

Ways of working

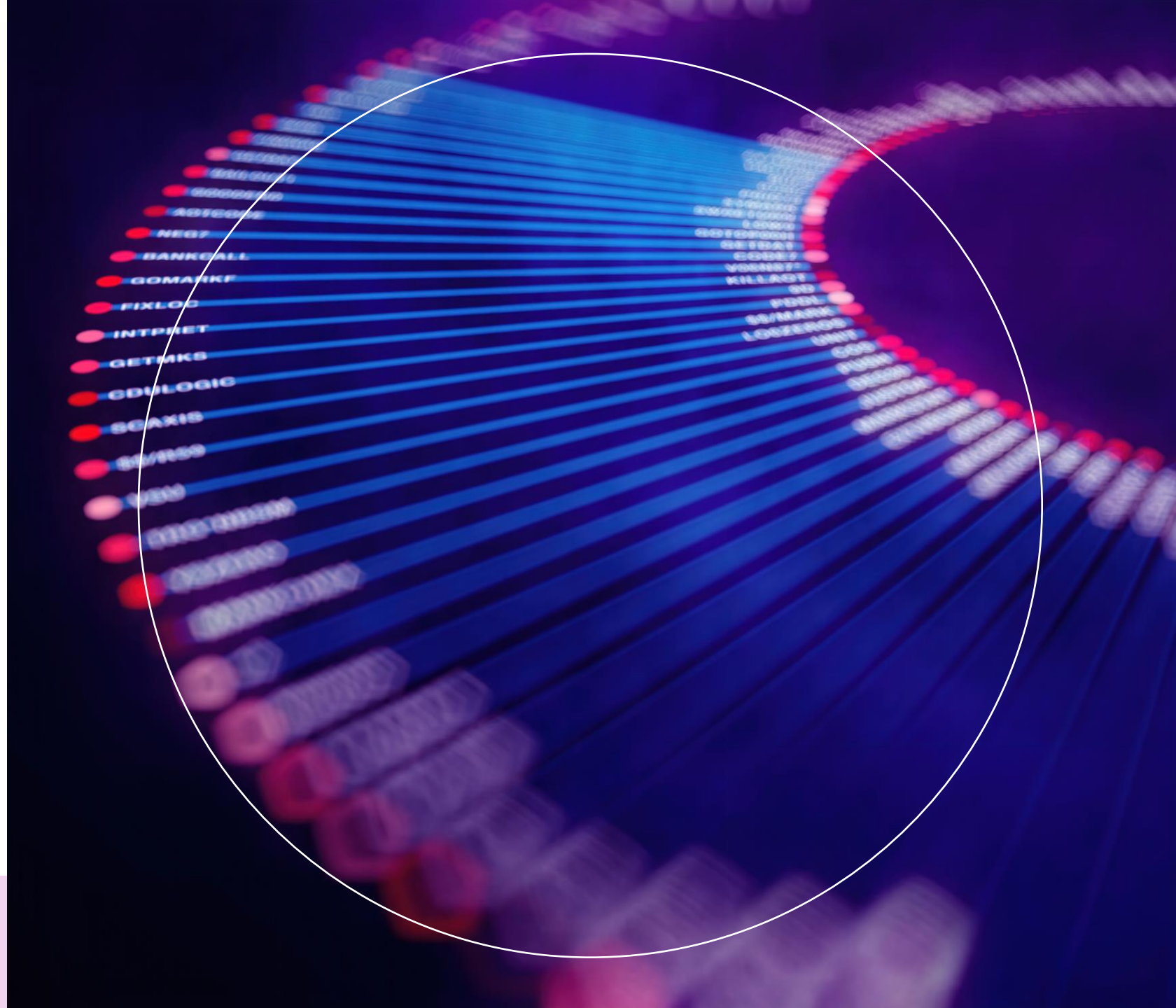
- We encourage attendees to **use video**, where bandwidth allows, especially when speaking
 - **Please mute when not speaking**
 - Minimise background noise to maintain focus
 - Use the Teams chat if you are having problems with the camera
- Stay on topic: Keep contributions relevant to the agenda
- Respect all perspectives: Foster a collaborative and inclusive environment
- We may adapt these ways of working as we progress, building on learning. Please feedback on how we can run the session as effectively as possible.

