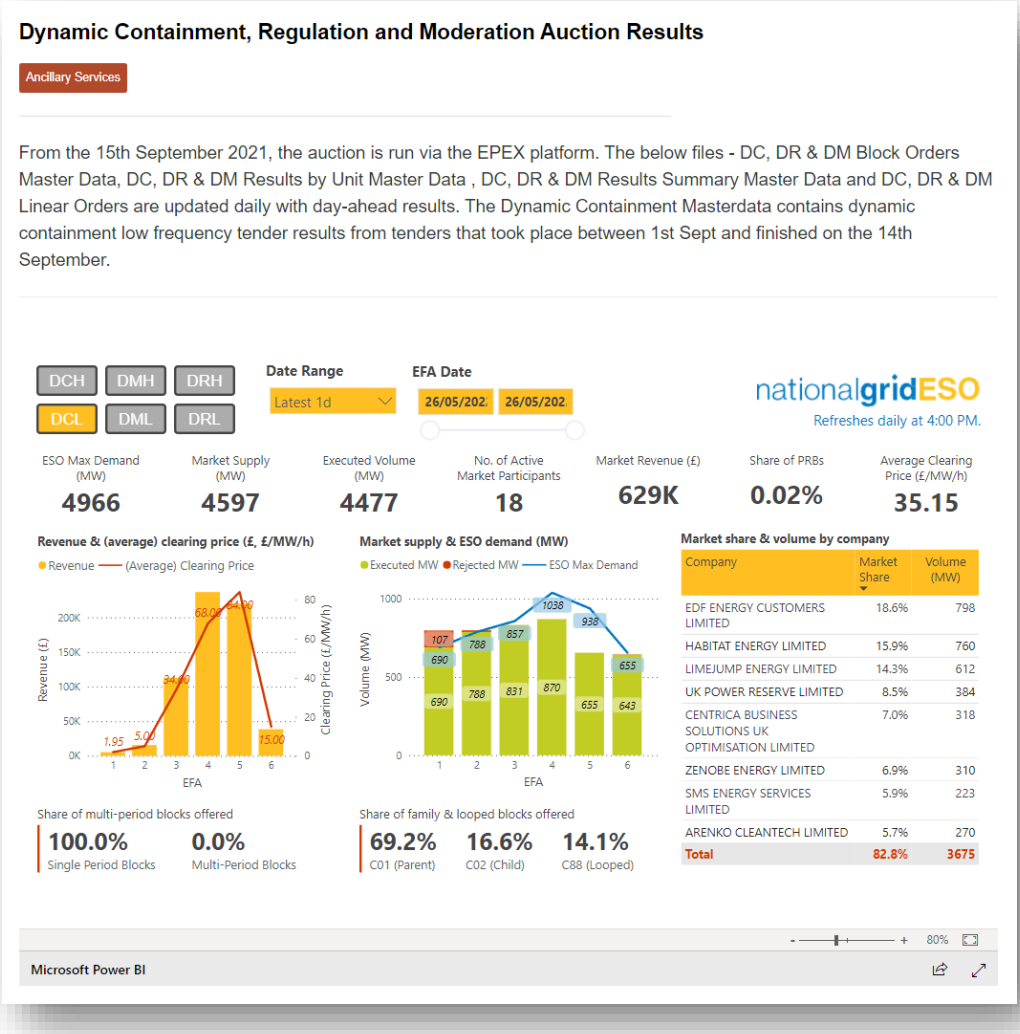
Information related to the service including how to participate can be found on the Dynamic Containment page of the ESO website.

DC Block Orders Master Data, DC Results by Unit Master Data, DC Results Summary Master Data and DC Linear Orders are updated daily with day-ahead results on the ESO Data Portal.

We have published the data for the DC charts above here.

### Response Dashboard

We have now also published an interactive Power BI response dashboard which is refreshed daily and provides an accessible way to explore the auction results for DC, DR and DM



# Update: Dynamic Regulation & Dynamic Moderation Requirements

Prior to launching Dynamic Regulation & Dynamic Moderation, we communicated that for an initial period of around 6 months, we would be validating the performance of the products on the live system, and that during this time there would not be a corresponding reduction of the quantity of monthly FFR that we buy.

