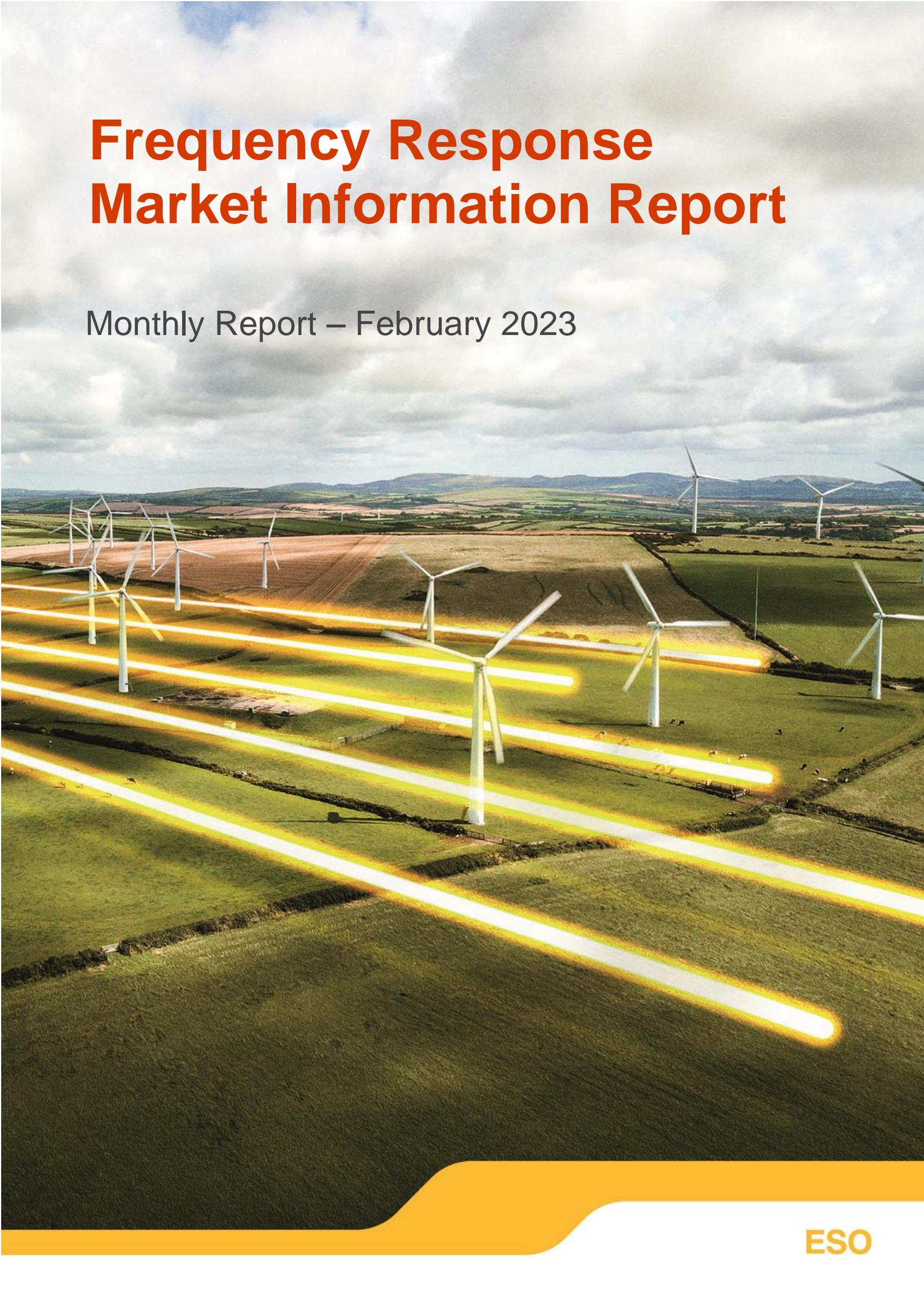


# Frequency Response Market Information Report

Monthly Report – February 2023



## Contents

Introduction.....	3
<b>Future Requirements and New Services .....</b>	<b>3</b>
Day Ahead Procurement of Static FFR .....	3
Phase out of Dynamic FFR.....	3
DR Requirements .....	4
DM Requirements.....	4
Completing the Transition .....	4
<b>Firm Frequency Response .....</b>	<b>5</b>
Requirements for April 2023 (TR 159) .....	5
Requirements for daily procurement of Static FFR (April 2023) .....	6
March 2023 Contracts Awarded.....	6
Key Dates for TR159 .....	7
Auction timings for daily procurement of Static FFR.....	7
<b>Dynamic Containment 12-month rolling indicative requirements .....</b>	<b>8</b>
<b>Appendix 1: FFR Supporting Information.....</b>	<b>11</b>
Procurement Rules .....	11
Submission and Results .....	11
Guidance and Data.....	12

