Balancing Costs Portfolio

Updated November 2026

NESO and its industry partners are taking action to reduce balancing costs while maintaining a secure and reliable electricity system.

This portfolio brings together the initiatives addressing current cost pressures and supporting a more efficient electricity system over the coming years.



NESO
National Energy System Operator

Thermal Constraint Initiatives

Enhancing network capacity

Initiative	Thermal constraint driver	Key parties involved	Project description	How does it reduce balancing costs	Project phase	Expected start date
Constraint Intertrip Service - B6 and EC5	Insufficient Network Capacity	NESO, TOs, Industry	Intertrips allow more energy to flow across boundaries during constrained periods while maintaining system security.	Increases the amount of power that can flow securely across key boundaries, helping to avoid redispatch.	**Live**	2022
Enhanced Network Provisions	Insufficient Network Capacity	NESO, Ofgem, TOs	NESO and transmission owners identify operational and engineering solutions that make better use of the existing network, including dynamic ratings and automated switching.	Increases usable network capability, reducing the volume of generation redispatch needed to manage constraints.	**Live**	2023
Outage Optimisation	Insufficient Network Capacity	NESO, TOs	NESO and transmission owners coordinate maintenance and upgrade outages to minimise their impact on available network capacity and system operation.	Reduces the duration and impact of capacity restrictions caused by outages, lowering the need for constraint actions.	**Live**	Ongoing
Accelerated Strategic Transmission Investment (ASTI)	Insufficient Network Capacity	DESNZ, Ofgem, TOs	The ASTI framework supports accelerated delivery of major transmission upgrades needed to connect new generation and increase network capacity.	Additional transmission capacity reduces congestion and the need to curtail generation and replace it elsewhere.	**Delivery**	2022
Dynamic Line Ratings	Insufficient Network Capacity	NESO, TOs	Uses real-time weather and asset data to identify when existing transmission lines can safely carry more electricity.	Makes greater use of existing network capacity when conditions allow, reducing the volume of constraint actions required.	**Delivery**	2025

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Constraint Intertrip Service - Expansion	Insufficient Network Capacity	NESO, TOs, Industry	Expanding intertrip arrangements could allow more energy to flow across additional constrained boundaries while maintaining system security.	Could increase secure transfer capability across more boundaries, reducing curtailment and replacement generation costs.	**Define/ Develop**	2027
Centralised Strategic Network Plan (CSNP)	Insufficient Network Capacity	DESNZ, NESO, Ofgem, TOs	The Centralised Strategic Network Plan identifies the transmission investment needed to support future electricity demand and generation.	Directs investment towards the network capacity required to reduce future congestion and constraint costs.	**Define/ Develop**	2028
Active Network Management Coordination	Insufficient Network Capacity	NESO, DNOs, Industry	Assessing how distribution-network limits and Active Network Management arrangements interact with NESO's use of distributed flexibility.	Helps avoid conflicting actions between transmission and distribution networks, reducing unnecessary redispatch and preserving access to flexibility.	**Discovery**	2027
Network Topology Optimisation	Insufficient Network Capacity	NESO, TOs	Identifying opportunities to reconfigure the transmission network to improve power flows and make better use of existing infrastructure.	Redirects power flows to release usable network capacity and reduce the need for costly constraint actions.	**Discovery**	2028
System Access Reform	Insufficient Network Capacity	NESO, Ofgem, TOs, Industry	Reforming how access to the transmission network is requested, planned and coordinated.	Could reduce the cost impact of outages by improving coordination and making access to the network more efficient.	**Discovery**	TBC

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Thermal Constraint Initiatives

Reducing supply/demand imbalances

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Regional Development Programmes	Regional Supply and Demand Imbalance	NESO, DNOs, TOs, Industry	Regional Development Programmes improve coordination between transmission and distribution networks in areas with high volumes of distributed energy resources.	Improves visibility and coordination of distributed resources, helping unlock capacity and reduce conflicting or unnecessary balancing actions.	**Live**	2023
Improved Dispatch Transparency	Redispatch Costs	NESO	NESO is improving transparency and understanding of dispatch decisions, including avoidable skips behind thermal constraints.	Supports more efficient dispatch decisions and helps identify opportunities to reduce avoidable higher-cost actions.	**Delivery**	2026
Constraint Management Markets	Redispatch Costs	NESO, Industry	The Local Constraint Market tested how local flexibility could help manage transmission constraints. Lessons from the service are being taken forward through the Demand Flexibility Service.	Enables local flexibility that can reduce reliance on more expensive generation redispatch.	**Define/Develop**	2026
Removing Levies as a Barrier to Flexible Demand	Redispatch Costs	DESNZ, Ofgem	Considering changes to final consumption levies that can limit the ability of flexible demand to participate in electricity markets.	Could make flexible demand more competitive and increase the lower-cost options available to manage constraints and balance the system.	**Define/Develop**	2028

