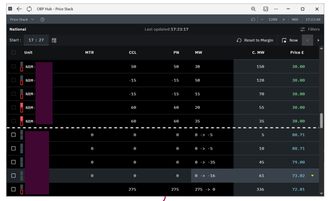
Public

Welcome to our Dispatch Capability Journey

Key:
- Drive Consumer Value
- Deliver a Secure, Resilient & Operable Energy System
- Pave the Way to Sustainable Energy
- Lead as a Trusted Expert
- Digital Enabler

What Pain Point does the capability help address?	
Dispatch Efficiency	Lower skip rates and balancing costs
Automation	Removing work-arounds, reducing manual intervention, staff wellbeing
Competition	New/Improved services and more efficient routes to market
Flexibility	Use of flexible technologies, consumer led flex, integration of DNOs



START

2023 – What did the world look like?

Energy Environment:
- Increasing amounts of renewables, flexibility, and smaller units
- Need for greater coherence across Ancillary & Network Services procurement, Balancing Mechanism, Connections, Interconnection, DSO Involvement, and consumer participation

ENCC Balancing & Forecasting Systems:
- Processes are complicated requiring significant manual effort
- Capabilities spread across multiple systems
- Manual workarounds and grey IT
- No Service Harmonisation – decision made at individual service level
- BM and non-BM handled in different systems with different price stacks
- Difficult to add new services, functionality or scale up existing systems
- Reliance on workarounds and grey IT
- Lack of integration across systems across services
- Lack of integration across systems from contract decision/award through to Settlement.

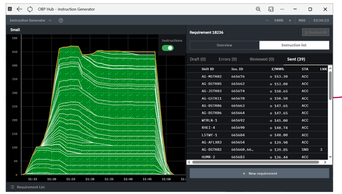
Drivers of transformation:
- Reduce manual workload
- Improve operational efficiency
- Ensure consistency and transparency in decision-making
- Enable competition and support integration of ancillary services
- Manage increasing number of market participants
- Adapt to new requirements, services and innovation

Dec 2023 → Dec–Mar 2023 → Dec 2024 → Apr–Oct 2025 → Apr 2025 – Mar 2026 → Oct 2025 → Nov 2025 → Nov 2025 – Jun 2026 → Dec 2025 – 2027 → Apr 2026 → Jun–Nov 2026 → Jul 2026 → Dec 24 – Dec 26 → Mar 2027 → FY 2027 / 2028 → FY 2027 / 2028 → FY 2027 / 2028 → Mar 2028

END OF NESO 1

2028 – Where will we be after NESO 1

ENCC Balancing & Forecasting Systems:
- Increased resilience and no planned market outages
- Significant automation and optimisation within ENCC
- Efficient dispatch and transparent instructions
- Enhanced security through new tools and services
- Lower balancing costs
- Alignment of BM and non-BM processes
- Standardisation of user experience
- Reduction of manual workarounds and Grey IT
- Improved situational awareness
- Adaptability to evolving industry priorities



Dispatch Transparency Roadmap

- IT system changes
- Dispatch efficiency measurement & transparency
- Market change
- DSR Output
- Complete

2026 Jan – Mar
- Slow Reserve Go Live – More sustained delivery in a post fault event
- Root Cause Analysis Phase 2 – Validation of hypothesis, identification of causal factors and mitigating actions
- Skips behind constraints – Analysis and methodology development
- Data & AI mobilisation – Focus on surfacing data for continuous improvement

Apr – Jun
- GC1066 Go-Live commences – Go-live of new dynamic parameters for scheduling and dispatch
- Review of Root Cause analysis recommendations – Prioritisation of additional analysis and activities to be taken forward
- ENCC Ops Model – Mobilisation of discovery

Jul – Sep
- OBP: Constraint Optimisation – Further improvement to dispatch behind constraints
- Implementation of skip rate behind thermal constraints – Ability to publish data for skip rates behind thermal constraints
- GC1066 Go-Live concludes – All BMUs compliant with GC1066 parameters by 5 Nov

Sep – Dec+
- Conclusion of operational review of storage behind constraints – Recommendations for options to be implemented following review of best use of storage behind constraints

Dispatch Strategic Review

NESO commissioned an independent review of Control Room processes, systems & operational model associated with energy scheduling and dispatch.

Key Aim: Recommend changes to tools, processes or operating model to make the ENCC ready to meet 2030 energy system challenges.