## Introduction

The report covers essential information related to procurement of frequency response products, such as month ahead tender for Dynamic Firm Frequency Response (DFFR) and day ahead auction for Dynamic Containment (DC) Low and High Frequency (DC-LF and DC-HF) and Static Firm Frequency Response (SFFR). 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 Primary/Secondary/High (PSH) and new (DC, DM, DR) frequency response products will be procured. Our intention once the transition is complete, is to meet our dynamic pre- and post-fault frequency response needs with the new suite of dynamic products (Containment, Moderation and Regulation).

### Day Ahead Procurement of Static FFR

We are in the implementation phase of transitioning procurement of Static FFR (SFFR) from monthly to daily procurement. The service is not materially changing and therefore existing tested SFFR assets will not need to prequalify again for daily procurement, our ambition is to launch daily procurement from 1 April 2023 subject to the successful testing of the new daily processes and system developments. A Mock Auction for Static FFR will be run on 2 March 2023 to support ESO and industry readiness for the new daily procurement. Please reach out via [commercial.operations@nationalgrideso.com](mailto:commercial.operations@nationalgrideso.com) if you are interested in participating.

We ran an EBR consultation on the changes to the service from 28 September 2022 - 28 October 2022. Ofgem approved the new service terms and procurement rules on 10 February 2023, they can be accessed on the [ESO website](#).

### Phase out of Dynamic FFR

A key milestone in frequency response reform is the phasing-out of monthly Dynamic FFR (DFFR). This will happen gradually as we develop and establish the new pre-fault dynamic frequency response products Dynamic Regulation (DR) and Dynamic Moderation (DM).

Last 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](#).

In our January 2023 Market Information Report, we shared that we have now met our internal assurance criteria to increase the volume of DR procured to 200MW from March. Further IT and process developments that are required to be implemented before we further increase DR procurement and fully cease procuring DFFR are still ongoing, and some of these key changes are set to deliver as part of Response Reform Release 1. We are on track with scoped changes to our Release 1. The planned delivery is the end of March 2023. We have identified a new solution for operational metering, which will be delivered later in the spring and does not impact providers' IT developments under R1.

Meeting the criteria to increase DR volume means that from March, we will be seeking to procure up to 200MW of DR and as such we will be reducing our PSH requirement to reflect the contribution of DR to managing the system.

To enable a measured transition between the legacy and new suite of response services for frequency response providers and the ESO, we intend to reduce our DFFR requirements by no more than 50MW for each EFA block per month. This means that in April 2023, our requirements will reduce to 250MW for EFAs 5-6. The requirement for EFA 1-4 remains unchanged at 250 MW.

### DR Requirements

We have updated our [DR requirements](#) dataset to reflect our expected procurement levels for March and April, we will continue to be publish revisions to the requirements on the ESO data portal

### DM Requirements

From March we will need to test the new volumes of DR on the system both with and without DM to validate expected system performance, where we are reducing the DM requirement (from up to 100MW) we will communicate this with as much notice as possible via the [DM requirements](#) dataset.

Once we are satisfied with the interactions between increased volumes of DR and DM we will share further details regarding our anticipated future requirements for DM. In the interim, we will continue to procure up to 100MW of DM, and DM volumes will not contribute to offsetting our minimum dynamic response requirement.

### Completing the Transition

Once we have confirmation of the revised Release 1 timelines, we intend to release an updated Frequency Response Transition report which will outline the final stages of our transition and associated milestones including DR and DM in line with reduction of DFFR requirements. Our expectation is that the transition will be complete before the end of this year, however this is subject to change based on the timelines associated with the deliverables described above, we will confirm details of the phase out and associated timelines as soon as we have confirmed timelines for these milestones.

## Firm Frequency Response

### Requirements for April 2023 (TR 159)

This section provides information to FFR providers on the requirement for the tender (TR 159) for delivery in April 2023.

As System Operator, we are required to operate the system economically and efficiently. In TR 158 all the dynamic and static FFR volume which was accepted at a cost less than the alternative actions. In TR 158 we ran our last month ahead tender for SFFR.

As a prudent System Operator, we seek to optimise our requirements to ensure system security at least cost. As described in the section above, from March DR will offset existing PSH requirements allowing for the reduction of our DFFR requirement by 50MW for EFA blocks 5-6 EFA with static requirement moving to a day ahead auction.