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Demand for Constraints	Regional Supply and Demand Imbalance	NESO, Industry	Demand for Constraints incentivises flexible demand to use excess generation in constrained areas, reducing curtailment and balancing costs.	Shifts electricity use into constrained areas when local generation is abundant, reducing the need to turn generation down and replace it elsewhere.	**Delivery**	2028
Managing Interconnector Flows	Regional Supply and Demand Imbalance	DESNZ, NESO, Ofgem, Industry	NESO uses Net Transfer Capacity restrictions to limit interconnector flows where necessary to maintain system security. Work is assessing alternative approaches and the potential use of restrictions at earlier market timescales.	Managing expected interconnector flows earlier could reduce network congestion and reliance on more expensive balancing actions close to real time.	**Define/Develop**	2026
Strategic Spatial Energy Plan (SSEP)	Regional Supply and Demand Imbalance	DESNZ, NESO, Ofgem	The Strategic Spatial Energy Plan will set out the optimal locations and scale of future energy infrastructure across Great Britain to inform investment and system planning.	Supports better alignment of generation, demand and network investment, reducing future congestion and the need for balancing actions.	**Define/Develop**	2027

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Thermal Constraint Initiatives

Reducing redispatch costs

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Enabling Demand-Side Flexibility	Redispatch Costs	NESO, Industry	Expanding opportunities for households and businesses to adjust electricity use when this can support constraint management.	Provides an alternative to curtailing generation and increasing output elsewhere, potentially lowering the cost of managing constraints.	**Delivery**	2024
Optimising Storage	Redispatch Costs	NESO, Industry	Working with industry to understand and address storage trading behaviours that can increase constraint-management costs, while supporting efficient participation.	Encourages storage to charge and discharge in ways that better reflect system needs, reducing actions that worsen constraints or require corrective redispatch.	**Discovery**	2025
Removal of subsidies from bid prices (P462)	Redispatch Costs	DESNZ, NESO, Ofgem, Industry	A proposed Balancing and Settlement Code change to prevent subsidies being reflected in Balancing Mechanism bid prices, reducing distortion and supporting more efficient dispatch.	Could reduce distortions in bid prices and support more efficient selection of balancing actions.	**Discovery**	2028
Balancing and Settlement Reforms	Redispatch Costs	DESNZ, Ofgem, NESO, Industry	Developing reforms to balancing and settlement arrangements so that market incentives better support efficient system operation.	Could improve incentives and price signals, reducing actions that create system costs and supporting more efficient balancing.	**Discovery**	TBC

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Dispatch Reforms	Redispatch Costs	DESNZ, Ofgem, NESO, Industry	Considering reforms to dispatch arrangements to improve how resources are scheduled and used across the electricity system.	Could reduce inefficient scheduling and make lower-cost flexibility available to NESO earlier, reducing redispatch costs.	**Discovery**	TBC
Locational Incentives	Regional Supply and Demand Imbalance	Ofgem, DESNZ, NESO	Developing network charging and regulatory incentives that encourage new generation, storage and demand to locate where they provide greatest system value.	Over time, better siting decisions could reduce network congestion and the volume of balancing actions needed.	**Discovery**	TBC

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Voltage Initiatives

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Voltage Network Services - Mersey	NESO, Industry	Procures local services to maintain voltage in the Mersey region as a cost-effective alternative to routine Balancing Mechanism actions.	Secures longer-term voltage support competitively, reducing reliance on repeated and potentially higher-cost balancing actions.	**Live**	2022
Voltage Network Services - Pennines	NESO, Industry	Procures local services to maintain voltage in the Pennines region and meet system requirements.	Secures voltage support through targeted competition, reducing reliance on more expensive operational alternatives.	**Live**	2024
Voltage Network Services - Voltage 2026	NESO, Industry	Secures reactive power absorption capability in two regions of England to maintain voltage within required limits.	Provides targeted voltage capability through competitive procurement, reducing reliance on higher-cost balancing actions.	**Delivery**	2026
Obligatory Reactive Power Service Reform	NESO, Ofgem, Industry	Updating payment arrangements for the Obligatory Reactive Power Service.	Aims to make payments better reflect the value and cost of voltage support, improving procurement efficiency.	**Define/Develop**	2027
Voltage Markets	NESO, Industry	Developing reactive power markets that match services more closely to regional system needs.	Increases competition and targets procurement to where voltage support is needed, helping secure services at lower cost.	**Define/Develop**	TBC