Flexibility Market Rules Working
Groups

Vision for Market Coordination

Meeting 2

12 June 2025



Agenda

- Welcome & Introductions - 5 mins
- Summary of previous working group – 10 mins
- Co-delivery. Where are we today (including examples) – 45 mins
- Co-delivery. Key concepts emerging – 30 mins
- Next steps - 10 mins



01

Welcome & Introductions

Elexon Team



Ayo Bammeke

Senior Change Lead

Chair and Technical Secretary



Matt Watson

Senior Market Design Advisor

SME

02

Summary of last meeting

Summary of the last meeting

Agenda Item	Summary
Context around market coordination	Summary of where we are with Primacy and Revenue Stacking. See session slides for more details.
Focus areas for working group	Set out the focus areas for this groups. Namely how to progress co-delivery in the medium term as well as the broader approach to market coordination in the long term. See session slides for more details.
Frameworks for what good looks like	We covered some of the frameworks we could use to look at market coordination, including Onenet & Commander See session slides for more details.
Next Steps	Set out approach for the group, covering the two ongoing pieces of work.

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Co-delivery where we are today

Definitions*

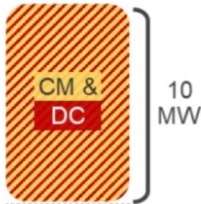
Definition: A single asset receives multiple payments for using the same capacity, at the same time, in the same direction.

Examples:

- The figure on the left shows how a single asset can be paid for providing Capacity Market (CM) and Dynamic Containment (Low). The asset, which can offer 10MW of generation turn up, is able to be paid twice for that 10MW. The Capacity Market can be co-delivered with ‘relevant balancing services’ as defined here.
- The figure in the middle illustrates that a single asset (or group of assets) can Co-deliver against the Demand Flexibility Service (DFS) and a scheduled DNO service. The asset, which can deliver demand turn down of 2MW, can deliver and be paid against both the DFS and DNO service

	Co-delivery	Splitting	Jumping
Asset	Same	Same	Same
Capacity	Same	Different	Same / Different
Time	Same	Same	Different
Direction	Same	Same / Different	Same / Different

The Capacity Market (CM) and Dynamic Containment (DC)



Combining the Capacity Market with any Relevant Balancing Service.

Demand Flexibility Service (DFS) and a scheduled DSO service



Delivering DFS as well as a scheduled DNO service. Overdelivering on the DNO service is likely.

Wholesale Market and a DSO service



When participating in DSO services, providers must also trade their DSO utilisation in the Wholesale Market to avoid imbalance cost.

* From ENA’s [Revenue Stacking FAQ](#)

Current Status*

- Only 1 service supports explicit co-delivery: the Capacity Market
- Many NESO services explicitly do not support co-delivery with other NESO services
- Large gaps in information

Key

N/A	
Explicit Yes	
Implicit Yes	
Implicit No	
Explicit No	
No Data	
Same direction action	SD

Co-delivery

			ESO													DNO							
	CM	WM	BM	BR	QR	SR	STO	DC	DM	DR	SFF	MW	LCM	DFS	PR	SO	OU	OU	SA+	SA+	VA+	VA+	
CM																							
WM																							
BM																							
BR																							
QR																							
SR																							
STOR																							
DC																							
DR																							
SFFR																							
MWD																							
LCM																							
DFS																							
PR																							
SO																							
OU (2 & 15 Mins)																							
OU (WA)																							
SA+OU (2 mins)																							
SA+OU (DA)																							
VA+OU (2 & 15 mins)																							
VA+OU (DA & WA)																							

* From ENA's [Revenue Stacking Assessment tool](#)

04

Examples of co-delivery

Capacity Market and a Relevant Balancing Service

FSP A has a 5MW agreement for the Capacity Market for a generator.

This requires year-round availability, with the ability to output during a stress event.

