

Regional Development Programmes

Megawatt Dispatch (MWD)

Webinar for DER (UK Power Networks South Coast)

26 June 2023

This session will be recorded and shared after this event. If you have any objections please feel free to drop off the call and listen back in your own time. Thank you



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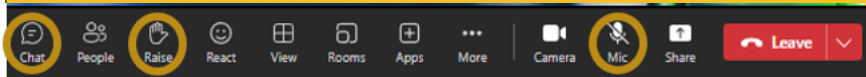
Introduction & Overview

Tim Manandhar

Distribution System Operator (DSO) MW Dispatch Project Lead

Keith Parker

Regional Development Programmes – MWD Product Manager



Agenda

Item	Presenter	Time
Welcome and introductions	Keith Parker - ESO Tim Manandhar – UKPN	10:30
Recap of MWD Service – Why and What	Keith Parker - ESO	10:35
Process Overviews	Keith Parker – ESO (Tim Manandhar UKPN)	10:45
Future MWD Workstreams / What's Next	Tim Manandhar - UKPN	11:05
Project Timelines	Rachael Raine - UKPN	11:15
Q & A – we welcome any final questions	All	11:20

Why do we need a MWD Service ?

- Network organisations are finding ways to ‘unlock’ more capacity through non-network solutions. ESO Regional Development Programmes are a vehicle for this.
- Since 2019, connection offers in the relevant South Coast Grid Supply Points (GSPs) (Bolney, Ninfield, Sellindge, Canterbury North, Richborough) have contained requirements to provide Visibility & Commercial Control (often termed Deep Connect and Manage)
- There are 2 ways of fulfilling these Control & Visibility (C&V) requirements:
 - Participation in the ESO Balancing Mechanism / Wider Access
 - Participation in the new transmission thermal constraint management service: MW Dispatch.
- The choice of routes is up to the Distributed Energy Resources (DER)
- The former will give more granular levels of control, but requires more complex, and potentially more costly, integrations
- The latter has been designed to be as simple as possible, however, trades off some of the granular control.



The rest of this webinar will focus on the MW Dispatch Service

What is MWD – A Reminder ?

- A 'turn to zero' service to allow ESO Control Room to manage pre-fault Thermal Export Constraints
- Covering 5 GSPs across South Coast (UKPN SPN area)
- Minimum of 1MW generators able to take part in the service
- DER will be commercially contracted with ESO alongside their DNO Connection Agreement – the service provides a way to fulfil the 'Control & visibility' obligation via a Connect and manage requirement
- A more minimalist and potentially cheaper to implement service than the Balancing Mechanism – DERs will only be able to participate in one the markets
- A continuous service with assumed availability (unless DER is made unavailable via the DNO / DSO)
- ESO instruction issued to DER to ramp to zero via DNO infrastructure
- Utilisation payments only – there are no availability payments for the service. Regular (submission closes at 16:00 daily for the following day) DER price resubmission to ESO is possible.

SPN = South Eastern Power Networks

DNO = Distribution Network Operator

DERMS = Distributed Energy Resources Management System

ANM = Active Network Management

API = Application Programming Interface



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Process Overviews

Keith Parker

Regional Development Programmes – MWD Product Manager



E2E Process Overview

Registration

- One off collation and validation of DER and asset information via Single Market Platform (SMP) (ESO Registration platform) – including any issue / query resolution
- Provision of pricing (pricing can be updated as needed – daily 4pm cut off for following day)

Planning

- UKPN indicates 'DER unavailability' for the service every week covering 3 weeks ahead and then a day ahead – risks of conflict or 'Primacy' concerns shared with ESO
- ESO uses DER unavailability data in planning process
- Planning and Scheduling / Bounceback tools will help ESO National Access Planning (NAP) and Electricity National Control Centre (ENCC) in forecasting / decision making

