

Public

Demand for Constraints Technical Design Webinar

05 March 2026

Housekeeping

Key asks for the session



Today's webinar focuses on technical design, if you have any questions, please submit questions through the teams Q&A function



For questions on any other topics, please submit it via box.market.dev@neso.energy



Please be mindful that we may not have all the answers but will take things away if needed, and publish Q&A after



Please ensure cameras & microphones are disabled to protect the bandwidth quality

Webinar Norms

Listen to each other

Engage in the process

Know what to let go

No question too stupid

Defer judgement

Seek clarity

Introduction

Agenda

Timings

Speaker

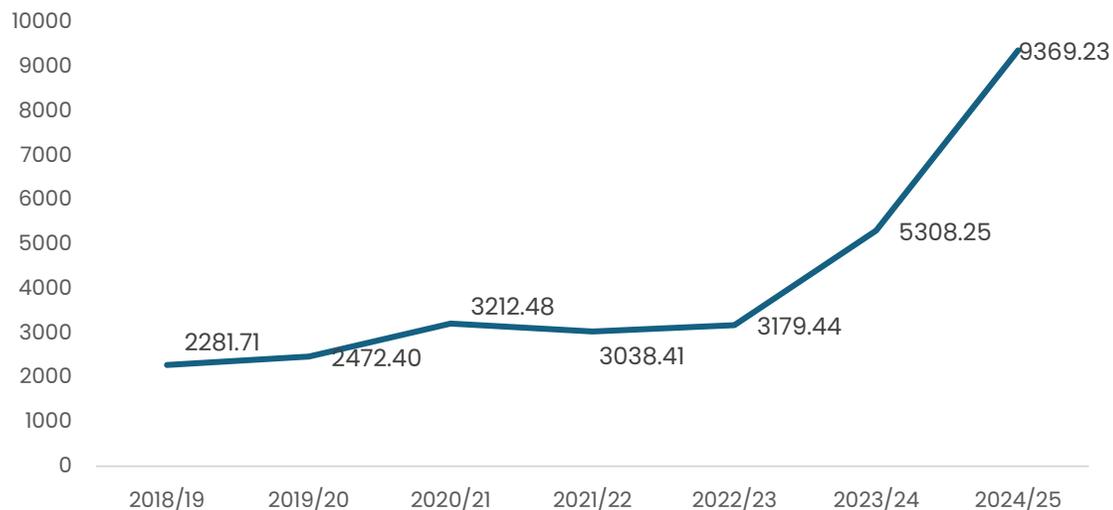
Introduction and housekeeping	13.00 – 13.10 (10 mins)	Qi Zhong
Demand for constraints: High-level design	13.10 – 13.30 (20 mins)	Alifa Starlika
Demand for Constraints: Technical and dispatch design	13.30 – 13.50 (20 mins)	Vrinda Vats
Hearing from you: Request for Information (RFI) and routes to engagement	13.50 – 14.00 (10 mins)	Jeremy Taylor and Dave Phillips
Q&A and next steps	14.00 – 14.30 (30 mins)	Dave Phillips and Alifa Starlika

Demand for Constraints: High Level Design

Why does NESO need Demand for Constraints

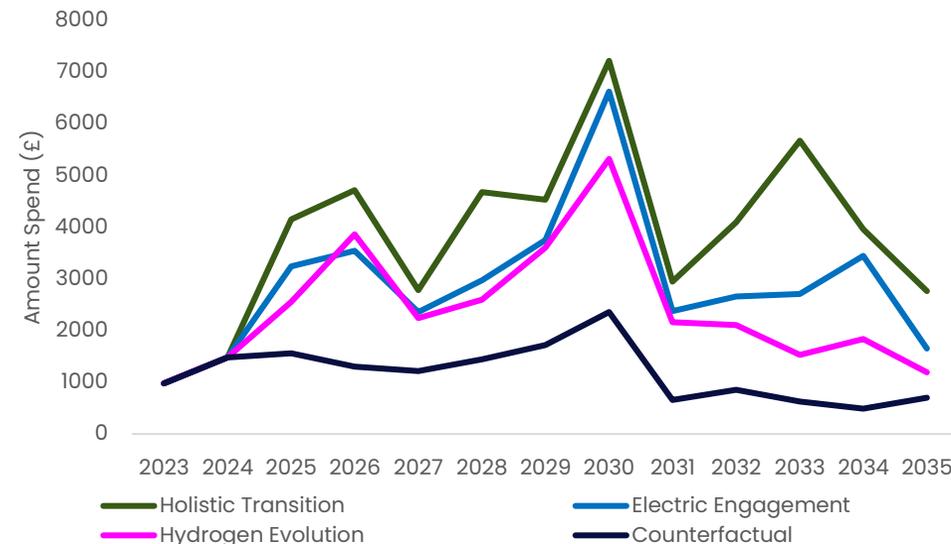
Thermal constraints, due to network congestion, are currently an expensive problem and are forecast to increase as renewable generation construction continues to outpace network build. With a national pricing model, there are no locational signals for investment to incentivise demand to locate in constrained areas.

