Breakout session - Market Insights

Feedback session

Start	Things you want the ESO to start doing
Stop	Things you want the ESO to stop doing
Carry on	Things you want the ESO to carry on doing
Car Park	Other comments

Please use the notes provided to provide any feedback you have for us on our data provision

System Requirements - Frequency reserve and response

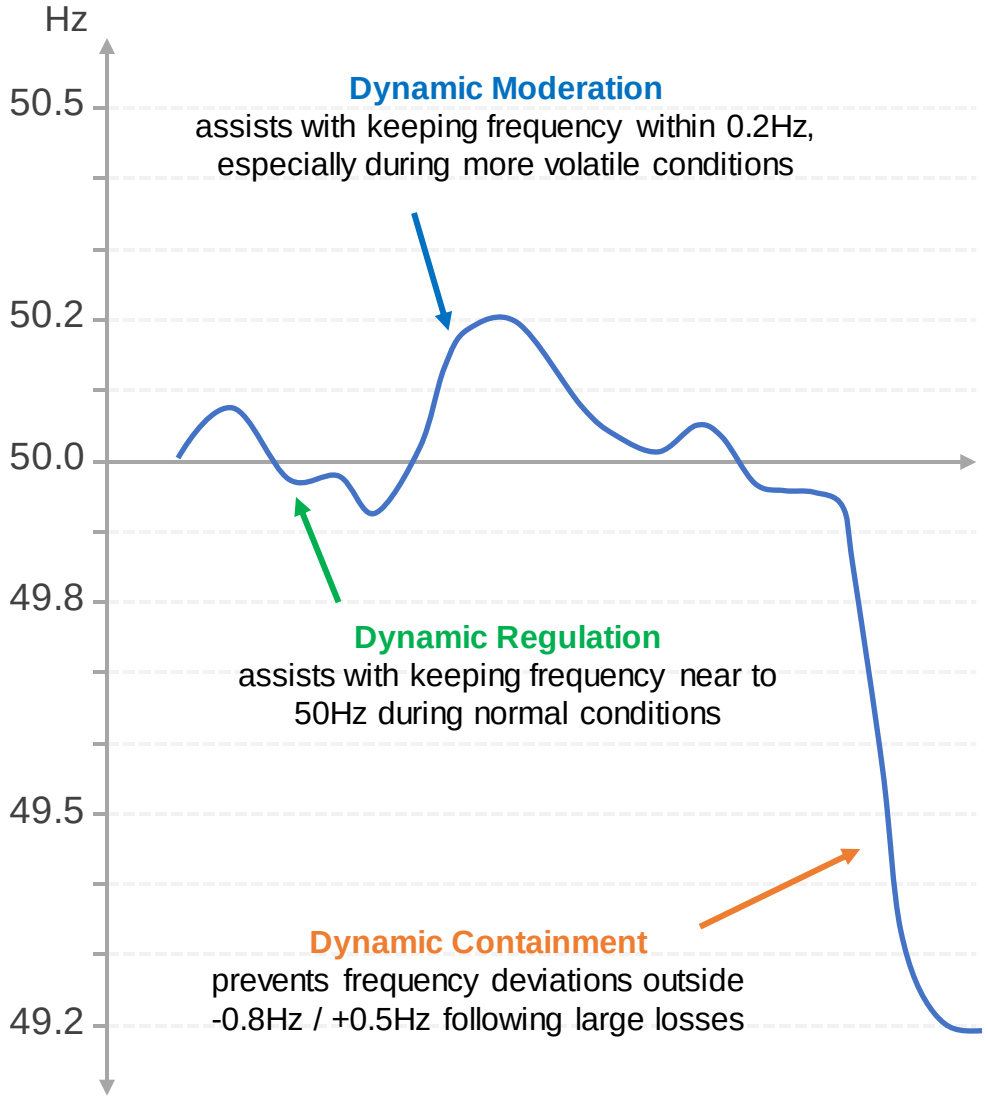
Our frequency control strategy is achieved through the use of two types of service; **frequency response** and **reserve**.

Frequency response services are **activated automatically using a measurement of frequency** to determine an appropriate change in active power.

Reserve is dispatched **manually by a control room operator following an observed system event or proactively in anticipation of a system need**. Reserve delivers either an increase or decrease in active power and can be provided by either a source of generation or a source of demand.

The aim of our frequency control strategy, and the services we employ is to **maintain system frequency within statutory limits**. As well as maintaining frequency we must also balance the costs and impacts of our actions against the residual level of risk and benefits delivered to the end consumer.

