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Response Reform

29 April 2021

You have been joined in listen only mode, please ensure your cameras are turned off

The webinar will start shortly

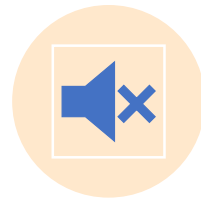
Please note that the webinar will be recorded

Housekeeping

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Today's webinar is scheduled to last 1 hour including Q&A



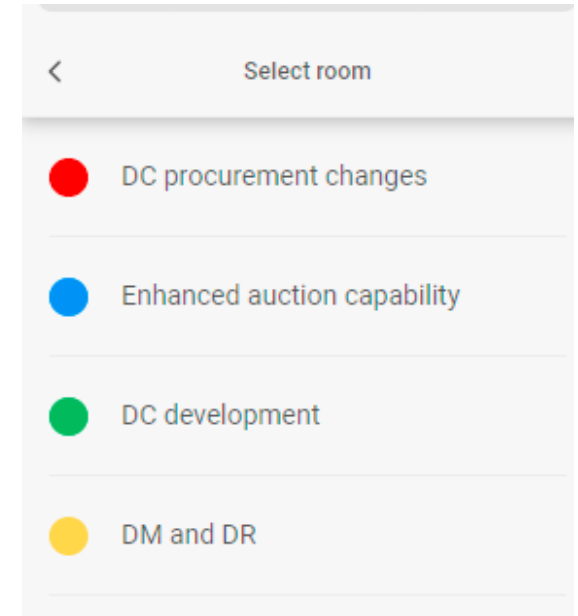
Please raise your hand to ask us a question



You can ask us a question live by raising your hand, or you can post via Sli.do (#responsereform)



A recording of this webinar and FAQs will be available on the ESO's Future of Balancing Services webpage next week



Agenda

1. Dynamic Containment (DC) procurement changes
2. Enhancing our auction capability
3. Dynamic Containment (DC) development
4. Dynamic Moderation (DM) & Dynamic Regulation (DR)
5. Next steps

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Dynamic Containment procurement changes

Minesh Solanki

Dynamic Containment

- Dynamic Containment (DC) is the first of our new end-state services
- DC is designed to operate post-fault, i.e. after a significant frequency deviation

Since the launch of DC in October 2020:



Daily volume procured
increased from
~150MW to over 600MW



Number of providers
increased from
4 to 14



Day-ahead
procurement
introduced


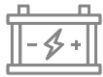




Ability to change
MW submission
included



BM
stacking
introduced

DC procurement changes

Current procurement	Proposed changes	Benefits
Manual Process	Automated Process	Improved user experience 
24 hour contract	EFA blocks	Improved asset availability 
Pay-As-Bid (PAB) auctions	Pay-As-Clear (PAC) auctions	Single clearing price 
Unable to link by products	Option to link by products	Ability to link DCL and DCH products into a single order 

Key messages

This week: we have launched consultation on changes to the service terms **27 April**

From this summer: we intend to procure DC by EFA blocks on a pay-as-clear auction platform