Recommendations in the Dispatch space where OBP is the Enabler	Activity already underway?	Activity
Update redundancy systems to manage increasing numbers of BMUs	✓	• **Nov 2025:** Deployment of OBP Strategic • **Mar 2027:** Complete migration of balancing functions to OBP • **Dec 2027:** Decommissioning of legacy BM systems
Deploy automation within ENCC tools to eliminate low value, time-consuming, manual, button-click activities	✓	• **Dec 2023 – March 2024:** Bulk & Fast Dispatch Optimisation • **Apr 2025:** Bulk Dispatch from a Price Stack for all active BMU Zones and within a Constraint • **Apr 2026:** Bulk Dispatch from Price Stack for all BMUs and Non-BMUs by Service Type • **Jun 2026:** Optimisation with a Constraint
Create functionality in OBP to enable bulk MW dispatch by the NBE	✓	• **TBC**
Develop a human in the loop next best action model to assist in dispatch decisions	✓	
Create functionality in OBP to issue repeat BOAs	✓	• **May 2026:** Functionality in OPB to issue repeat BOAs
Create a process for requesting high priority software change requests	✗	• **TBC:** Review of programme feedback and intake processes
Audit existing grey IT tools to understand which can be supported or included in the scope of OBP	✓	• **Dec 2025:** Review of roadmap capabilities and grey IT completed
Create a formal process for productionising and integrating grey IT tools that are developed	✓	• **Jan 2026:** Review of programme feedback and intake processes
Embed Tooling Requirements into Market Design from the start	✓	• **Oct 2025:** Process review carried out with ENCC Future Design & Market Requirements
Automated and detailed flagging of BMUs dispatched out of merit order	✓	• **Dec 2024:** Dispatch Efficiency Monitor
Increase the ability to divide and assign BMUs to different zones in OBP	✗	• **Sep 2027:** Transition to Areas of Responsibility

Open Balancing Platform (OBP) Lite

Dispatch Efficiency ✓ Automation ✓ Competition ✓ Flexibility ✓

System Impacted: OBP

What does it do? New IT Platform in one data centre that accelerates digital transformation by providing a secure, scalable, and consistent environment for modern & cloud-native applications. Supports faster, safer releases with development and test environments. Has supported 3 weekly release cadence from onset. Interface to/from OBP to existing BM systems.

Did it exist before? No – this is a new platform

Impact / Benefit to NESO operations: Easier to detect issues and release fixes. Improved resilience through the system; reduces planned outages through rolling deployments; agile way of working enables control room engineers feedback to shape future releases

Impact / Benefit to industry: Early launch of bulk dispatch capability in Sandbox and small BMU zone in response to industry feedback.

Dispatch Efficiency Monitor

Dispatch Efficiency ✓ Automation ✓ Competition ✓ Flexibility ✓

System Impacted: Legacy BM systems

What does it do? Ability to monitor dispatch efficiency in near real-time.

Did it exist on our legacy BM systems? No – this is new functionality.

Impact / Benefit to NESO operations: Real time data on instructed dispatch visible to the control room enables stable skip performance to be monitored, deployments, agile way of working enables control room engineers feedback to shape future releases

Impact / Benefit to industry: Improvements in economic dispatch efficiency. Improvement has enabled the reporting of skip rate data on the NESO website.

All Instruction Creation on OBP

Dispatch Efficiency ✓ Automation ✓ Competition ✓ Flexibility ✓

System Impacted: OBP

What does it do? Existing systems allow the control room to create and send instructions for a variety of services such as BOAs in the BM, Pumped Storage with their multiple slides (spin gen etc), Wind units with their complex curtailment requirements, and Non-BM Service instructions to non-BM units. With the introduction of non-BM instruction support, both BM and non-BM units are "harmonised" to a common instruction format. Also introduces the new non-BM Quick Reserve and Dynamic Response support from OBP.

Did it exist on our legacy BM/ESBR systems? Yes, albeit as separate systems. For first time Control Room have both BM and non-BM in a single system, allowing for example, a combined Price Stack.

Impact / Benefit to NESO operations: Control room can instruct both BM/non-BM in a single system and have greater situational awareness of the available resources with monitoring in one place.

Impact / Benefit to industry: Supports activity to level the playing field across asset types, also leading to improved economic dispatch.

OBP Strategic

Dispatch Efficiency ✓ Automation ✓ Competition ✓ Flexibility ✓

System Impacted: OBP

What does it do? A new deployment of the OBP system that provides a single, scalable, resilient platform across multiple datacentres; removes the need for planned down-time & outages on the OBP system.

Did it exist on our legacy BM systems? No – this is a new platform.

Impact / Benefit to NESO operations: Increased resilience and no planned market outages. Consolidated utilised platform, reduces use of telephone instructions which increases workload and is sub-optimal due to the control room handling large numbers of small units using telephone.