Month	EFA block	Dynamic Response Required (MW)		
		Primary	Secondary	High
April 2023	EFA 1	250	250	250
	EFA 2	250	250	250
	EFA 3	250	250	250
	EFA 4	250	250	250
	EFA 5	250	250	250
	EFA 6	250	250	250

Figure 1: FFR requirements for April 2023

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 with the additional volumes required for PSH procured via the DR and DM markets, where we do not meet our requirements through the day ahead DR and DM markets, we will use Mandatory Frequency Response (MFR) to address any shortfalls.

Requirements for daily procurement of Static FFR (April 2023)

The first delivery day for daily procured Static FFR (SFFR) contracts will commence at 23:00 on 31<sup>st</sup> March 2023. The requirement is expected to be 250MW for each EFA block in the day for the first three months following go live. Following this initial test period, the SFFR requirement and the market response to the move to daily procurement will be reviewed and any changes in the SFFR requirement will be shared through these Market Information Reports.

Month	EFA block	Static Response Required (MW)
		Secondary
April – June 2023	EFA 1	250
	EFA 2	250
	EFA 3	250
	EFA 4	250
	EFA 5	250
	EFA 6	250

Figure 2: FFR static requirements for April 2023

Market participants should note that the ESO has license requirements to operate the system economically and efficiently. This means that the SFFR volume advertised above will not always be procured through this daily SFFR market if the system need can be met through other response services or system actions at a lower overall cost to end consumers.

March 2023 Contracts Awarded

103 active FFR contracts are due to provide FFR in March 2023. These contracts are made up of:

- 33 dynamic contracts
- 70 non-dynamic contracts

Figure 3 displays the number of tenders submitted in the FFR market for the last 12 months by service type.

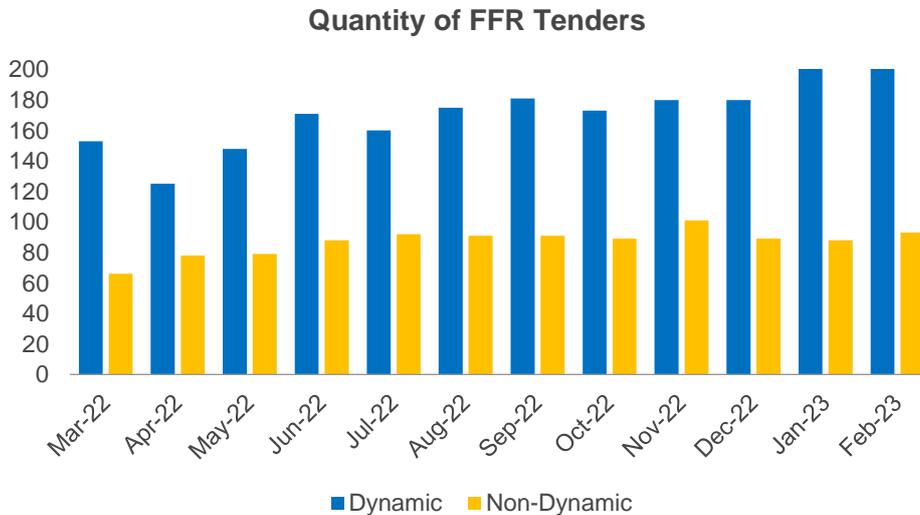


Figure 3: Quantity of FFR Tenders

## Key Dates for TR159

This Market Information Report is relevant for tenders submitted in **March 2023 for delivery in April 2023**.

Tenders from eligible service providers for Firm Frequency Response should be submitted on **1<sup>st</sup> March 2023 by 17:00** (1<sup>st</sup> business day) for all tenders.

National Grid ESO will notify service providers of the outcome of the tender assessment, and preliminary nominations, by **Thursday 16<sup>th</sup> March 2023** (12th business day).

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

## Auction timings for daily procurement of Static FFR

The approved Procurement Rules for the Static FFR service can be found on the ESO website.

The definition of “Auction Closing Time” within the Procurement Rules refers to the time as published in the Market Information Report. For avoidance of doubt, where there are differences in this definition of Auction Closing Time between editions of the Market Information Report, the most recent version should take precedent.

**The Auction Closing Time for Static FFR daily procurement is 11:00 on the EFA Day immediately preceding the Service Day.**

The below graphic shows the definitions related to Auction Timings as contained within the Procurement Rules.

The Auction Opening Time is defined in the Procurement Rules as 08:00 on the fourteenth EFA Day which immediately precedes that Service Day. Market participants can submit Sell Orders for the Service Day in question from this point onwards. Sell Orders received before the Auction Opening Time will not be accepted.