DC procurement timeline

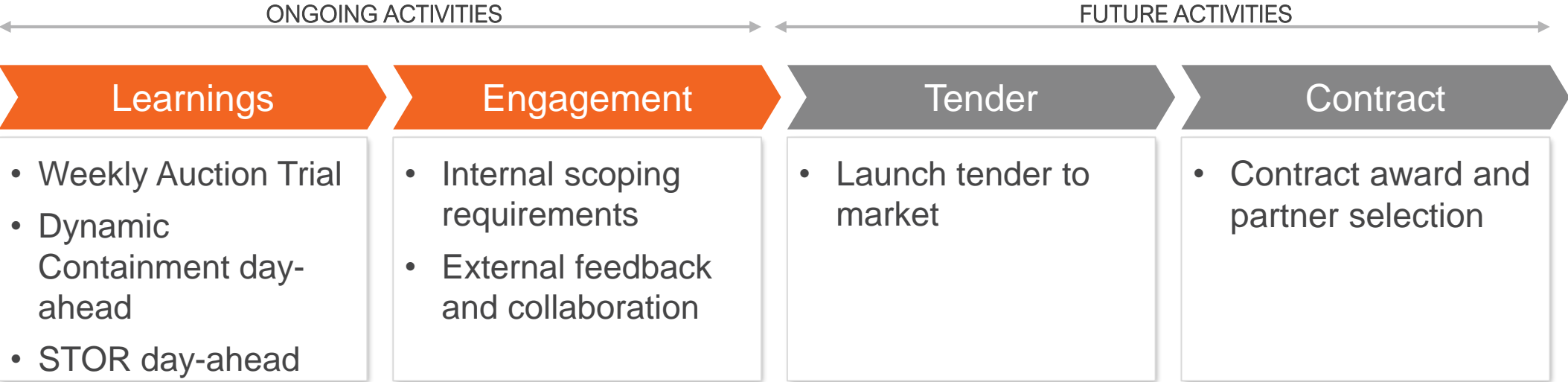


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Enhancing our auction capability

Joanne Greenan

Enhancing our auction capability



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Dynamic Containment development

Kashia Cullen-Anderson



Development of DC



- **Transitional arrangement** for aggregation at GSP group ends in September. Some stakeholders have asked us to review this timeline and we intend to further explore this challenge
- **Operational baselines** – making it consistent across BM and Non-BM providers

High-Frequency (HF)



NEED

- Operational need to mitigate the largest demand losses on the system
- For example, an Interconnector exporting at 1 GW



PROCUREMENT

- Network analysis
- Assessment of risk
- Calculation of volume required



VALUE

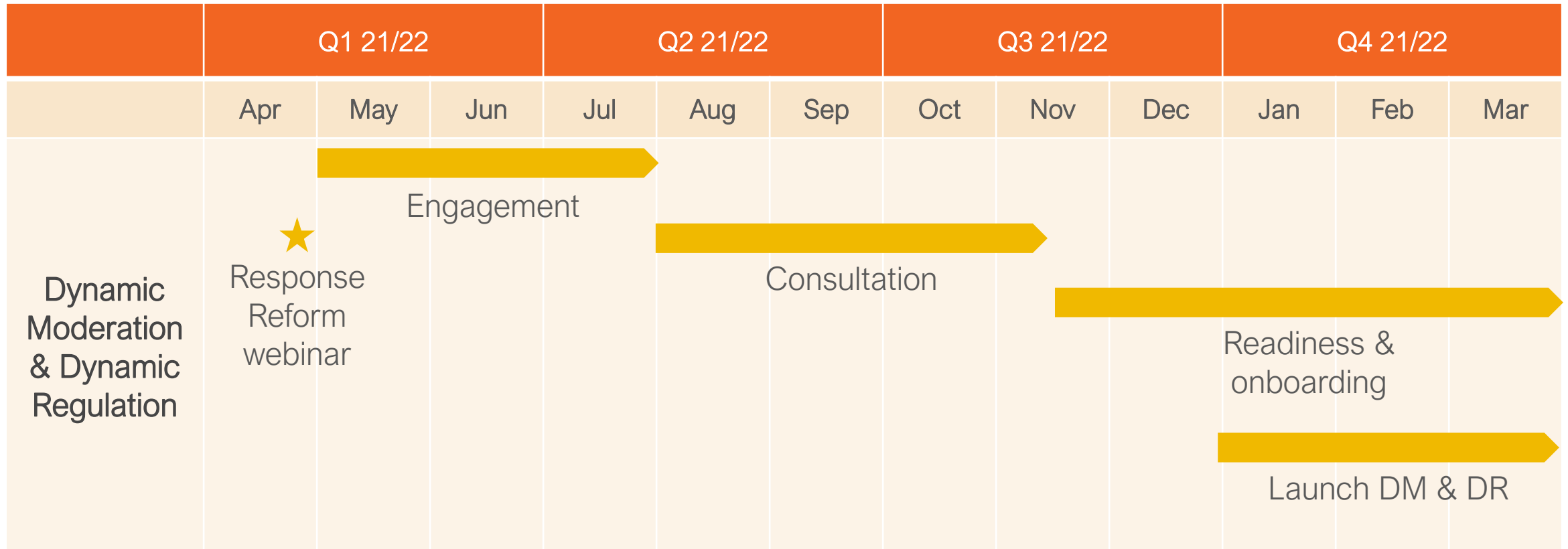
- This is informed by the alternative cost of action
- There will be a non-zero requirement 40% of the time this winter