Impact / Benefit to industry: Market Participants will not have to deal with planned balancing system outages, which involve manual telephone dispatch and non-economic dispatch decisions.

Each two-hour outage has been estimated at a cost of £100k.

Improved User Interface with focus on Usability, Screen and Process Efficiency

Dispatch Efficiency ✓ Automation ✓ Competition ✓ Flexibility ✓

System Impacted: OBP

What does it do? Whilst the focus of OBP development was to develop "functional completeness", this capability looks to focus on usability and operational efficiency. This encompasses "joining" already built functionality together to create a single, end-to-end, Instruction Stack Instruction screens to provide a streamlined Instruction Journey, and the Constraint Management screen with Price Stack for a Constraints resolution journey. Development of the Interface for ease of use – with keyboard shortcuts, enhanced visual elements with modern design, and data visualisation tools in readiness to take master-slip of instructions

Did it exist on our legacy BM systems? No – these are new efficiencies afforded by modern technology.

Impact / Benefit to NESO operations: Process and UI efficiency will lead to improved operational oversight and dispatch efficiency.

Impact / Benefit to industry: Reduction in skips, improved grid security

Bulk Dispatch from Price Stack for all BMUs and Non-BMUs by Service Type

Dispatch Efficiency ✓ Automation ✓ Competition ✓ Flexibility ✓

System Impacted: OBP

What does it do? Supports dispatch of BMUs and non-BMUs using a price stack that can be filtered by service, allowing inclusion or exclusion of units based on their ability to provide a service. For example, if the control room required Quick Reserve with frequency deviating very fast, they can filter on all fast services irrespective of whether they are BM or non-BM units. Also includes the ability to upload the "harmonisation" logic allowing BM and BM units to be dispatched "equally" from a single system, instead of the multiple systems and logic which are used in the Control Room today.

Did it exist on our legacy BM systems? No – this is new functionality.

Impact / Benefit to NESO operations: Provides enhanced situational awareness and a single system to monitor and dispatch all asset types suited to supporting a variety of transmission system scenarios.

Impact / Benefit to industry: Reduction in skips, improved dispatch efficiency.

Optimisation within a Constraint

Dispatch Efficiency ✓ Automation ✓ Competition ✓ Flexibility ✓

System Impacted: OBP

What does it do? Currently control engineers can, "dispatch from a price stack", "dispatch from a price stack", the capability enhances this through use of an optimiser. A control room engineer selects the constraint they want to resolve and then selects the BMUs involved in the constraint – the optimiser then considers variation in prices over time and the variation of technical parameters and returns a cost optimised solution consisting of multiple units which can be dispatched in one button click.

Did it exist on our legacy BM systems? No – this is new functionality.

Impact / Benefit to NESO operations: Further automation of manual processes, improved situational awareness, supporting consistent decision making, supports handling of more complex unit characteristics.

Impact / Benefit to industry: Reduction in skips for units behind a constraint.

EDT/EDL Mastered from OBP

Dispatch Efficiency ✓ Automation ✓ Competition ✓ Flexibility ✓

System Impacted: OBP

What does it do? EDT/EDL are the main communication links between NESO and Market Participants. These systems are how NESO issues instructions and receives information, such as technical parameters and dispatch instructions.

Did it exist on our legacy BM systems? Yes – however the new network is more resilient and flexible than the legacy. It will remove the need for planned outages.

Impact / Benefit to NESO operations: More resilient communication systems and reduced use of telephone instructions which increases workload and is sub-optimal

Impact / Benefit to industry: More resilient communication systems and consistent economic dispatch.

Transition to Areas of Responsibility

Dispatch Efficiency ✓ Automation ✓ Competition ✓ Flexibility ✓

System Impacted: OBP

What does it do? Move away from current zonal dispatch structure (e.g., Scottish Zones, SWE Zone, etc.) to Responsibility that will allow dynamic allocation of work to desks based on workload.

Did it exist on our legacy BM systems? No – this is new functionality.

Impact / Benefit to NESO operations: More flexibility for the Control Room with the ability to change distribution of work depending on system conditions.

Impact / Benefit to industry: Improved dispatch efficiency. Improvement has been identified as one reason for skips.

Enhanced Interconnector Management

Dispatch Efficiency ✓ Automation ✓ Competition ✓ Flexibility ✓

System Impacted: OBP

What does it do? This will provide enhanced visibility of interconnector operational parameters in the new Interface OBP to send emergency actions and instructions.