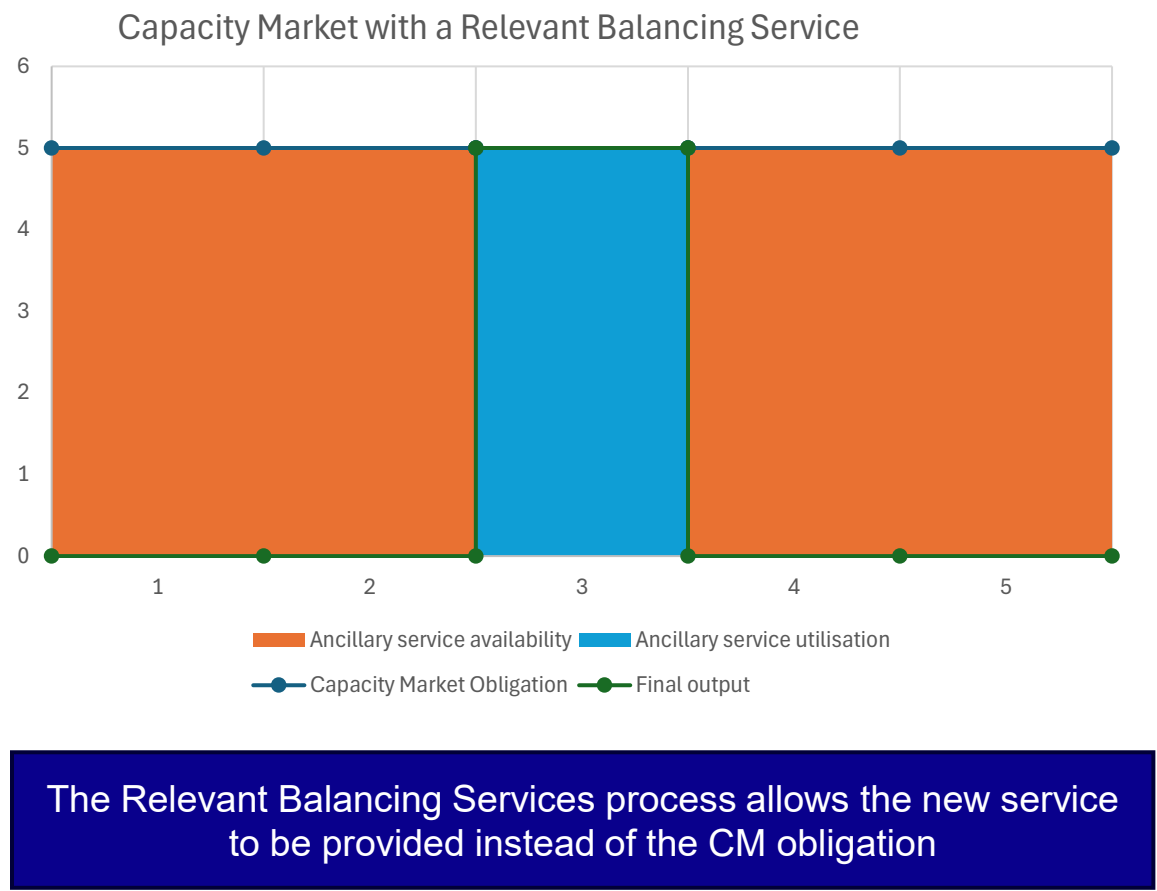
They also enter a contract for the provision of 5MW of STOR.

The Capacity Market has specific carve outs for Relevant Balancing Services. Availability in one of these markets reduces the Capacity Market obligation.

As such provision of the STOR service feeds into any delivery requirements for the Capacity Market (if required)

NESO also provides adjustments for historic actions into Capacity Market baselining for DSR and Storage.

Relevant Balancing Services cover most NESO balancing services.



Capacity Market and the wholesale market

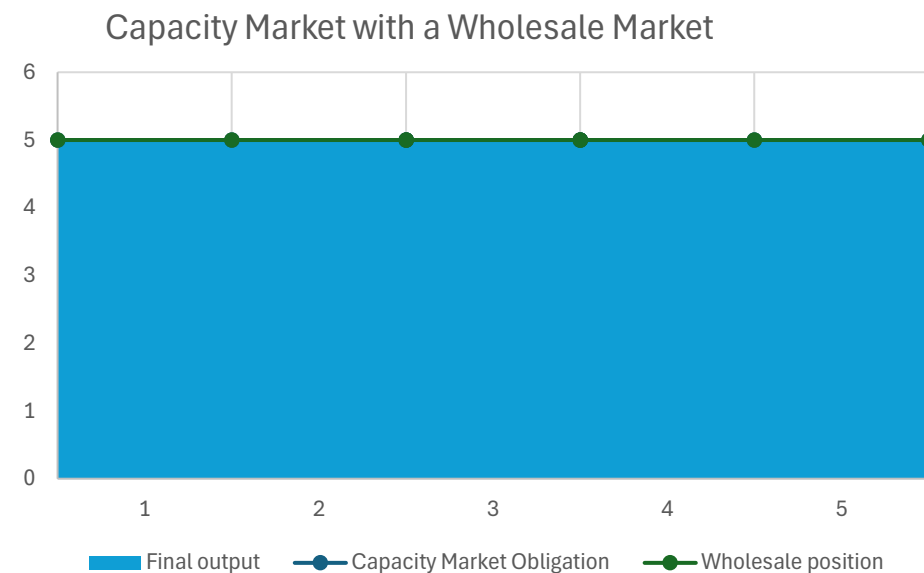
FSP A has a 5MW agreement for the Capacity Market for a generator.

This requires year-round availability, with the ability to output during a stress event.

They can sell output to the wholesale market ahead of any event (jumping) as well as during any system stress event.

However, provision of historic services may cause an issue with Capacity Market baselining (based on historic performance). *This could be considered a jumping issue rather than a co-delivery one.*

The Capacity Market does not impact the wholesale market requirements (including imbalance).



Both obligations work alongside each other. The energy requirement from the wholesale market fulfils the CM requirement.

Issues exist for baselined CM assets (DSR and Storage)

Capacity Market and DSO markets

FSP A has a 5MW agreement for the Capacity Market for a generator.

This requires year-round availability, with the ability to output during a stress event.