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Dynamic Moderation (DM) & Dynamic Regulation (DR)

Charlotte Watts

Timeline



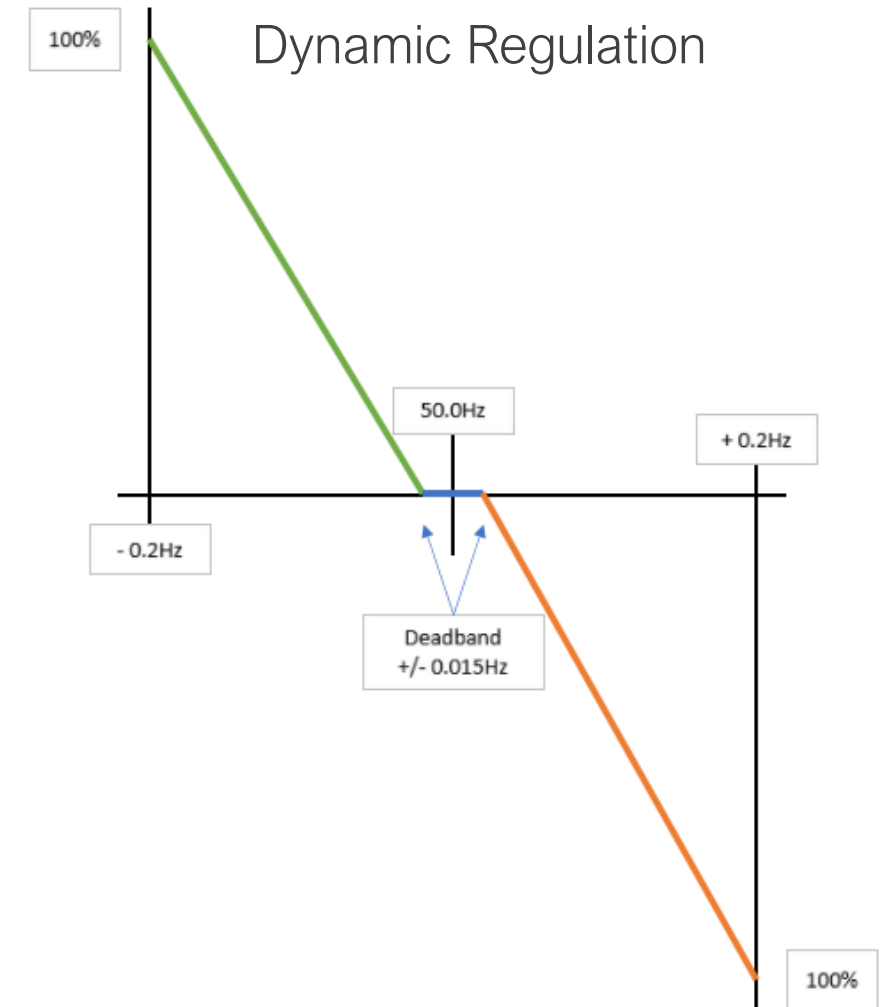
Questions:

- Does it impact you if we launch the services together or separately?