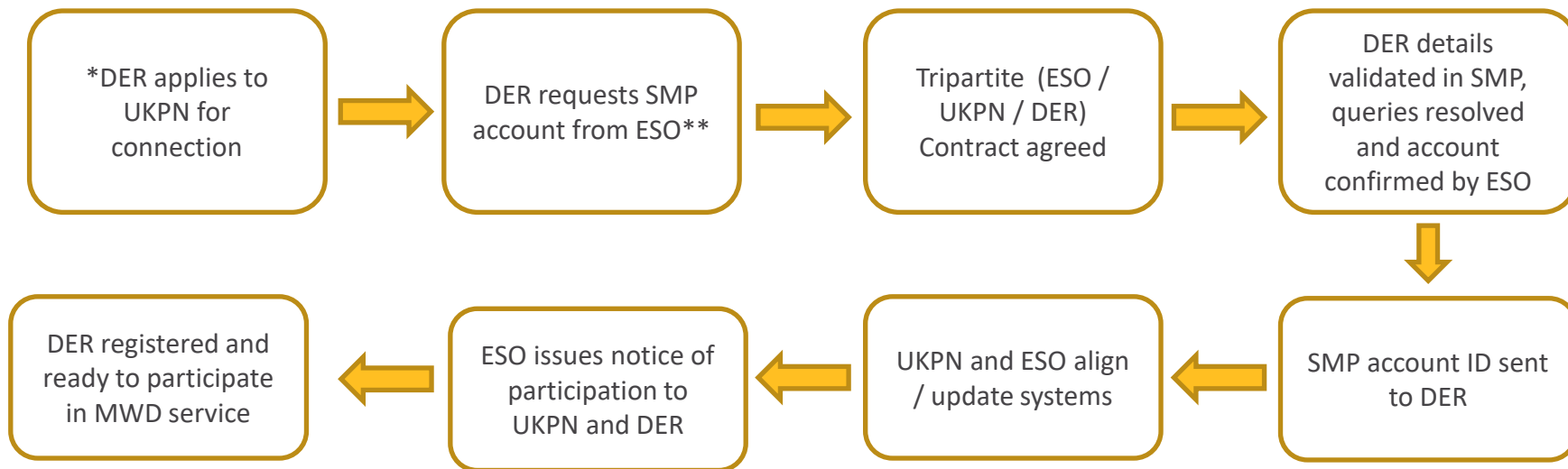
Instruction

- UKPN provides the ESO with DER real time MW output and ongoing availability
- MW dispatched in short lead / real time via ASDP and using the DNO infrastructure

Settlement

- Business As Usual (BAU) Settlement process uses Instruction and Pricing data held by ESO
- Service Paid monthly
- Utilisation payment only

MWD Registration Process Overview



*For initial service Registrations we anticipate this will be open to DERs with C&V terms, however, moving forward we anticipate potential to open the service to those DERs without C&V terms already