Wind Curtailment (GWh)



- Wind curtailment is currently a major driver of balancing costs.
- This is because a large proportion of wind capacity in GB is connected in Scotland, which at present is a constrained region of the network.
- Currently, there are limited options for enabling the effective use of constrained renewable energy.

Thermal Constraint Projections



- **2025 – 2029:** Constraint costs increase out to 2030
- **2030 – 2032:** Costs expected to fall significantly after 2030 following the delivery of network reinforcement.
- **2032 – 2035:** In some scenarios beyond 2030, costs are forecasted to rise again as further generation connects to the system.

Demand for Constraints is proposed to avoid renewable curtailment and enable more efficient use of GB renewable energy

Demand for Constraints: High-level design (1/2)

	Demand for Constraints
Definition	<p>A long-term contract to procure additional flexible final demand*, which provides dedicated capacity able to increase electricity consumption at times of thermal constraints following NESO's instruction.</p> <p>Final Demand means electricity which is consumed other than for the purposes of generation or export onto the electricity network.</p>
Purpose	To incentivise new, flexible demand capacity in constrained areas to alleviate thermal constraints.
Eligibility	<p>DfC supports providers' business cases to invest in demand creation that can be operational within a set contract delivery window. Demand creation means additional electricity use that would not otherwise occur.</p> <ul style="list-style-type: none"> • Existing demand assets that currently not operational but could return to service to provide flexible demand capability; • Existing demand assets that are connected, constructed and with the potential to create additional flexible demand; • New demand assets to be constructed and connected through the connection application process – these demand assets must be flexible on top of their demand baseline. <p>We intend to incentivise demand that will be used for meaningful, beneficial activities that supports efficient system actions.</p> <p>Our minded-to position is that demand in an aggregated BMU connects via a single Grid Supply Point.**</p>

*Source: CUSC Direction

**We welcome your feedback through the RFI.

Demand for Constraints: High-level design (2/2)