We are now planning the final steps necessary to implement offsetting our legacy services and expect to be able to start offsetting legacy services and increase the volume of Dynamic Regulation we procure early in 2023. We aim to provide an update in next month's Market Information Report including further details of our expected volume requirements for FFR, DR and DM.

Until we have implemented the changes for offsetting our DR and DM requirement plus overholding is expected to be 100MW at most times. However, whilst the services are not being used to offset our alternative actions, if there is a significant risk that market depth across our services could result in an undersupply in existing dynamic services, we will reduce the requirements in the DR and DM markets as necessary to support participation in markets used to manage the system. Where a decision is made to reduce the requirement, it will be signalled with as much notice as possible.

Indicative requirements for Dynamic Regulation and Dynamic Moderation can be found on the ESO Data Portal. Further details regarding our planned transition to DR & DM can be found in the ESO Frequency Response Requirements Update – February 2022.

# Appendix 1: FFR Supporting Information

## Procurement Rules

### Testing

Providers are required to have successfully passed FFR testing of their asset by the National Grid Generator Compliance Team prior to tendering in for month ahead delivery. If tendering to provide an FFR service starting on 1st February 2023, the unit must have passed testing prior to the tender submission window closing on the 1st business day in January 2023. Tenders that do not meet this requirement will be deemed non-compliant and automatically rejected.

### Limiting tenders

Providers are limited to submitting 3 tenders per unit, per tender period. A tender period is considered to be month ahead, quarter ahead and per season. All-or-nothing bids will be considered as 1 tender submission.

### EFA Block Procurement

For providers wishing to start a tender on the last day of the previous month, these tenders cannot start earlier than 2300 or they will be deemed as non-compliant.

The minimum requirement across each specific EFA block will determine how much volume will be procured for each of the 6 daily 4-hour blocks.

## Submission and Results

### Tender Submission

Providers must use the template provided in the Coupa system to tender in for FFR. Use of any other template or submissions via e-mail will not be accepted.

In line with the standardisation outlined in the Product Road Map, procurement of FFR will only take place across the standard 6 EFA blocks. Tenders must therefore only start, and end, at the following times: 2300, 0300 0700 1100 1500 1900. Submitted tenders must have a minimum window availability of 4 hours in line with EFA blocks.

Please note that this is a month ahead only tender. Tenders should therefore be submitted for February 2023 delivery.

### Results

The full set of FFR results for the last tender round (TR 156) can be found here.

From TR140 onwards the unit location will be detailed as part of the results that are published in the FFR Post Tender Report. The locational details consist of the first 4 characters of the postcode for single units that are 1 MW or greater.

### Tender Rejection Guidance

The table below provides guidance as to the reasons why a tender has been rejected. They can be matched against the numbers in the 'Reason Code' section of the Post Tender Report.

| No. | FFR Reason Code | Comment |
|---|---|---|
| 1 | Beneficial | While the price submitted was considered beneficial, on this occasion this tender was not accepted for one of the following reasons:<br>**1.2** There was no outstanding requirement<br>**1.3** The desired volume against the National Grid procurement strategy for future tender months had already been satisfied<br>**1.4** This tender formed part of an all-or-nothing group which did not collectively deliver enough benefit to be considered |
| 2 | Price not beneficial across tendered period | The price submitted was too high and did not provide any contract benefit against alternative actions including the mandatory and optional market. |
| 3 | Does not meet tender prerequisites | Please refer to the 'Technical Parameters' section using the following link to determine the criteria necessary to participate in the FFR market https://www.nationalgrid.com/uk/electricity/balancing-services/frequency-response-services/firm-frequency-response |
| 4 | Multiple tenders received for the same unit | Only the most valuable tender(s) of the total group of submitted tenders was considered. |

*Figure 7: Tender Rejection Codes*

## Guidance and Data

### FFR Service Overview

The FFR Service Overview provides current and potential Firm Frequency Response (FFR) providers guidance on the service. It pulls together FAQs on the service and provides links to related documents.

### Related Data

The following information is published on the ESO Data Portal

- Live System Data
- Historic Frequency Data
- Firm Frequency Response (FFR) Post Tender Reports
- Firm Frequency Response (FFR) Market Information

### Weekly Auction Trial

The weekly auction trial has now ended, the last auction was on the 26th of November for service delivery until the 3rd of December.

### Other Useful Links

- Register for Future of balancing services updates
- ESO Operational Transparency Forum