The Auction Results Time is defined in the Procurement Rules as 17:00, this is a ‘no later than’ expectation.

**However, results from SFFR auctions are expected to be available on the ESO Data Portal around 12:30 under normal operating conditions.**

\*All times are UK local times (BST or GMT)



## Dynamic Containment 12-month rolling indicative requirements

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 4 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 4.

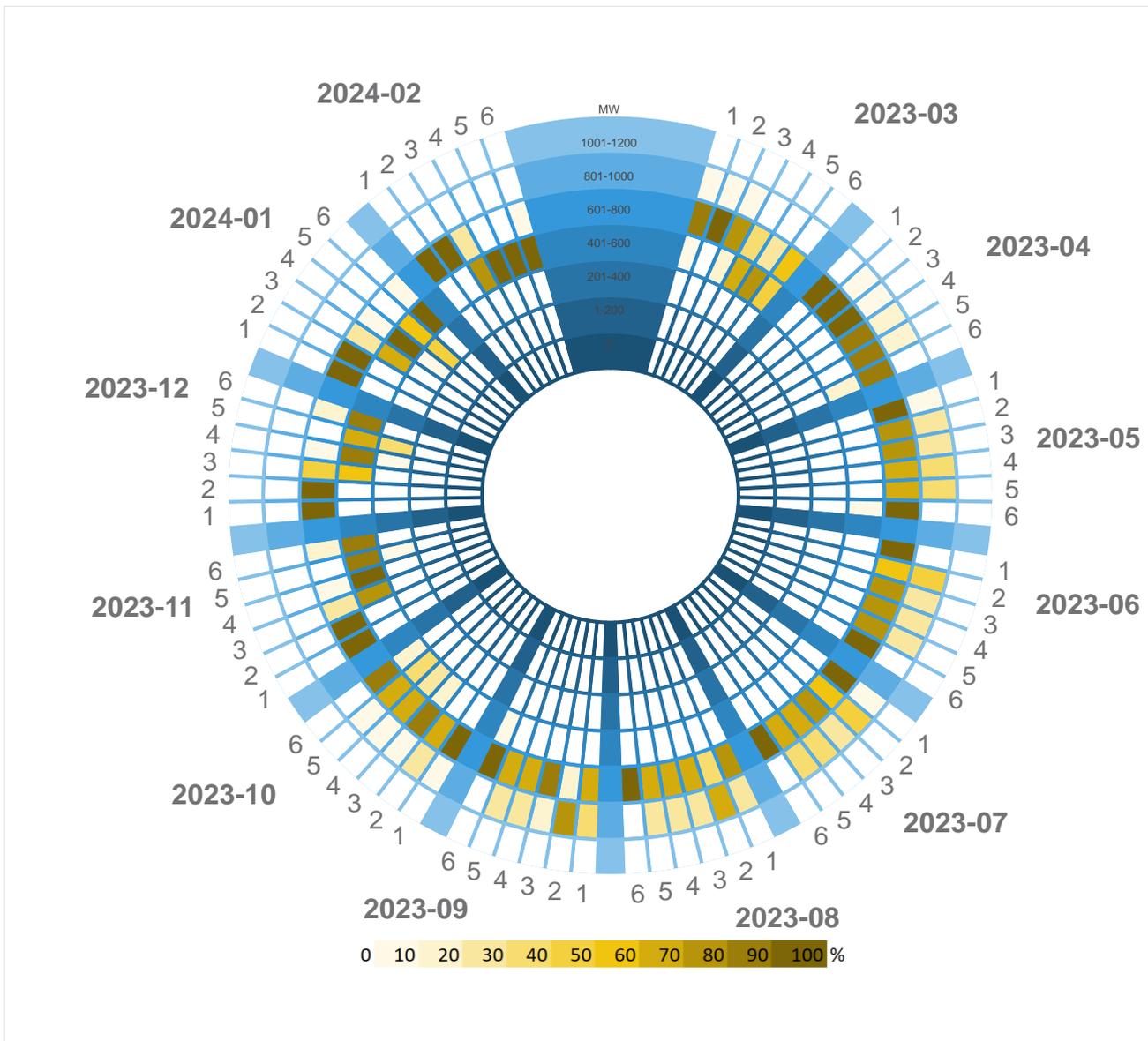


Figure 4: Indicative DC-L Requirements for next 12 months

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

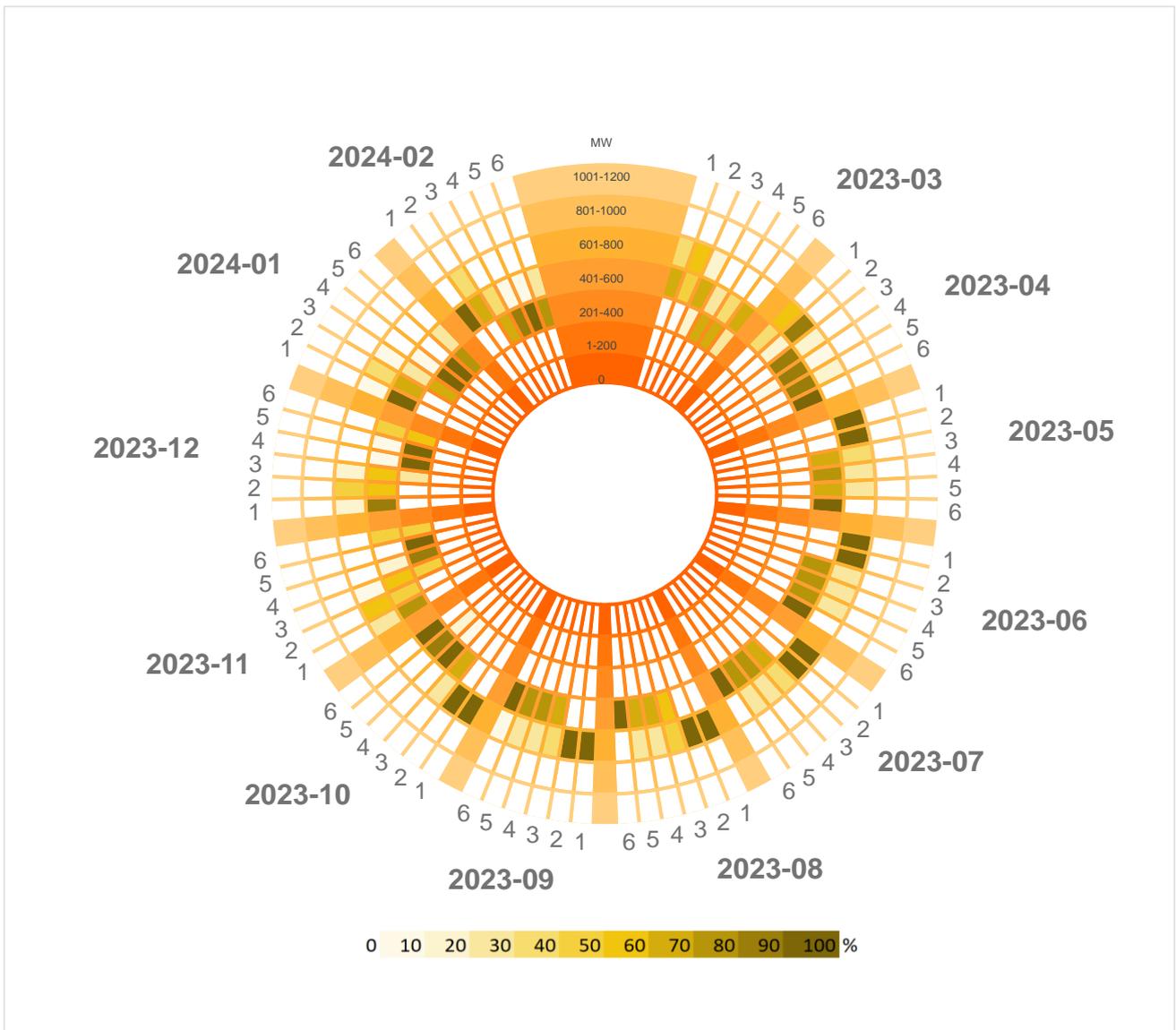


Figure 5: Indicative DC-H Requirements for next 12 months

### 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



## 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 April 2023, the unit must have passed testing prior to the tender submission window closing on the 1st business day in March 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 and 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 April 2023 delivery.

#### Results

The full set of FFR results for the last tender round (TR 158) 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: <b>1.2</b> There was no outstanding requirement <b>1.3</b> The desired volume against the National Grid procurement strategy for future tender months had already been satisfied <b>1.4</b> 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 <a href="https://www.nationalgrid.com/uk/electricity/balancing-services/frequency-response-services/firm-frequency-response">https://www.nationalgrid.com/uk/electricity/balancing-services/frequency-response-services/firm-frequency-response</a>
4	Multiple tenders received for the same unit	Only the most valuable tender(s) of the total group of submitted tenders was considered.

Figure 6: 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](#)

#### Other Useful Links

- [Register for Future of balancing services updates](#)
- [ESO Operational Transparency Forum](#)