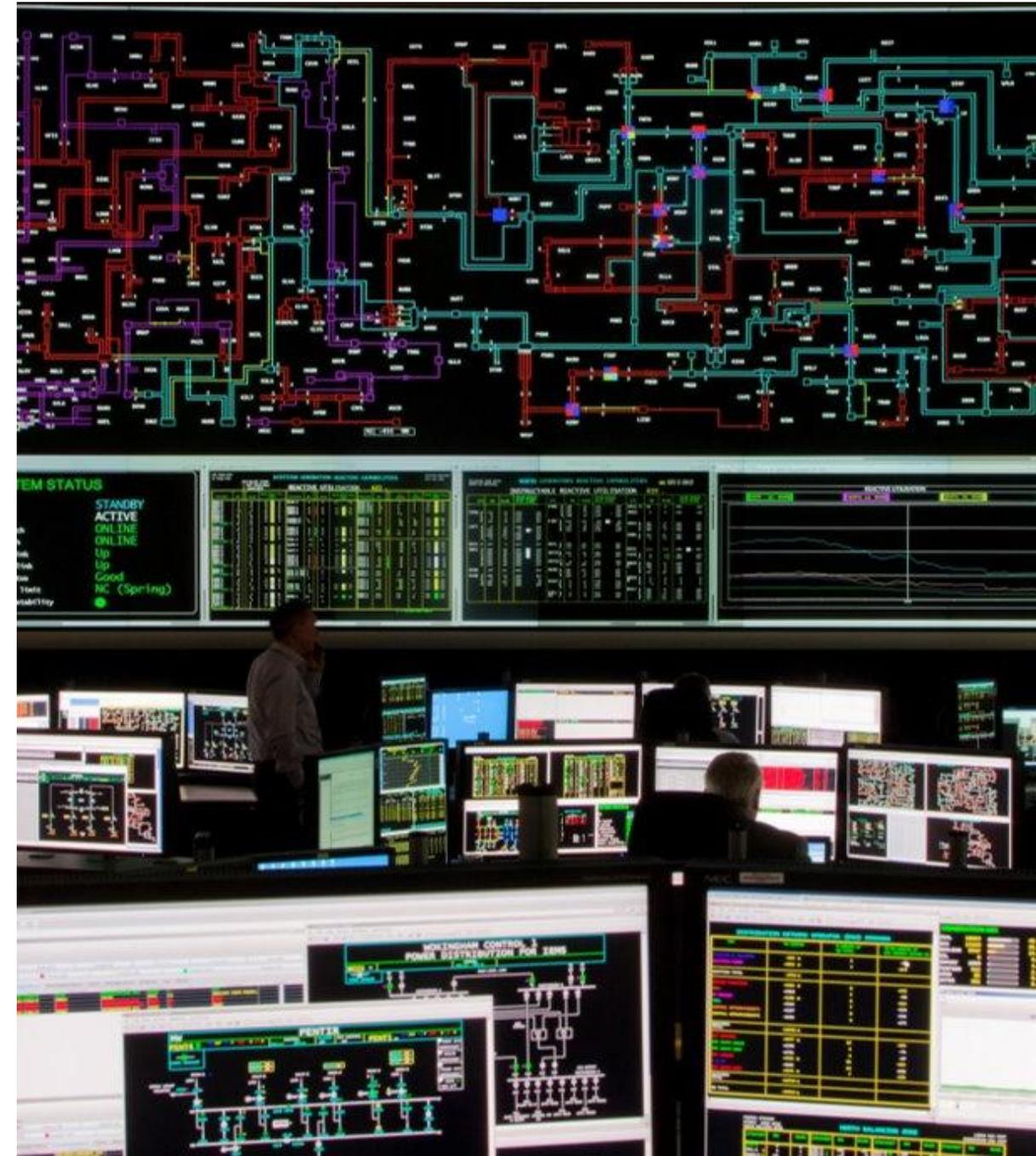
	Demand for Constraints
Proposed commercial design	<ul style="list-style-type: none"> • MW Capacity payment: contribution towards new investment required to deliver additional capacity for DfC (£/MW). • Utilisation: Assets are BM registered, dispatched through BOA in merit order and paid a utilisation fee (£/MWh) when utilised. • Performance monitoring: penalty applicable for poor delivery based on performance monitoring rules (to be developed).
Delivery window	<p>Tender process in 2026, for service delivery window from 2028 to 2040</p> <p>Contract length is subject to:</p> <ul style="list-style-type: none"> • Minimum years for consumer-value return, based on NESO in-house CBA. • Industrial feedback via the RFI based on technology types and business case need. • New assets' connection date.
Delivery approach and timeline	<p>Delivery approach and timeline will depend on operational readiness of existing and new assets:</p> <ul style="list-style-type: none"> • Refurbished assets at an existing demand facility to be operational by 2028 or later. • New demand connections with 2026/2027 protected transmission offers, to be operational by 2028 or later. • New demand assets that have not submitted connection application and could participate in the market after 2028 and within the service delivery window.
Location	Scotland network only, focusing on constrained boundaries.
Service retirement	All contracts are planned to end by 2040 at the latest. All assets are in BM and after 2040 they can participate in other NESO markets and in wholesale market.