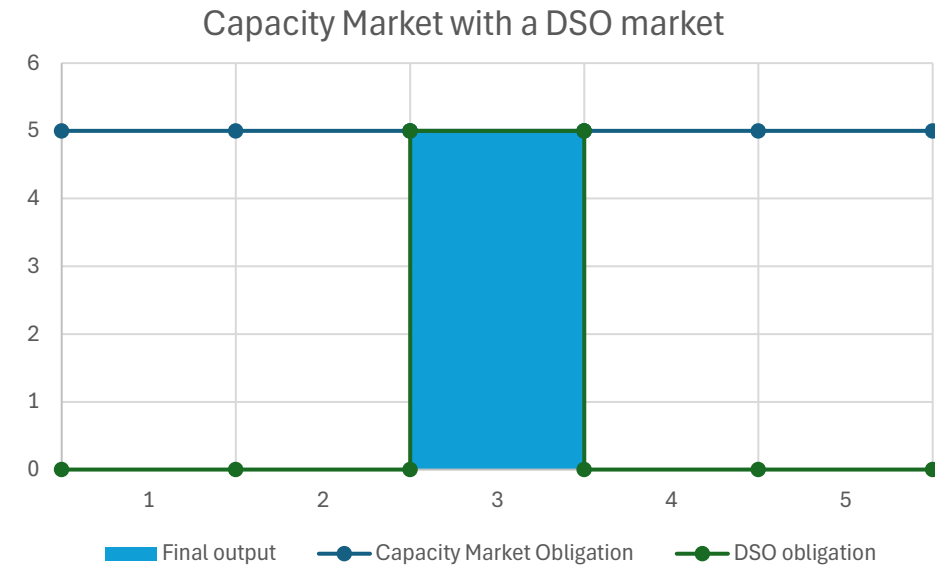
They also enter a contract for the provision of 4MW of Scheduled Utilisation.

Both are in the same direction so there is no initial clash.

However, provision of historic services may cause an issue with the historic nature of the CM baselining (less of an issue for DSO services, which tend to use fixed/nomination baselines). *This could be considered a jumping issue rather than a co-delivery one.*

There could be potential for conflict if there are over-delivery penalties for a DSO service with closer to real time dispatch requirements (not the case).

Provision of a service in the opposite direction could cause an issue. *However, that would not be considered co-delivery.*



Provision of DSO services would support real delivery of the CM obligation.
Issues exist for baselined CM assets (DSR and Storage).

Wholesale market and DSO markets (scheduled utilisation) pt 1

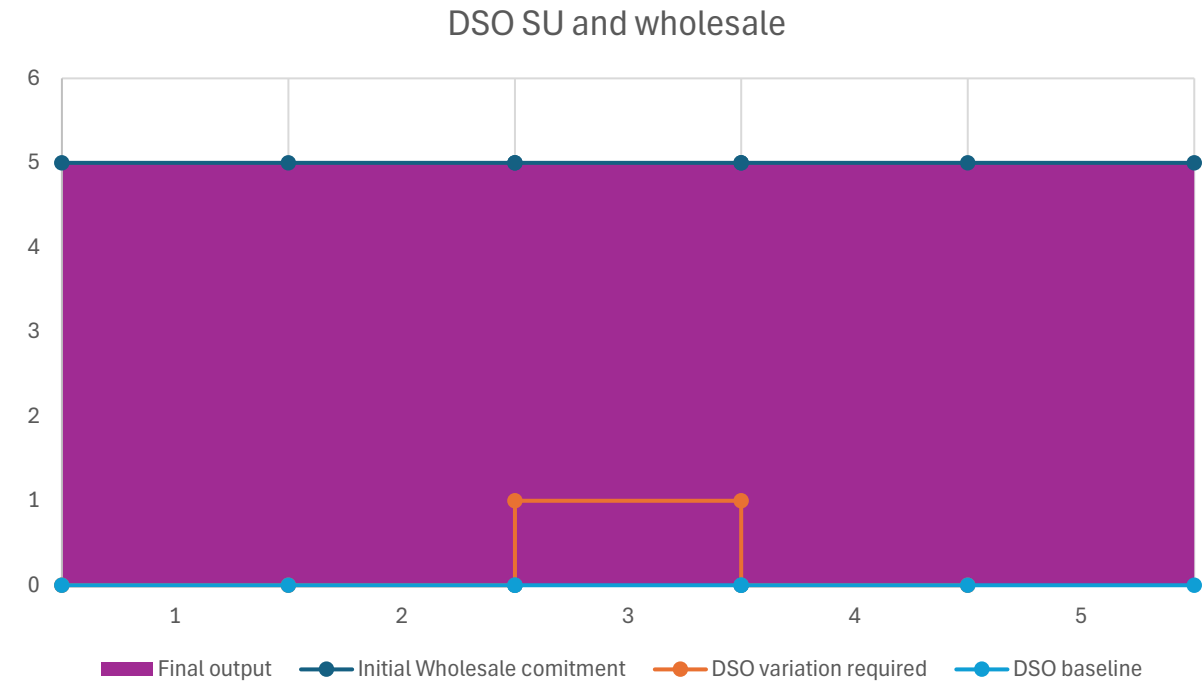
FSP A is set to output 5MW as part of an existing wholesale position with their generator. (2.5MWh per Settlement Period).