Did it exist on our legacy BM systems? Yes, but through a separate Interconnector flow management system.

Impact / Benefit to NESO operations: Increased situational awareness and enhanced interconnector management capability.

Impact / Benefit to industry: Supports Cross Zonal Supply and market integration through OBP.

Bulk & Fast Dispatch Optimisation of Battery & Small BMU Zones

Dispatch Efficiency ✓ Automation ✓ Competition ✓ Flexibility ✓

System Impacted: OBP

What does it do? Bulk Dispatch – used by the control room to dispatch a large number of units in a short timeframe when the least cost solution that satisfies the demand requirement in a semi-automated way. Fast Dispatch – used for shorter durations to react to frequency deviations, providing a solution in <15sec.

Did it exist on our legacy BM systems? No – this is new functionality.

Impact / Benefit to NESO operations: Reduces manual processes & time taken to issue a collection of instructions to smaller, flexible units. In one example it took seven button-clicks in OBP compared to 100 button-clicks in legacy systems.

Impact / Benefit to industry: Supports activity to level the playing field across asset types, also leading to improved dispatch of small BMUs, ultimately creating confidence for future investment in these flexible technologies.

£40m of annual benefits by use of "flexible assets" in "flexible zones" in scenarios

Constraint Management

Dispatch Efficiency ✓ Automation ✓ Competition ✓ Flexibility ✓

System Impacted: OBP

What does it do? The first release of this capability provides a constraint management screen with enhanced situational awareness with new graphical screens showing when a constraint would be breached and providing data on the "Constraint Stack". Also provides instructions provided the ability to manage multiple instructions within these screens, allowed easier system tagging and provides a "constraint resolution journey". The other capability makes more units available to the optimiser for energy even if they are behind a constraint.

Did it exist before? No – this is new functionality.

Impact / Benefit to NESO operations: Provides enhanced situational awareness and improved decisions by providing superior situational awareness

Impact / Benefit to industry: Reduction in skips, including those behind constraints.

Bulk Dispatch from a Price Stack for all active BMU Zones and within a Constraint

Dispatch Efficiency ✓ Automation ✓ Competition ✓ Flexibility ✓

System Impacted: OBP

What does it do? It provides the control room with an alternative method to choose units to fulfill a requirement – instead of using the "Merit Order" to choose units to fill a volume of energy, in price merit order, instructions are then created in bulk and dispatched automatically.

Did it exist on our legacy BM systems? No – this is new functionality.

Impact / Benefit to NESO operations: Provides control room with an alternative method to choose units and reduces the number of "button clicks" and manual workload.

Impact / Benefit to industry: Reduction in skips, including those behind constraints by providing increased situational awareness to the control room & allowing easier dispatch of multiple smaller BMUs.

£40m of annual benefits by improved situational awareness & extending Bulk Dispatch

National Dispatch Optimisation (NDO)

Dispatch Efficiency ✓ Automation ✓ Competition ✓ Flexibility ✓

Parallel run with LDA until June 2028

System Impacted: OBP

What does it do? NDO co-optimises energy (generation vs demand) and mandatory frequency response while respecting transmission system constraints. NDO generates "advice" at individual unit level, which is used by the ESO Control Room to inform the "Balancing Mechanism" (MM) at individual BMUs are aggregated by ZONE for dispatch – these are the target programs. ZONES is a mechanism for managing the workload in the Control Room involved in issuing individual BOAs.

Did it exist on our legacy BM systems? The existing Legacy Dispatch Tools (LDA) are "Zonal" in nature, with limited capability to fully and efficiently support today's energy technology landscape. The NDO solution provides enhancements to better manage flexible assets.

Impact / Benefit to NESO operations: Provide improved economic dispatch solution ensuring that units can be instructed in merit while respecting the physical constraints of the transmission system.

Impact / Benefit to industry: Anticipated to improve economic dispatch and reduce skip rates.

Trials indicate £20m of consumer benefit per annum

Implement GC0166

Dispatch Efficiency ✓ Automation ✓ Competition ✓ Flexibility ✓

System Impacted: OBP

What does it do? There is currently no clear provision of projected "Dynamic" parameters for units in Balancing Mode. GC0166 "Dynamic" uses an interim arrangement to get around this – the "30-minute rule". This limits how NESO use these assets. GC0166 parameters (Maximum Delivery Volume, Maximum Delivery Rate, Delivery Period) enable optimisation & price stack for real time dispatch, enabling LDAs to inform NESO of energy available over longer time, instead of NESO having to derive this from existing parameters not intended for this purpose. In addition, GC0166 mandates BMUs to provide a Future State of Energy for use in scheduling timescales.