**Once Meter Point Administration Number (MPAN) is issued

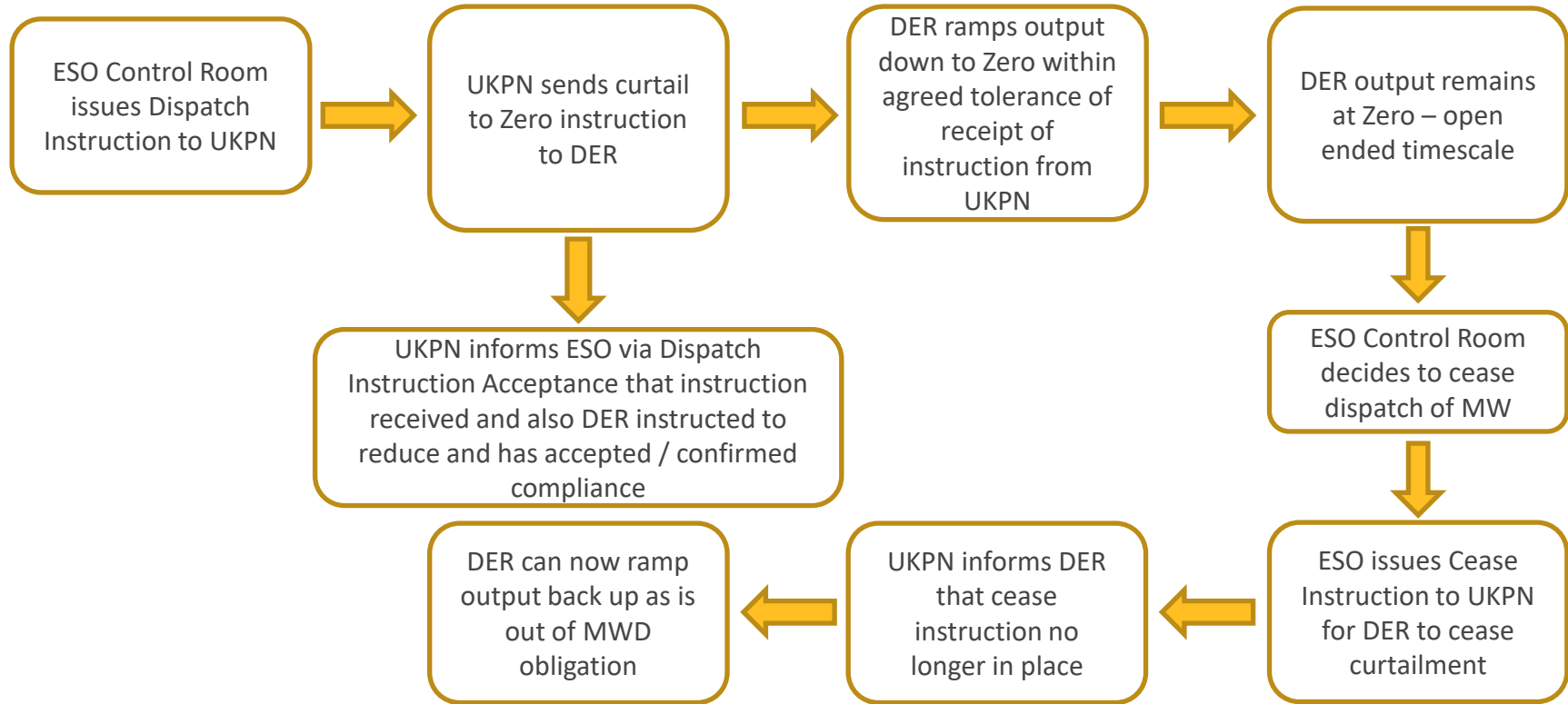
MWD Planning / Unavailability Process Overview

- Service is considered available by default.
- UKPN can declare a provider unavailable at different timescales for a number of reasons shown in the table below (3 week ahead and day ahead reports provided to ESO from UKPN)
- UKPN can also show 'intra day' unavailability via a real time data flag if necessary
- Incoming unavailability data feeds ESO ASDP system (for Dispatch purposes) and Planning and Scheduling / Bounceback tools

Reason	Mechanism
Generator Constrained due to outage	Ahead of time Unavailability Report
Expected conflict with DNO flexibility Services	Ahead of time Unavailability Report
Loss of communication to site	Real time data transfer
Abnormal DNO network running conditions	Real time data transfer