Demand for Constraints: Technical design

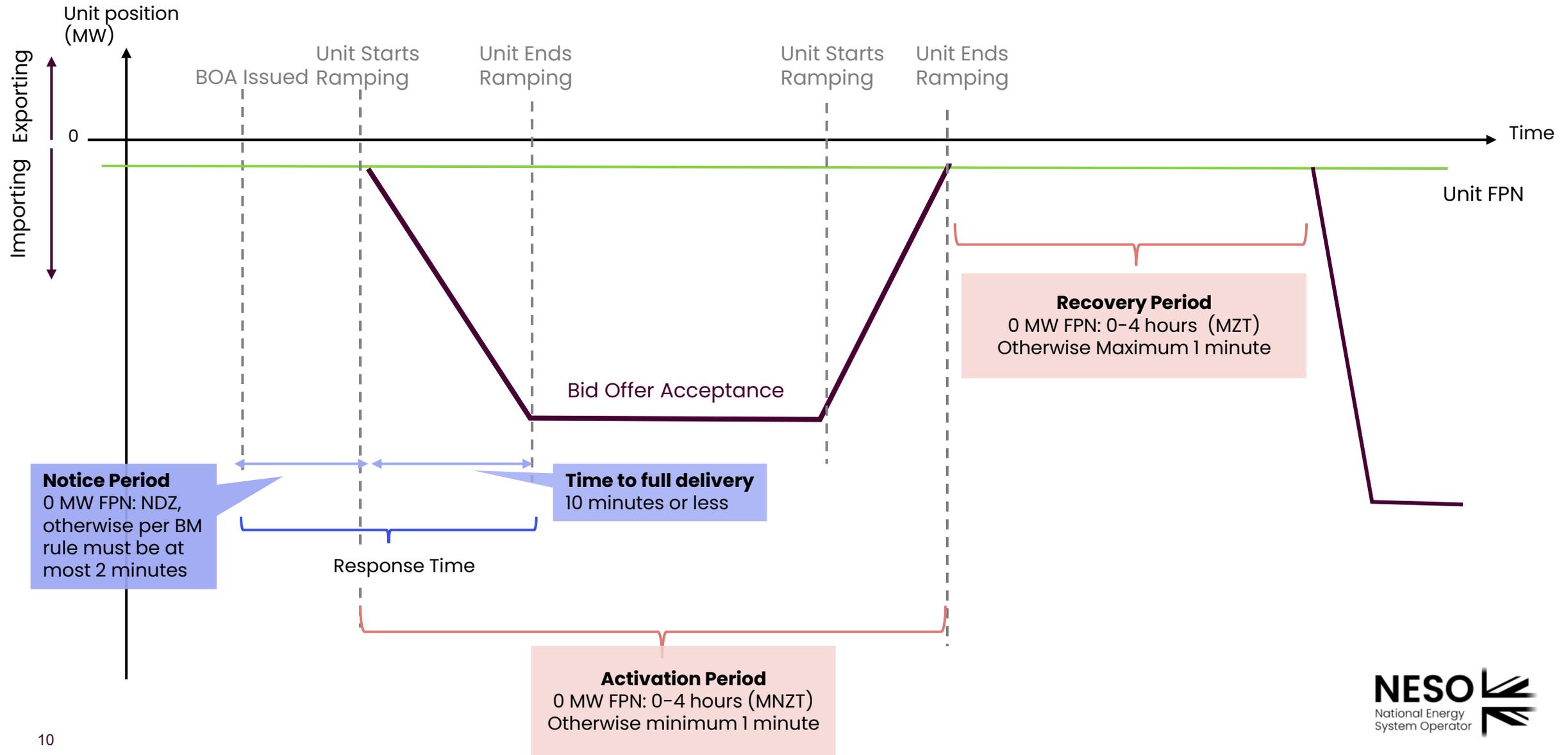
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Overview of Technical Design

- Technical Design work is conducted to ensure the Demand for Constraints service will be able to meet the operational needs of the control room in order to effectively alleviate thermal constraints.
- Units participating in DfC will be dispatched via the Balancing Mechanism (BM). This is the main system used by NESO to dispatch units in real time by the Control Room Engineers.
- The BM gives enhanced visibility and control needed for complex constraint management, as well as opening up other BM based revenue to providers.
- The BM has parameters that can be set by the units that dictate how they can be dispatched by the Control Room engineers. These differ depending on if a unit is being dispatched from 0 MW or not.