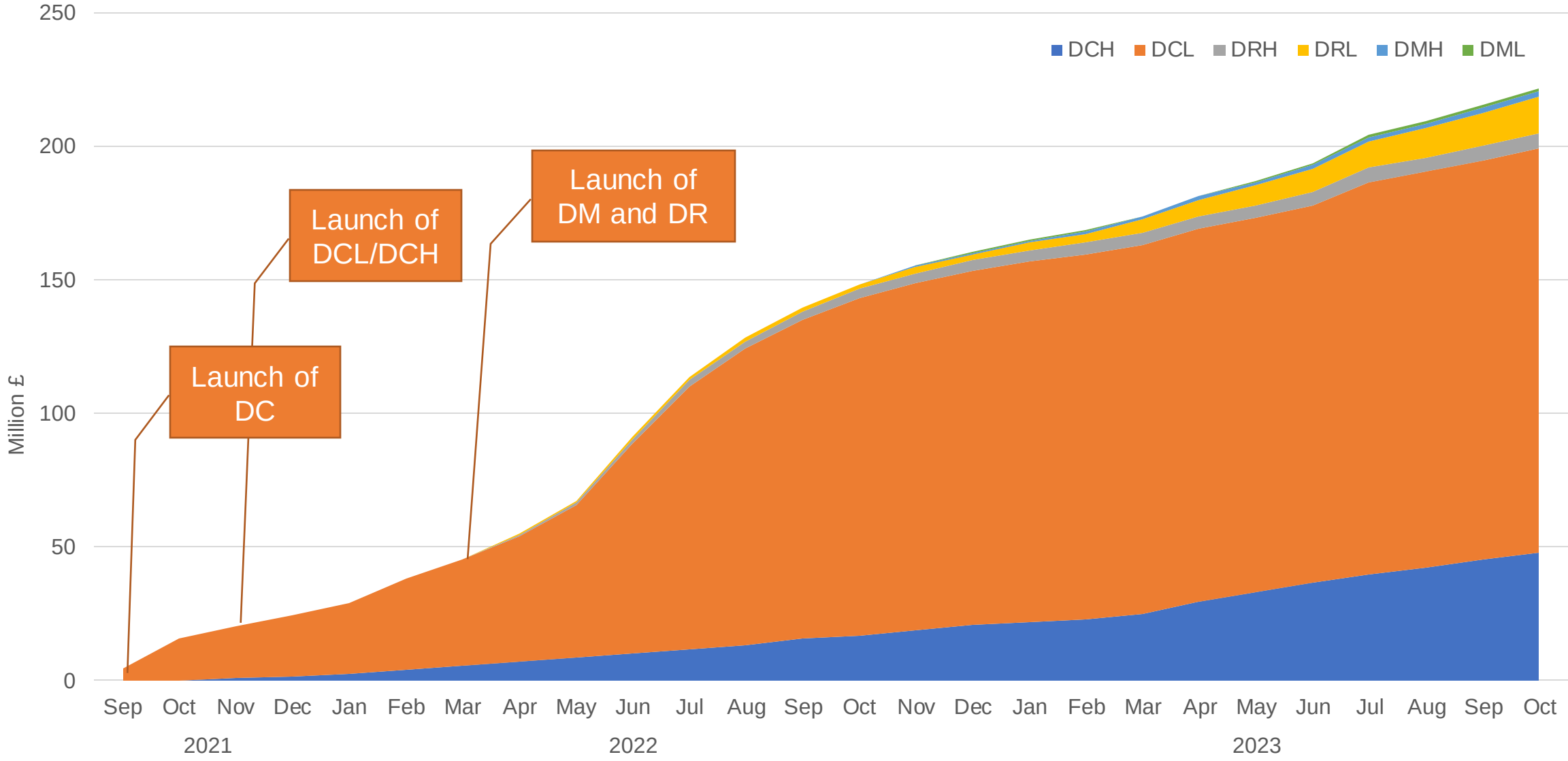
System requirements – Response



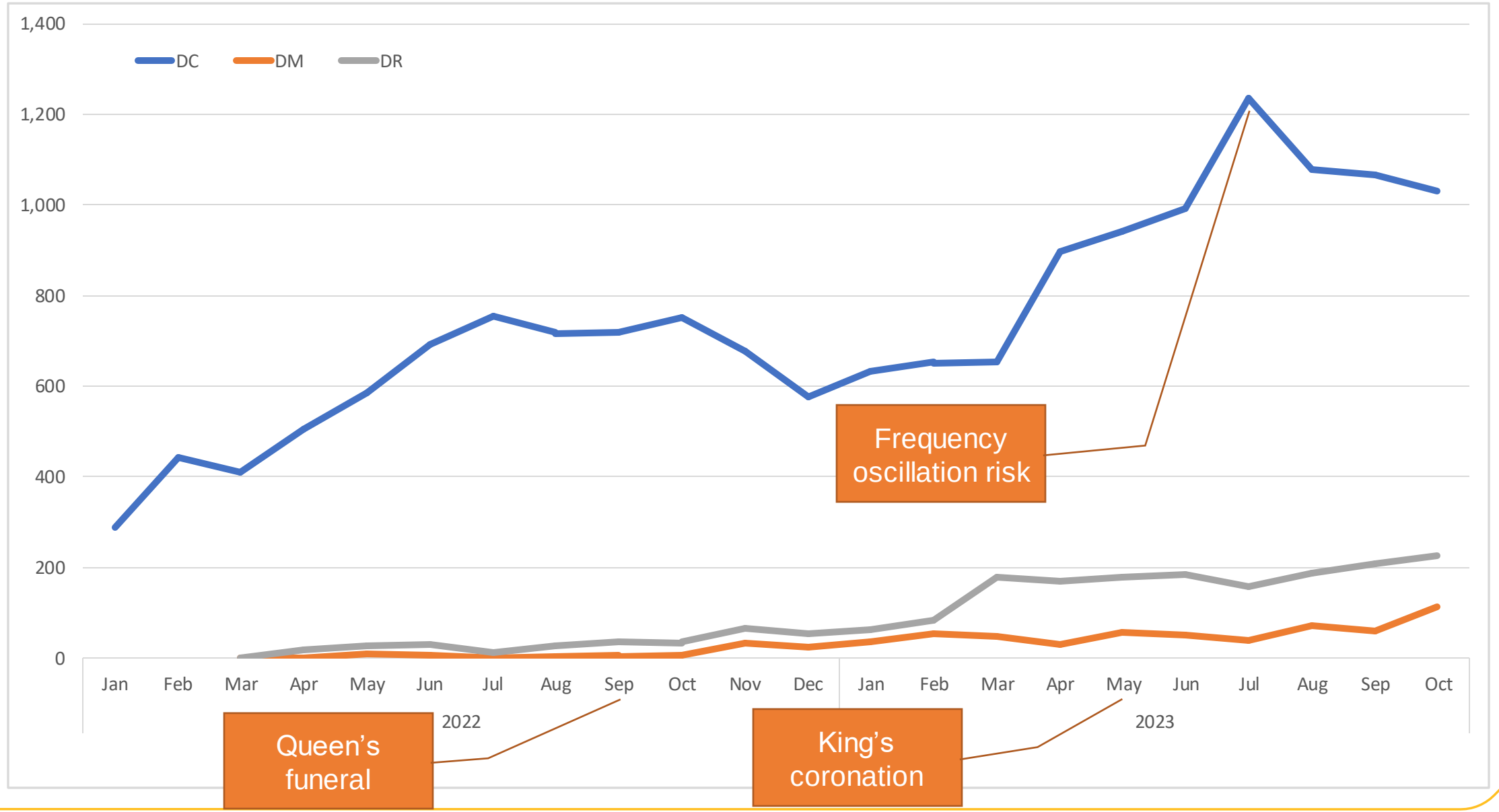
Existing Live Datasets (https://www.nationalgrideso.com/data-portal)

Dynamic services	• Dynamic Containment High/ Dynamic Containment Low 4 day forecast • Dynamic Containment, Dynamic Regulation , Dynamic Moderation auction results (4 datasets) • Dynamic Regulation requirements • Dynamic Moderation requirements
Firm Frequency Response	• Firm Frequency Response Post Tender Reports • Static Firm Frequency Response Auction Results
Short Term Operating Reserve	• Short Term Operating Reserve Day Ahead Auction Results • Short Term Operating Reserve Day Ahead Buy Curve
DFS	• DFS Service Requirements • DFS Industry Notification • DFS Utilisation Report • DFS Utilisations Report Summary
Other	• Frequency Response Products Market Information Report