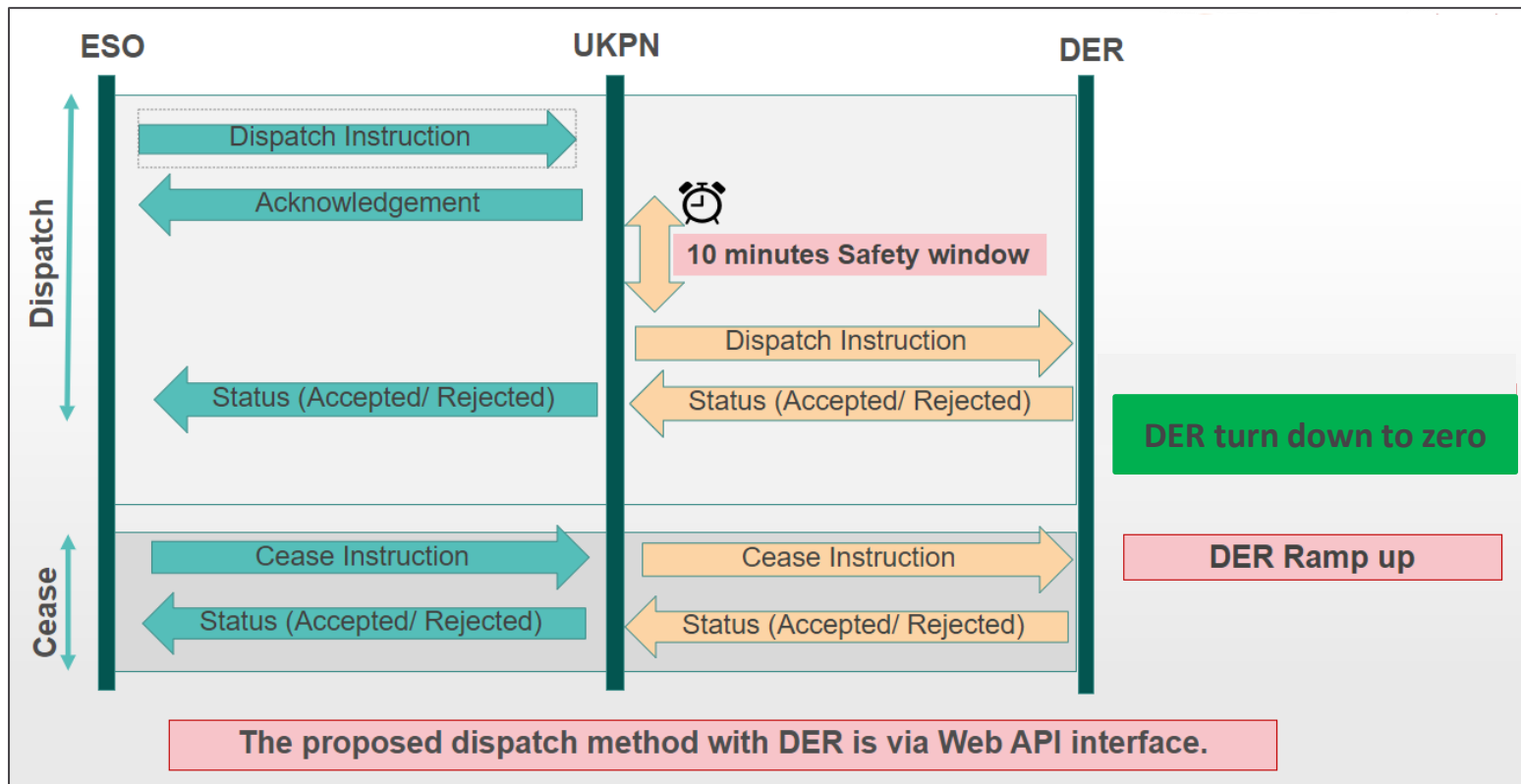
- Also allows us to prove / demonstrate some of the rules developed under the Open Networks Primacy Products and balance the whole system