Dynamic Regulation

- Designed to slowly correct small continuous deviations in frequency around 50Hz
- Won't need to respond as rapidly but must have a duration that supports continuous operation

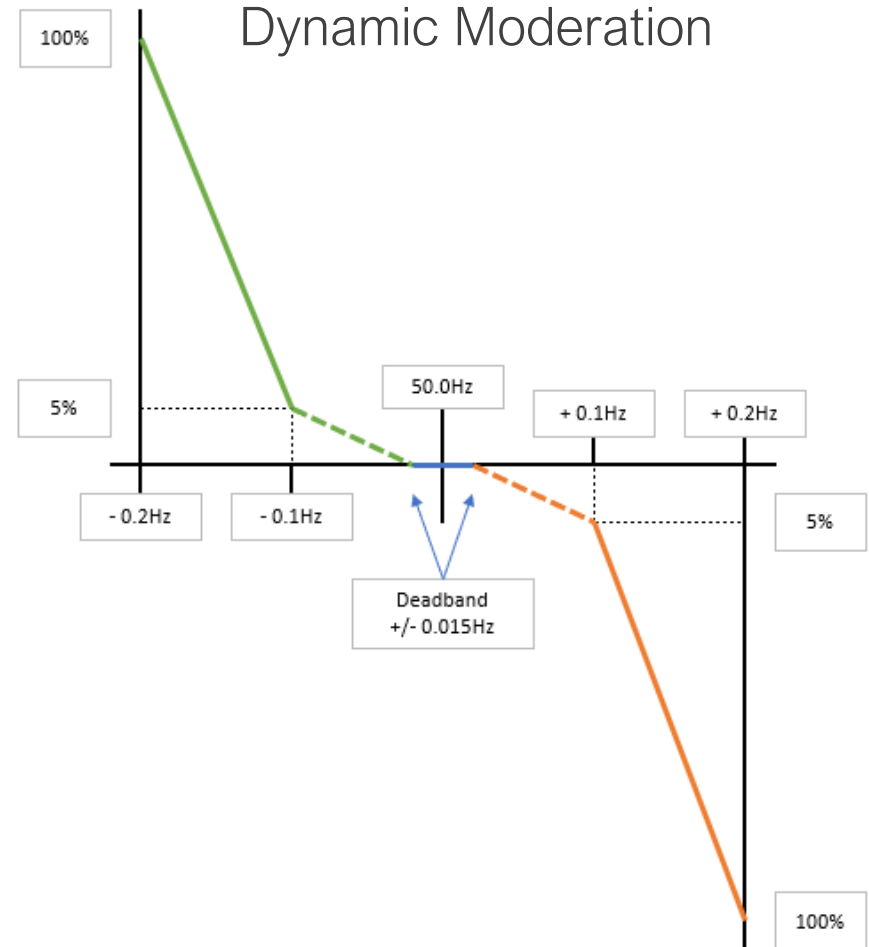
	Operational Range (Hz deviation)	Max. ramp start (s)	Time to full delivery (s)	Duration
Proportional to frequency	+0.015 to +0.2 -0.015 to -0.2	2	10	Continuous