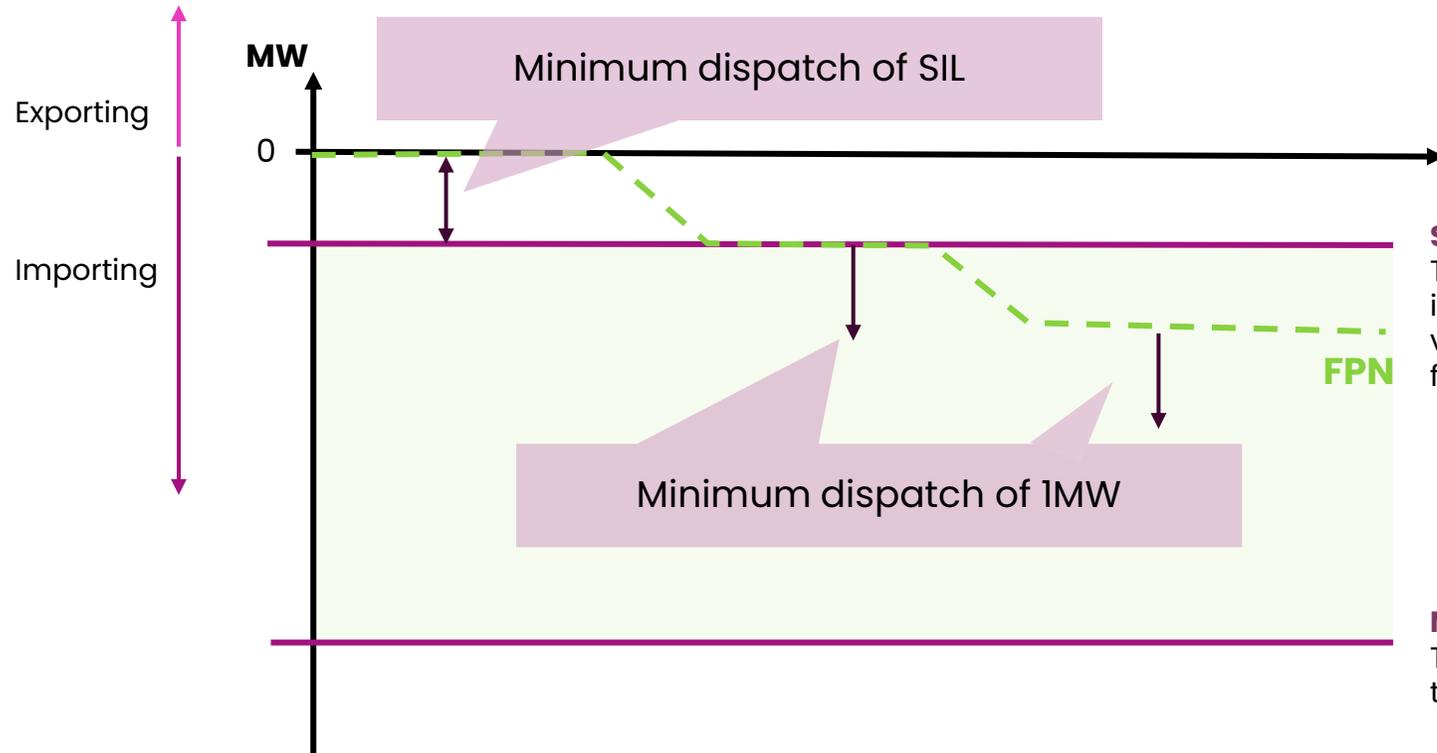
Technical parameters illustration



Contract Sizes from 0MW FPN

If a unit intends to be available for DfC dispatch from a 0MW FPN, then the contracted DfC capacity must be equal to, or greater than, the Stable Import Limit (SIL). This does not apply if the unit will always be importing some MW and will therefore have a non-zero FPN.

For example, a unit that has a SIL of -10MW that is planning to deliver the service from 0MW must have a DfC contract of at least 10MW.