The DSO procures 5MW from a baseline of 0 for 1 Settlement Period a year ahead.

This does not require any variation from the asset. There is not change.

The DSO gains value by confirming the generator will be running.

There are no adjustments made to the wholesale position.



The lack of adjustment allows the FSP to generate revenue from both markets

Wholesale market and DSO markets (scheduled utilisation) pt 2

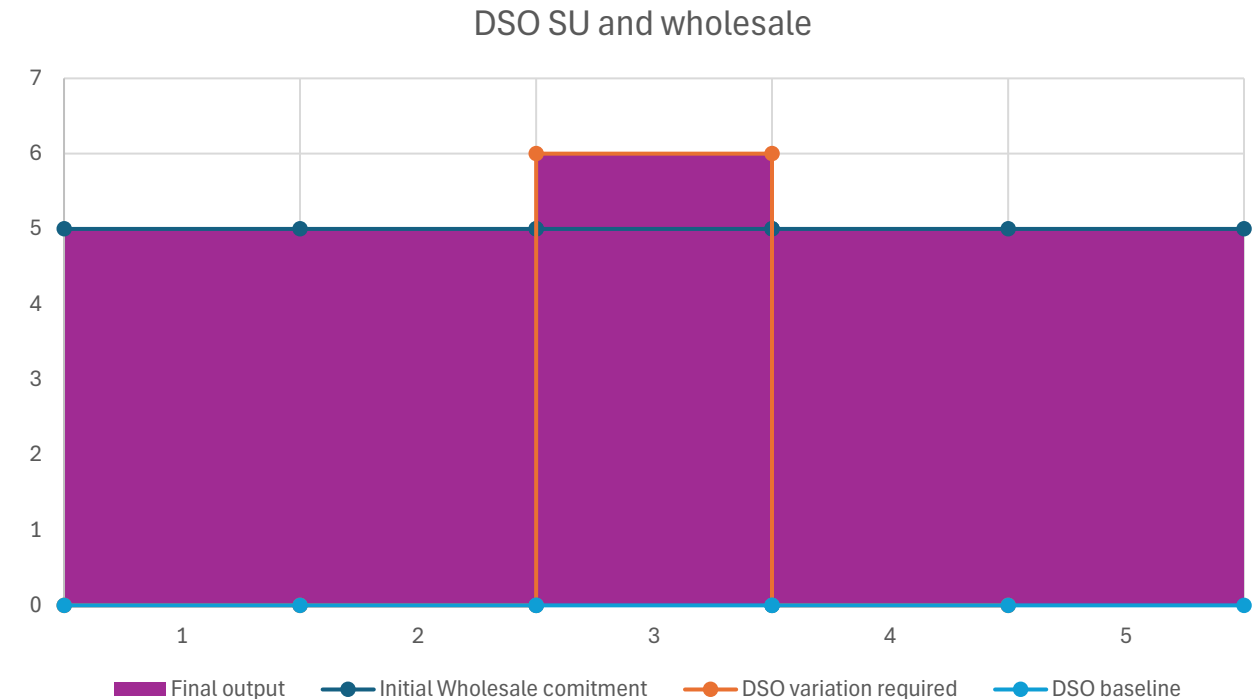
FSP A is set to output 5MW as part of an existing wholesale position with their generator. (2.5MWh per Settlement Period).

The DSO procures 6 MW from a baseline of 0 for 1 Settlement Period a year ahead

The asset increases its output by 1MW

This creates a potential imbalance, as there is no adjustment.

The FSP can choose to sell the additional energy in the wholesale market (this would be a cost if it was a reduction in generation, Demand Turn Up, or if pricing is negative)



The lack of adjustment allows the FSP to access from both markets (whether positive or negative).