Dynamic Moderation

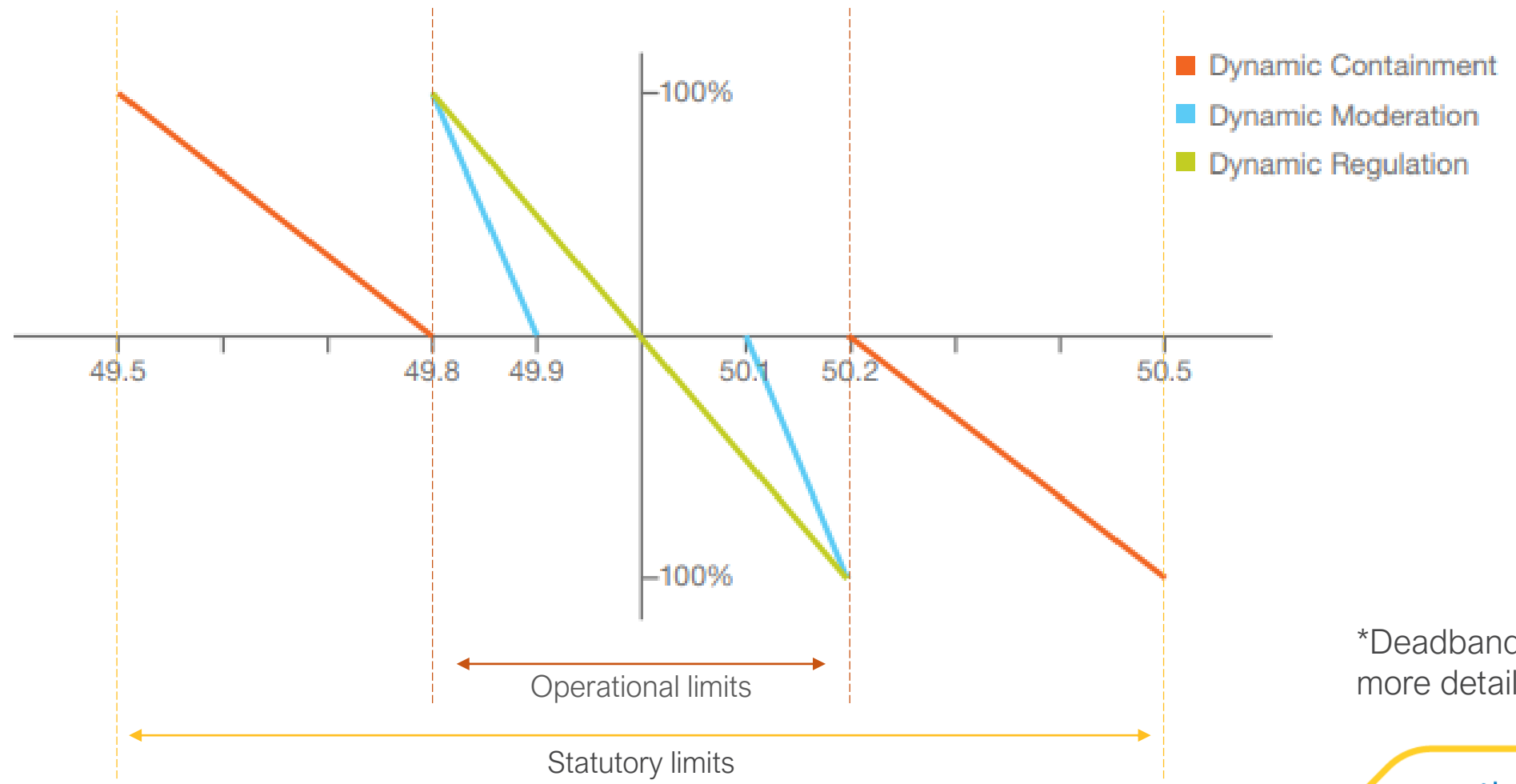
- Rapidly delivers with the aim of keeping frequency within operational limits
- Helps to manage sudden large imbalances by responding quickly

	Operational Range (Hz deviation)	Max. ramp start (s)	Time to full delivery (s)	Duration
Proportional to frequency	+0.1 to +0.2 -0.1 to -0.2	0.5	1	Continuous (30 mins for energy limited assets)



New frequency response products

High level overview*



*Deadbands not shown, more detail on next slides

Overview

	Dynamic Regulation	Dynamic Moderation
Speed of response	10 seconds	1 second
Pre/post fault	Pre fault	Pre fault
Providers	BM & non-BM	BM & non-BM
How will it be procured?	Auction platform	Auction platform
Procurement	Day ahead	Day ahead
Operational metering	1Hz	1Hz

Challenges

- **Aggregation** – GSP group vs GSP point
- **Baselines**
- **Performance metering** – 20Hz for DM & DR
- **Stacking**
- **Bundling or splitting LF and HF** – for DM

Get in touch:

box.futureofbalancingservices@nationalgrideso.com

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Next steps



Next steps

- Consultation on DC procurement changes: **27 April – 27 May**
- Engagement will continue over next few months
- For updates, please sign up to our Future of Balancing Services newsletter
- Get in touch: box.futureofbalancingservices@nationalgrideso.com