MWD Instruction Process Overview

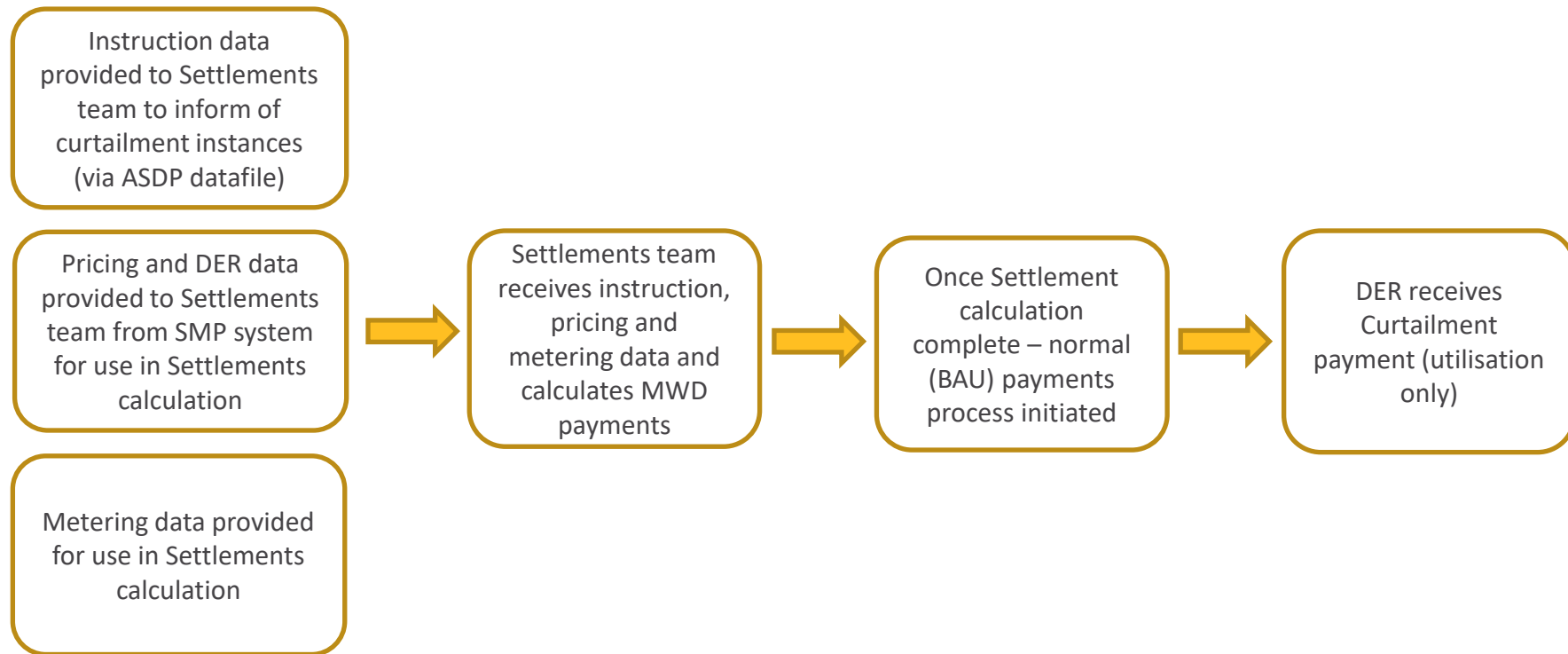


*NB - Curtailment payment is made to DER to recognise / compensate the request and compliance to curtail

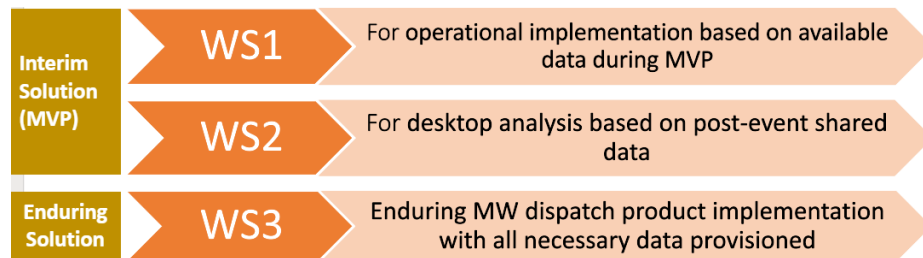
MWD Dispatch Process



MWD Settlements Process Overview



MWD Future Workstreams



WS1

- Development of an end-to-end service
- Simplified process between ESO and UKPN for service scheduling
- Implement simple whole system coordination processes