Wholesale market and DSO markets (scheduled utilisation) pt 3

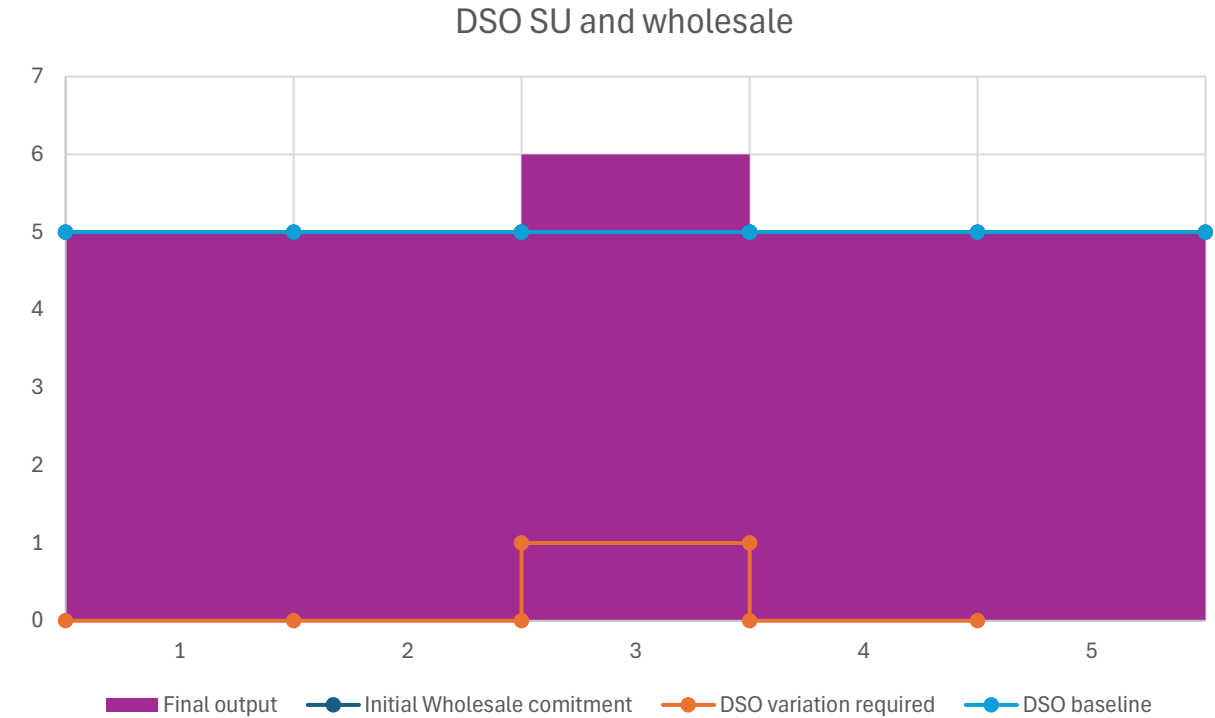
FSP A is set to output 5MW as part of an existing wholesale position with their generator. (2.5MWh per Settlement Period).

The DSO procures 1 MW from a baseline of 5MW for 1 Settlement Period a year ahead

The asset increases its output by 1MW

This creates a potential imbalance, as there is no adjustment.

The FSP sells the additional energy in the wholesale market (this would be a cost if Demand Turn Up, or if pricing is negative)



The accuracy of baselines has a material impact on the scale of co-delivery. It sets what actions have already been “banked”

Wholesale market and DSO markets (Operational Utilisation – 2 mins)

FSP A is set to output 5MW as part of an existing wholesale position with their generator. (2.5MWh per Settlement Period).

The DSO procures 1 MW from a baseline of 5MW for 1 Settlement Period a year ahead

The asset increases its output by 1MW

This creates a potential imbalance, as there is no adjustment.

The generator has no time to adjust their energy position



The lack of adjustment causes potential imbalance, especially when actions are taken close to real time

Wholesale market and non-BM ancillary services

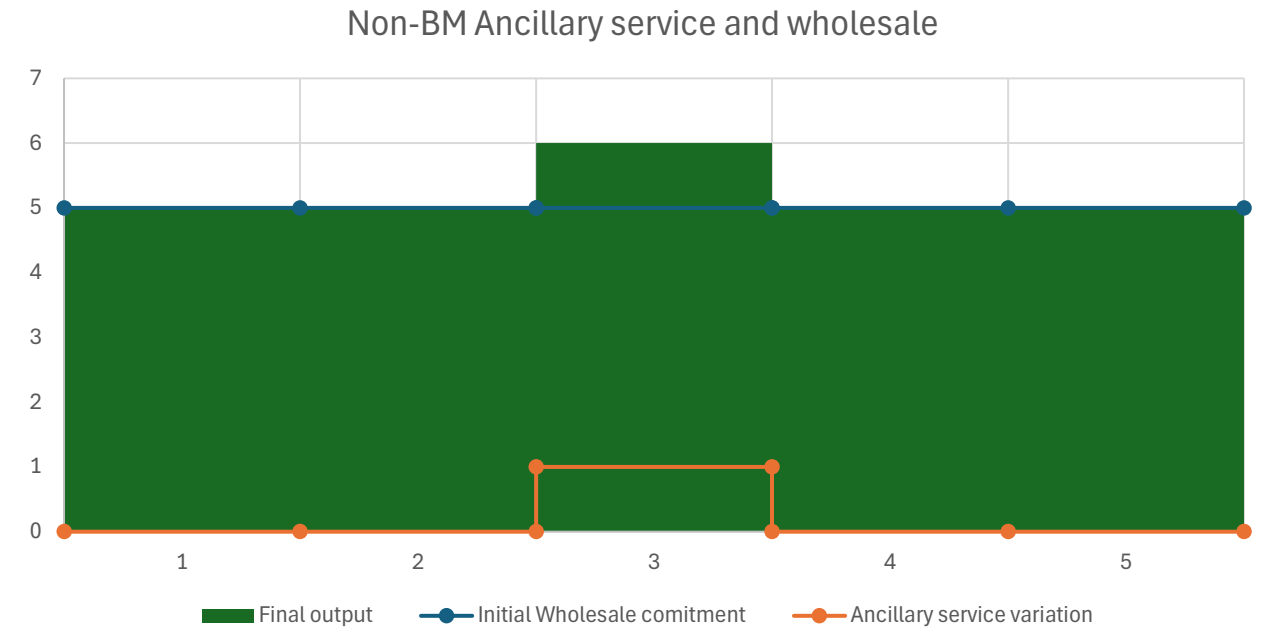
FSP A is set to output 5MW as part of an existing wholesale position with their generator. (2.5MWh per Settlement Period).