SIL – Stable Import Limit

The least (in terms of magnitude) a unit can import in steady state, this is a negative MW value. If the Control room is dispatching the unit from 0MW they must dispatch at least the SIL.

MIL – Maximum Import Limit

The most (in terms of magnitude) a unit is willing to import, this is a negative MW value.

Participating in other markets

Our minded-to position

- The contracted capacity for Demand for Constraints should be available at all times and can not be contracted for any other services which would impact the delivery of DfC unless notified otherwise.
- NESO intends to issue a notice at Day Ahead – the exact timing is yet to be decided – to release units from their DfC contract if no constraints are forecasted. This would allow units to use that capacity in other markets (e.g. Ancillary Services).
- NESO will not instruct DfC capacity for energy without releasing it from its DfC contract.
- Please note that no notice being issued is not a guarantee of dispatch.
- We welcome your feedback on technical design through the RFI.



Demand for Constraints: Technical design

Design Element	Non-zero FPN	Zero FPN
Notice Period	(NTO/NTB) 2 minutes or less	NDZ
Time to full delivery	10 minutes or less	
Activation Period	Minimum 1 minute	MNZT: 0 - 8 hours
Recovery Period	Maximum 1 minute	MZT: 0-4 hours
Minimum Contract Size	1 MW	SIL, which must be between -25 MW and 0 MW
Dispatch Mechanism	All units will be BM registered and dispatched via BOAs	
Notice given to industry	At day ahead, publish a notice releasing the unit from the DfC contract if necessary – timing TBD	
Dispatching for Energy	If the notice is published, units may be dispatched for energy purposes	

Acronyms:

- **FPN:** Final Physical Notification
- **NTO:** Notice to Offer
- **NTB:** Notice to Bid
- **NDZ:** Notice to Deviate from Zero

- **MNZT :** Minimum Non-Zero Time
- **MZT:** Minimum Zero Time
- **SIL:** Stable Import Limit
- **BOAs:** Bid Offer Acceptance

Hearing from you: RFI and routes to engagement

Voluntary Request for Information (RFI)

Overview of the RFI

- NESO are keen to hear your views about DFC so we can continue to develop it collaboratively
- Information received will be used to refine NESO's understanding of the potential market liquidity available to a Demand for Constraints service, and to gather feedback on the technical design and gather information to refine commercial design of the service

How to participate?

- The RFI will be published after the webinar and accessible on the NESO website
- We will share the publication of the RFI through NESO's newsletters and emails
- The RFI will be open to responses for four weeks
- Details on how to respond will be included in the RFI documentation

Key Milestone	Date
RFI Launch	5 th March 2026
RFI Deadline	1 st April 2026

Note: This is a Request for Information (RFI) only and not part of a formal tender process. **A contract will not be awarded through a response to this RFI.**

What we want to know from the RFI

Example questions:

How many providers & assets are interested in this market

Asset technology types

Asset demand MW & capability

Where assets are/will be connected and their operational status

Proposed use of the additional MW

What investment support do you need for new demand and why?

Feedback on the high-level design, technical design & input to the commercial design

Any additional thoughts/ideas that we have not covered

Engagement channels for Demand for Constraints are outlined below



Queries: should you have any queries please email box.market.dev@neso.energy, and CC in jeremy.taylor@neso.energy.



Respond to the Request for Information to provide feedback and ask questions. Step-by-step instruction below

1. Refer to the [Demand for Constraints guidance document](#).
2. Submit your responses via the [MS forms link](#).
3. Use [the proforma only](#) as a supporting document to help you draft your responses.



121 Conversations: Opportunity to arrange 121 calls with the NESO team to discuss the RFI. Share your availability between 5th March – 1st April 2026 in the [MS Form](#).



Attend and engage in any future webinars – you can find details on [CCP website](#).

Your input on RFI will help us develop appropriate commercial arrangements for Demand for Constraints



Initial findings from commercial design analysis

- **Demand located further north is significantly more beneficial** – forecasted savings are higher compared with same MW demand located in wider south Scotland regions.
- **Longer term contracts extend the period for potential balancing cost savings** and can also support longer term revenue streams for providers to pay back investment.