Did it exist on our legacy BM systems? No – this is new functionality.

Impact / Benefit to NESO operations: Enhanced information for the management of LDAs, enabling more efficient use of them in balancing.

Impact / Benefit to industry: Adopted Grid Code rules & implementation on OBP supports improved economic dispatch of these asset types and leads to better scheduling decisions and removal of 50MW cap.

Provide Data Transparency

Dispatch Efficiency ✓ Automation ✓ Competition ✓ Flexibility ✓

System Impacted: OBP

What does it do? Supports the provision of data from OBP to internal and external systems (e.g., ESR & DAP) and external (e.g., Elexon)

Publication of market information to data portal of new services only developed in OBP (Quick Reserve and Slow Reserve).

Did it exist on our legacy BM systems? Partly but with additional services now.

Impact / Benefit to NESO operations: Aids market to reduce balancing actions

Impact / Benefit to industry: This aids regulatory oversight and market participant understanding of OBP operations.

Interface with NCMS for Constraint Data

Dispatch Efficiency ✓ Automation ✓ Competition ✓ Flexibility ✓

System Impacted: OBP

What does it do? The NCMS is implementing a capability to run power network analysis tools that identify constraints in real-time. Interface with NCMS will allow OBP can make changes to constraint limits in shorter timescales as system conditions change.

Did it exist on our legacy BM systems? No – this is new functionality.

Impact / Benefit to NESO operations: Accurate forecasts allow for better decisions from both an economic and security point of view.

Impact / Benefit to industry: With greater accuracy of constraint limits there is a greater certainty in balancing actions.

Enable Near Real-Time Co-Optimisation

Dispatch Efficiency ✓ Automation ✓ Competition ✓ Flexibility ✓

System Impacted: OBP

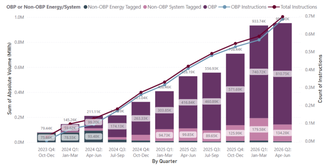
What does it do? New response products will be included within the National Dispatch Optimiser, ensuring advice to the control room is accurate and optimised. The capability will allow for new response products in near real-time, while considering transmission constraints.

Did it exist on our legacy BM systems? No – this is new functionality.

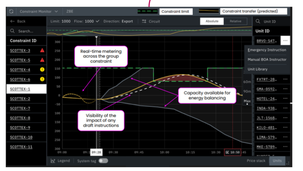
Impact / Benefit to NESO operations: Supports the control room in ensuring response products are delivered into the control room, so not to increase workload and ensure most economic decisions are made.

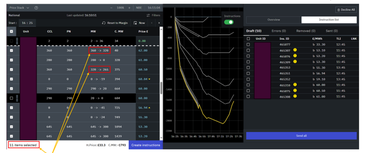
Impact / Benefit to industry: Ensures new products are instructed economically – reducing skips.

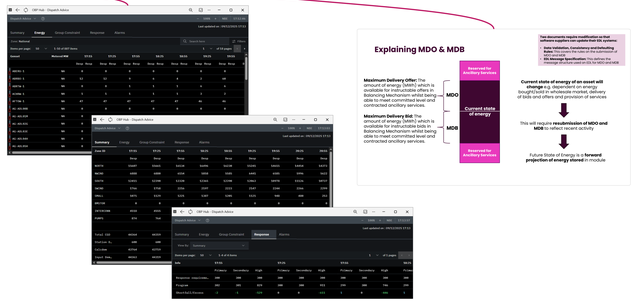
Battery Utilisation Statistics



Comparing Oct-Dec 2023 to the latest period – 01 April to 30 June 2026, we observe the average daily volume (MWh) of batteries in the BM has increased from 1613MWh to 10479MWh (551% increase). The average number of daily instructions has increased from 253 to 797 (215% increase).



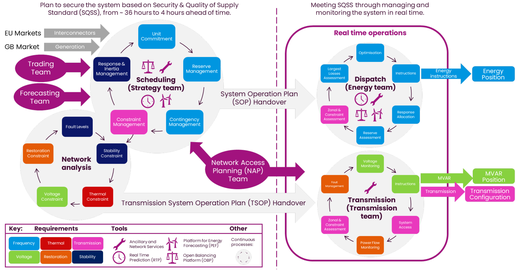




Control Room Process – Operate the Power System

Plan to secure the system based on Security & Quality of Supply Standard (SQSS), from ~ 36 hours to 4 hours ahead of time.

Meeting SQSS through managing and monitoring the system in real time.



Please note this roadmap is subject to change; changes will be communicated at the earliest opportunity.