It then increases its output by 1MW for 1 Settlement Period, following instruction by NESO.

This would set the BRP out of balance by 0.5MWh.

This is removed from the BRP through ABSVD.

This avoids the BRP getting paid the system sell/buy price (generally positive, can be negative), or paying the system sell/buy price for Demand Turn Up.



The adjustment mechanism removes the impact (whether positive or negative) of the ancillary service on the wholesale market. The additional turn up is only seen in the ancillary market

Limitations of the current examples

We have not yet considered the following elements in the examples:

- **State of Energy requirements across markets.** So far we have only considered MWs not MWhs for energy limited assets. – *Could Argue this is a jumping issue as it impacts different time periods.*
- **Any rebound actions, and their subsequent timing.** - *Could Argue this is a jumping issue as it impacts different time periods.*
- **The direction of the actions.** – *This could be seen as a splitting issue*
- **Performance management and non perfect delivery across both services** – *Have assumed that both sub-markets incentivise delivery sufficiently.*
- **Supplier/aggregator relationship & Supplier compensation** – *Additional layer of complexity. Also aware of broader discussion on this topic across industry.*

Questions

For this session

- Do you have any questions about the examples?
- Have we made any errors?
- Are there other limitations we have not identified?
- Which would be the most important to consider going forwards?

Offline:

- Can you provide any further examples?
- What additional nuance/complexity should be added to the examples?

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05

Emerging Concepts

Different sub-markets procure different service types

Various service types are being procured across the sub-markets.

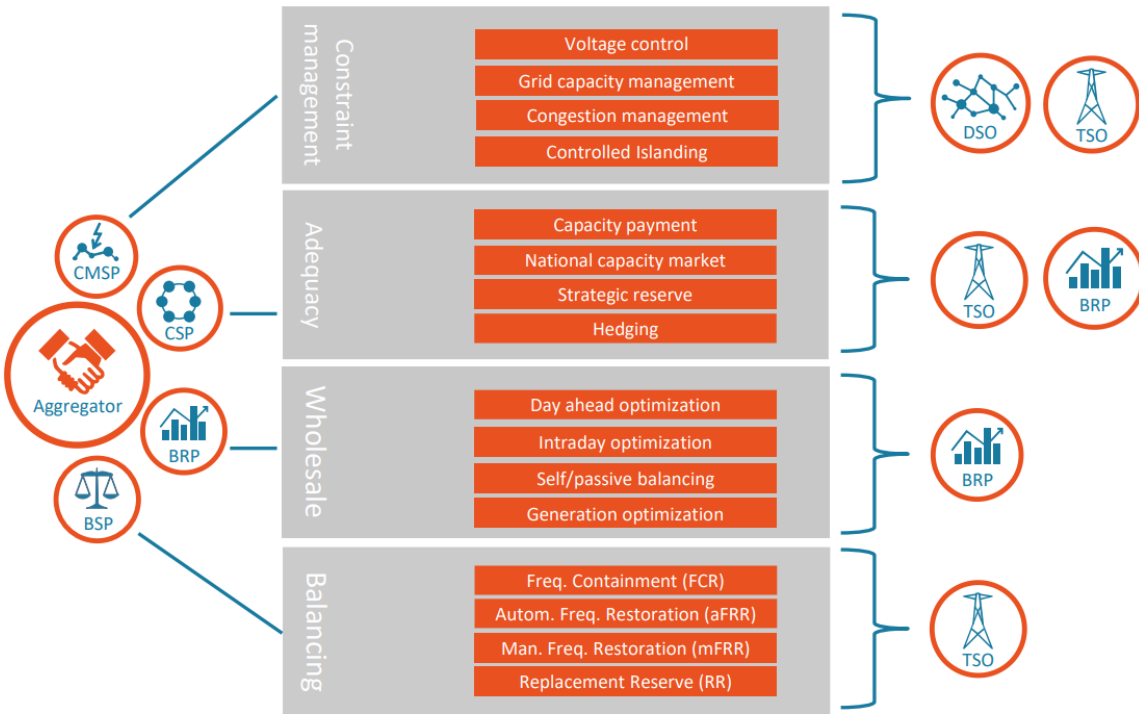
Some more naturally stack than others.