WS2

- Post-event analysis of the data
- Assess the impact of implementing additional whole system coordination



WS3

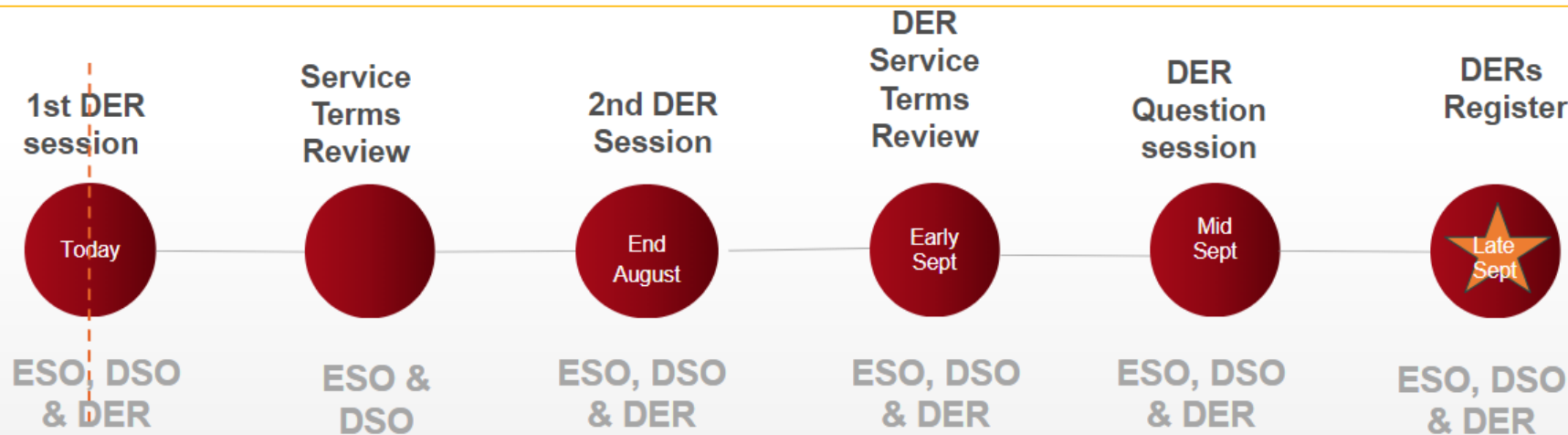
- Explore the capabilities required for the ESO-UKPN to collectively create a global service stack
- Develop processes and IT system enhancements
- Implement whole system coordination