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Stability Initiatives

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Stability Network Services - Phase 1	NESO, Industry	Secures cost-effective, low-carbon solutions that provide inertia across Great Britain.	Provides stability capability under longer-term contracts, reducing reliance on running conventional generation through the Balancing Mechanism.	**Live**	2021
Inertia Requirement Reduction	NESO, Ofgem	Reviews operational requirements to identify where the system can be operated securely with less inertia.	Reduces the volume of stability services that must be procured while maintaining system security.	**Live**	2021
Stability Network Services - Phase 2	NESO, Industry	Secures solutions that increase short-circuit level in Scotland.	Provides targeted stability capability directly, reducing the need to reposition generation for stability reasons.	**Live**	2024
Stability Network Services - Phase 3	NESO, Industry	Secures inertia and short-circuit-level capability in England and Wales.	Provides targeted stability capability competitively, reducing reliance on more expensive operational actions.	**Delivery**	2025
Stability Markets	NESO, Industry	Stability Markets allow NESO to secure stability services competitively across different timescales.	Broadens competition and procures the capability needed at the right time and location, reducing overall stability costs.	**Delivery**	2025

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Response/Reserve Initiatives

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Dynamic Response Services	NESO, Industry	Dynamic response services provide rapid changes in electricity supply or demand to keep system frequency stable.	Competitive procurement and fast automated response reduce the need for more expensive corrective actions.	**Live**	2020
Demand Flexibility Service	NESO, Industry	The Demand Flexibility Service enables homes and businesses to shift electricity use to times that better support the electricity system.	Uses flexible demand as an alternative to procuring additional generation or reserve, helping lower balancing costs.	**Live**	2022
Balancing Reserve	NESO, Industry	Balancing Reserve procures regulating reserve at day-ahead so the control room has access to capacity when required.	Creates competition ahead of real time and reduces reliance on procuring reserve through potentially more expensive balancing actions.	**Live**	2024
Quick Reserve	NESO, Industry	Quick Reserve provides fast access to additional power or demand reduction to help balance the system.	Provides a competitive alternative to more expensive emergency or short-notice actions.	**Live**	2024
Slow Reserve	NESO, Industry	Slow Reserve provides additional power or demand reduction for longer-duration system needs.	Creates a competitive route for meeting sustained reserve needs, reducing reliance on higher-cost alternatives.	**Live**	2026
Optimising Ancillary Service Procurement	NESO, Industry	A package of reforms to improve how response and reserve services are procured, including procurement timing and the location of contracted capacity.	Reduces over-procurement, avoids buying services where network constraints limit their usefulness, and allows assets to provide services more efficiently.	**Define/Develop**	Ongoing

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Other Initiatives

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Open Balancing Platform	NESO	The Open Balancing Platform is introducing new real-time balancing capabilities, including bulk dispatch and improved situational awareness, to replace legacy systems and processes.	Enables more efficient use of flexible assets and better dispatch decisions, supporting lower-cost balancing actions.	**Live**	2023
Trading	NESO	NESO trades electricity ahead of real time to help meet forecast system needs.	Where efficient, earlier trading reduces reliance on more expensive balancing actions closer to real time.	**Live**	Ongoing
Single Markets Platform	NESO	The Single Markets Platform provides a simpler, more consistent route for participants to access NESO ancillary-service markets.	Lowers barriers to participation and supports greater competition, helping NESO procure services more efficiently.	**Live**	2022
Demand Forecasting Improvements	NESO	The Platform for Energy Forecasting improves the forecasts used by the control room to plan and operate the system.	More accurate forecasts reduce unnecessary actions and help the control room buy the right volume of balancing services.	**Delivery**	Ongoing

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Improving Dispatch Data Accuracy	NESO, Ofgem, Industry	Improving the accuracy of Physical Notifications submitted by Balancing Mechanism participants gives NESO greater confidence in expected generation and demand.	Better data reduces uncertainty and supports more efficient, better-timed balancing decisions.	**Discovery**	2024
Project Volta	NESO	Project Volta is NESO's programme to develop the control room of the future, combining advanced forecasting, optimisation and decision-support tools.	Could improve the speed and quality of operational decisions, helping the control room select lower-cost actions across a more complex system.	**Discovery**	TBC
Transformation to Integrate Distributed Energy (TIDE)	NESO, DNOs	TIDE is improving visibility and coordination of distributed energy resources across transmission and distribution system operation.	Better visibility and coordination make more flexibility available and reduce conflicting or inefficient operational actions.	**Discovery**	TBC

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