Cumulative Spend on Dynamic Response Services

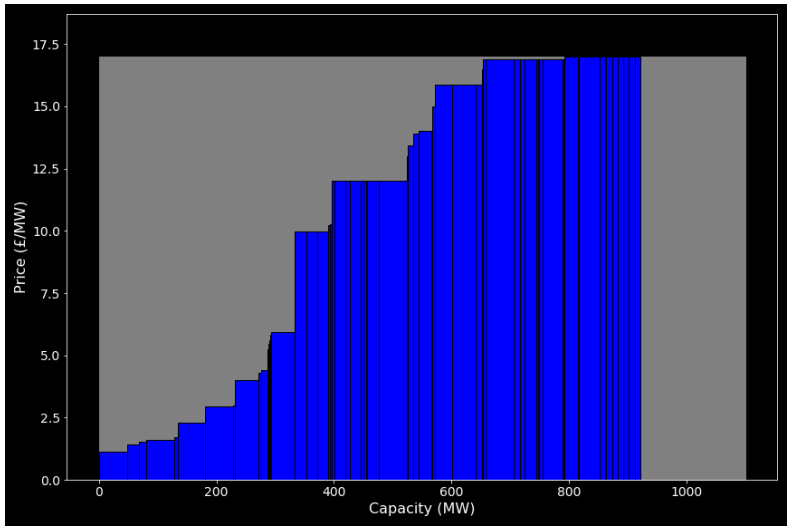


Average dynamic service volumes procured



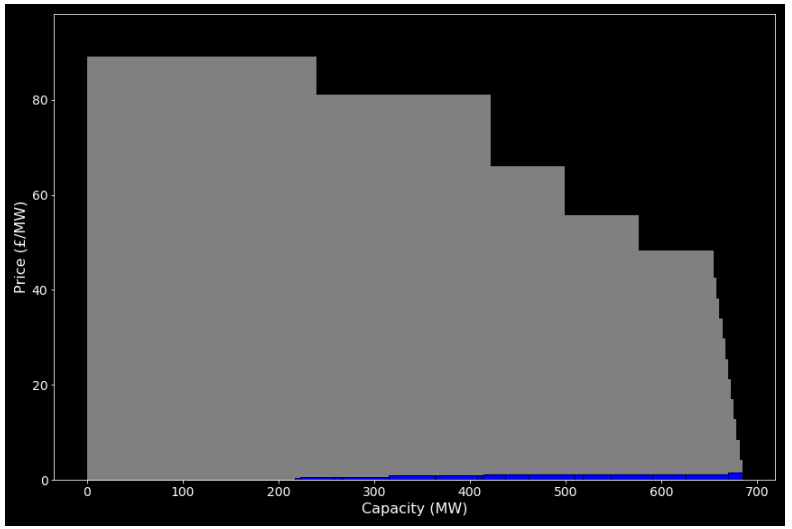
Evolution of Buy Orders

Oct 2021



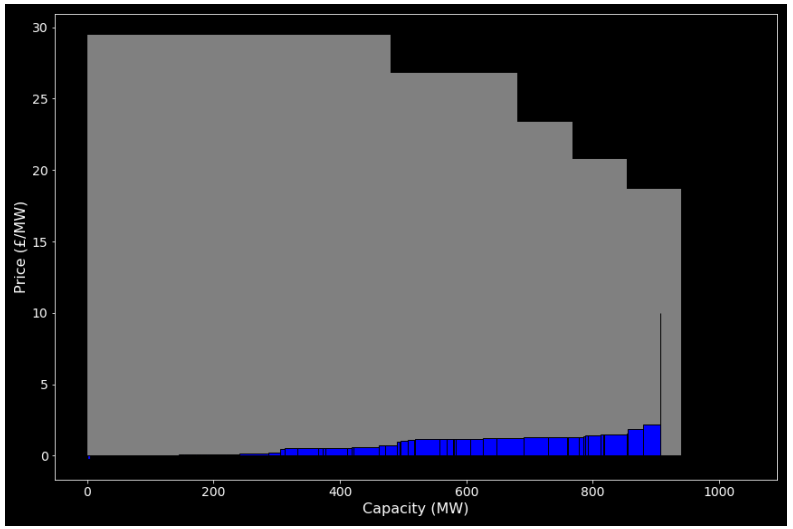
- Daily procurement
- Single high/low product

Oct 2022



- EFA block procurement
- Separate high/low products
- Stepped buy order
- Overholding blocks built into buy order

Nov 2023



- Moved to EAC platform
- Overholding blocks built into algorithm
- Negative prices
- Co-optimised auction

Development of Frequency Markets – Key stats

Dynamic response

- Over 715,000 bids into dynamic services since Sep 2021
- **Participants in**
  - Sep 2021 : 17
  - Sep 2022 : 20
  - Sep 2023 : 23
- **Operating Units**
  - Sep 2021 : 53
  - Sep 2022 : 67
  - Sep 2023 : 110

Static FFR

- Approximately 40,000 bids into Static FFR since launch (April 2023)
- 16 total providers across 51 operating units

STOR

- Approximately 54,000 bids into Day-ahead STOR since launch (April 2021)
- 46 total providers across 217 operating units

Demand Flexibility Service (DFS)

1.6 million households and businesses participated in the Demand Flexibility Service, delivering demand reduction across 22 events held across this winter

These sessions covered both live and test events with 31 suppliers and aggregators

DFS delivered 3,300MWh in electricity reductions at peak times across the 22 events (this is roughly the amount of electricity that 9.9 million households would use at peak times across a single hour)

Contact details

Any questions or feedback, contact us at: box.OpenData.ESO@nationalgrideso.com