Next Steps for Commercial Design

- **We will continue the commercial analysis**, ensuring locational elements are reflected in the model and exploring wider-system benefits to support pricing policy.
- **Your RFI responses will be key** to informing the commercial design, giving us input on:
 - Liquidity across different Scotland location(s);
 - £/MW costs – when building/modifying assets to provide DfC service;
 - £/MWh price expectations, e.g. extra costs you face by consuming energy for DfC;
 - How support can be directed to providers and assets offering most system benefit;
 - Maximising value from procurement across the different areas across Scotland.
- **We will review your responses and host a follow-up webinar** to give further updates on the commercial design before we begin any formal procurement.

Q&A Session

Next Steps

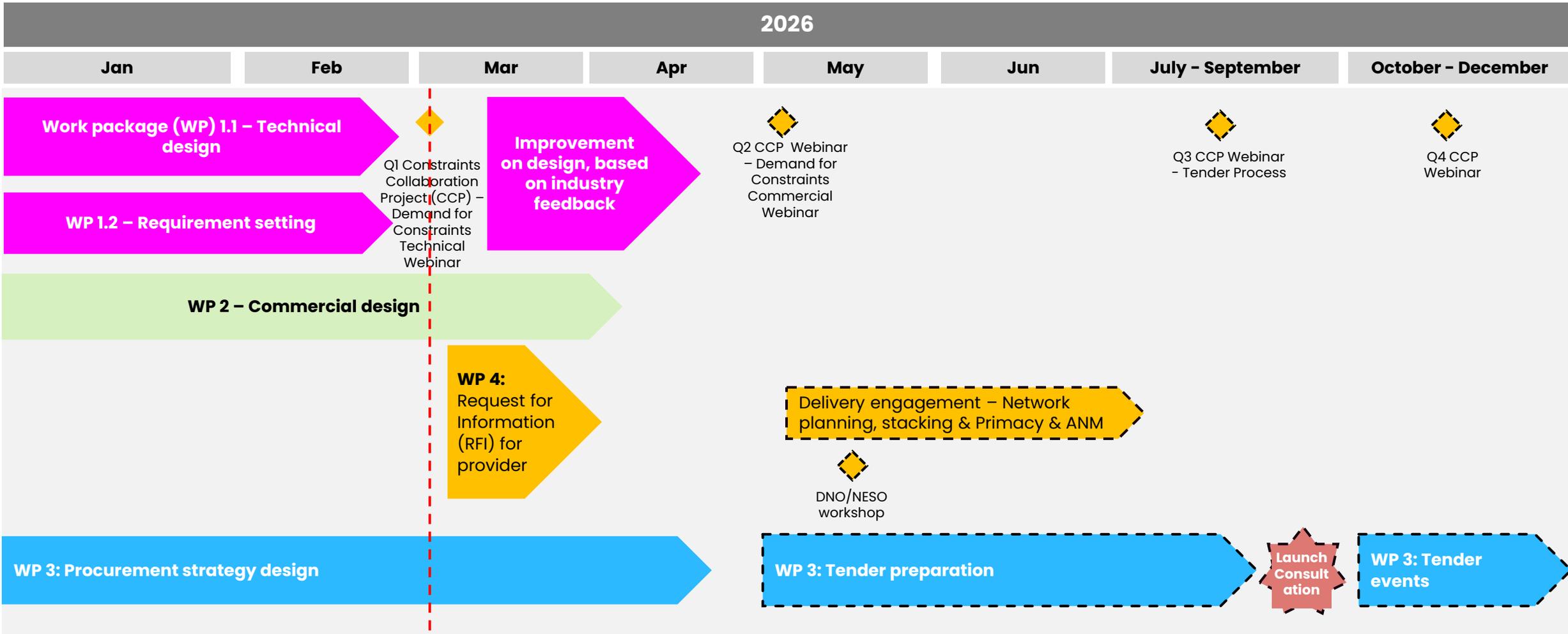


Next Steps

Note: dates are indicative subject to change.

- Service design
- Commercial design
- Implementation
- Stakeholder engagement

----- TBC ◆ Engagement



Today, 05 March 2026

Thank you