MVP- Minimum Viable product

Timelines

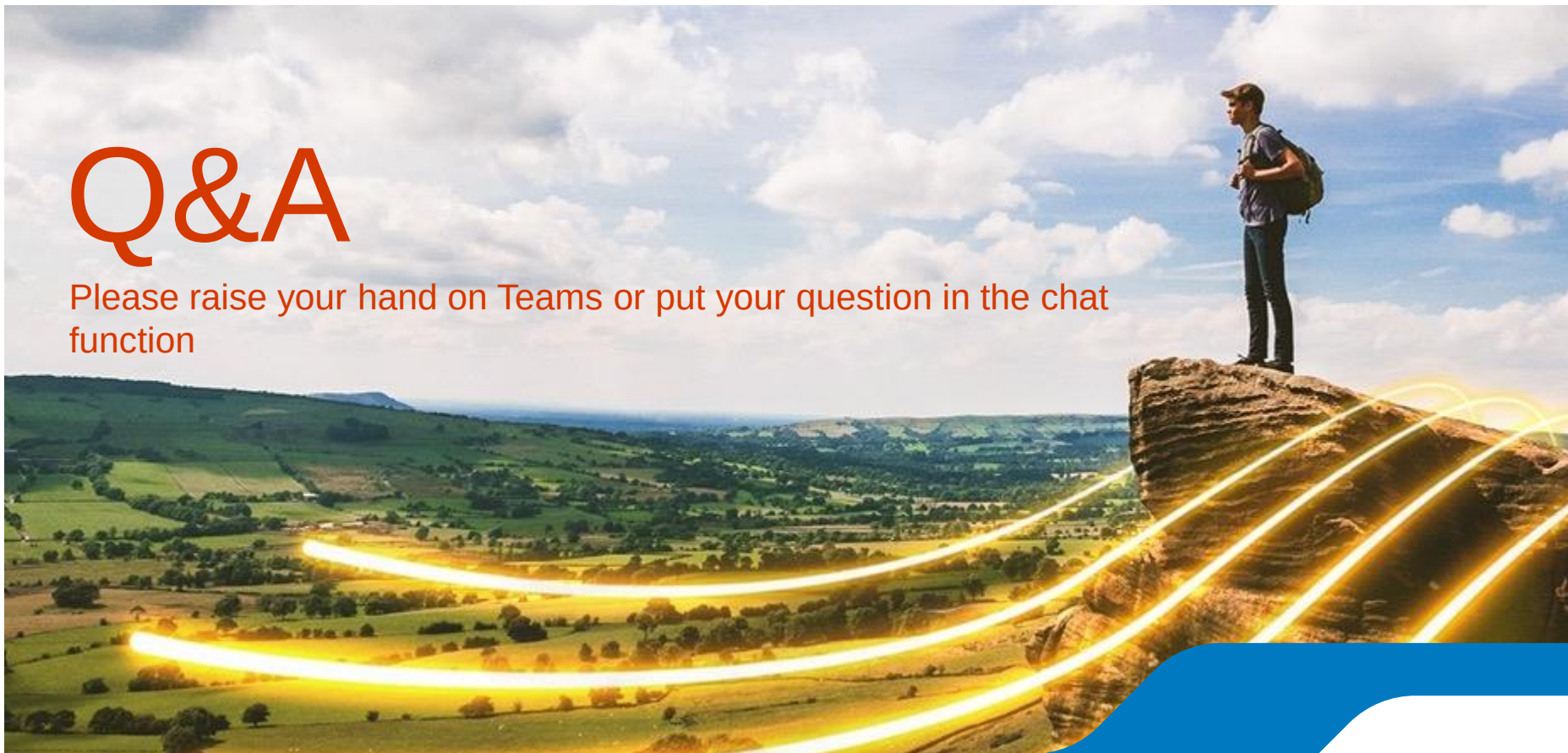
- We are building on an already designed and partially built product for another DNO National Grid Electricity Distribution (NGED)
- Collaborative ESO / UKPN MWD design sessions in progress currently to understand the changes and technical build needed for the UKPN solution
- Designs expected to be complete by late summer 2023 allowing technical build to take place
- Contractual Service Terms changes to be defined from late June onwards
- Sharing / consultation of Service Terms with DERs anticipated for August / September 2023
- All ESO and UKPN MW Dispatch system functionality targeted to be in place by late November 2023

Engagement Plan



Q&A

Please raise your hand on Teams or put your question in the chat function



Continuing the conversation

- Next steps:
 - Service design collaboration ongoing with ESO and UKPN
 - Future Webinar to share Service Terms principles
 - Continuing regular communication.

If you would like to meet with the DNO, to discuss:

- The project then please contact
sima.davarzani@ukpowernetworks.co.uk
- distribution flexibility services then please contact
kellie.dillon@ukpowernetworks.co.uk

If you would like to meet with the ESO, to discuss the transmission constraint management service please get in touch at

box.WholeElectricitySystem@nationalgrideso.com

Access the ESO's current and past RDP documents at:
<https://www.nationalgrideso.com/research-publications/regional-development-programmes>

Access the UKPNs website:

<https://smartgrid.ukpowernetworks.co.uk/home/south-east-coast-regional-development-programme/>





For further information on ESO publications
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