These service types can procure Energy (MWhs), Capacity (MWs) or a combination of both.

Sub-markets procuring Capacity create Energy which needs to be accounted for.

There are a number of existing adjustments made between the markets, acknowledging their interactions

There is generally no requirement to account for Capacity created through Energy procurement (generally covered in asset's connection agreement).



USEF Flexibility Value Chain, showing the different explicit demand-side flexibility services types

Within service types, there are different design philosophies

With the NESO's Balancing Services, there is a clear progression across the response and reserve markets.

They are all procuring changes in energy, but with different technical requirements to allow effective procurement of the total required balancing outcome across a range of assets and service providers.

The additive nature of the design means that splitting is allowed (different MWs to the different services) but co-delivery isn't.

Within Constraint Management, the design philosophy is different.

Nesting of constraints means that additional capacity at a lower level can provide value across different constraints.

The different DSO products are not linked to specific use cases, and their utilisation differs across DSOs.

Many market adjustments exist

Current Adjustment Mechanisms:

- Applicable Balancing Services Volume Data (ABSVD): adjusting imbalance positions following NESO actions.
- Supplier Compensation: compensating Suppliers for actions taken by independent aggregators in the wholesale market (P415), the Balancing Mechanism (P444) and wider ancillary services (issue 114, sub issue 1)
- Relevant Balancing Services: adjusting Capacity Market Delivery to account for NESO actions
- Capacity Market Baseline Adjustments

Why they exist:

- To facilitate co-delivery (RBS)
 - To avoid exposure to wider penalties
- To reduce downside risk (ABSVD)
 - To avoid exposure to wider penalties
 - Equally avoids potential upside
- For a level playing field

Potential Issues:

- Baselineing (different approaches between the related sub-markets)
- Limited Scope

Sequencing of sub-markets and the timing of actions have significance.

Where there is a clear sequence of actions, with adequate time between the stages, coordination is simpler. Previous actions can be fed into later sub-markets.

For example, a long-term SU product from a DSO, feeding into a wholesale position determined closer to real time.

However, actions very close to real time can cause coordination issues.

Some can be adjusted:

For example, a NESO actions adjusted by ABSVD

Some are not:

For example, an Operational Utilisation – 2min product from a DSO

Sequencing also impacts the information available for baselining. As behaviour forecasting and information sharing improves/amends, this will have a significant impact across markets

Subsets of co-delivery

Sub-markets are generally made up of Availability, Utilisation or a combination of both.

Utilisation across markets is where the core conflicts arise.

Management of Availability generally falls from how the conflict is managed (if utilisation in one service removes value from the other, this will remove the availability value).

Multiple approaches to co-utilisation are apparent.

Additive	Adjustment to replace	Adjustment to remove impact	Explicitly Not allowed
Value in second sub-market is additional to the value created in first	Value in second sub-market supersedes the value created in first	Value in second sub-market is provided instead of the value in the first	Value in second sub-market reduces/removes value in first
Example: SU & wholesale	Example: Capacity Market and Relevant Balancing Services	Example: Ancillary services and wholesale via ABSVD	Example: DMH & DRH

Questions

- What other concepts come from the examples?
- What other concepts should we be considering?

06

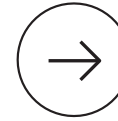
Next Steps

Next Steps

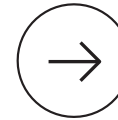
- We aim to share the notes within 5WD.
- We will process the inputs from today's meeting
- The next workgroup meeting is provisionally booked for 10 July 2025.

Phase	Task	Engagement required	Timing
Kick off	Set out context and direction of work	1 workgroup meeting	May
Broader coordination	Set out options for sub-market coordination	2-3 workgroup meetings	July/Aug
	Reduce option and develop a road map	2-3 workgroup meetings	Sept/Nov
Co-delivery	Set out current position on co-delivery	1 workgroup meeting	June
	Develop principles-based direction	2-3 workgroup meetings	July/Sept
	Develop road map	2 workgroup meetings	Oct/Nov

Thank you



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