Department for Energy Security & Net Zero

End User Challenge Panel

Retail and Flexibility
8 August 2023

Housekeeping

- Please observe Chatham House rules. All views are equally valid and welcomed.
- The session **will not** be recorded.
- Notes **will** be taken by DESNZ colleagues to ensure we have captured key intel, views and outputs from the session.
- The format is presentations from DESNZ policy teams, followed by open discussion facilitated by Citizen's Advice.

Time	Item
14.00 - 14.05	Participants join the call
14:05 - 14:10	Welcome and introduction from Rob Hewitt
14:10 - 14:25	Presentation: Flexibility Team
14:25 – 14:40	Presentation: Retail Team
14:40 – 14:45	Any clarification questions from both presentations
14:45 – 15:25	Open discussion
15:25 - 15:30	Wrap-up and meeting close

Welcome

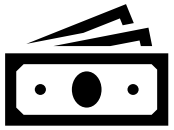
Rob Hewitt, Head of REMA Policy & Strategy, DESNZ

Thank you for attending the August End User Challenge Panel**.** We greatly value the input of our stakeholders who are fundamental to our work.

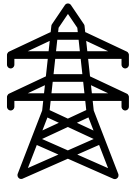
We are looking forward to discussing the important areas of Flexibility and Retail, as we move towards the 2nd Public Consultation in Autumn 2023 and next phase of our programme.



Challenge-based structure of 2nd Public Consultation



Challenge 1: Passing through the value of a renewables-based system



Challenge 2: Investing to create a renewables-based system at pace



Challenge 3: Transitioning from an unabated gas-based system to a flexible, resilient decarbonised system



Challenge 4: Operating and optimising a renewable-based system cost effectively

REMA and Retail Reform

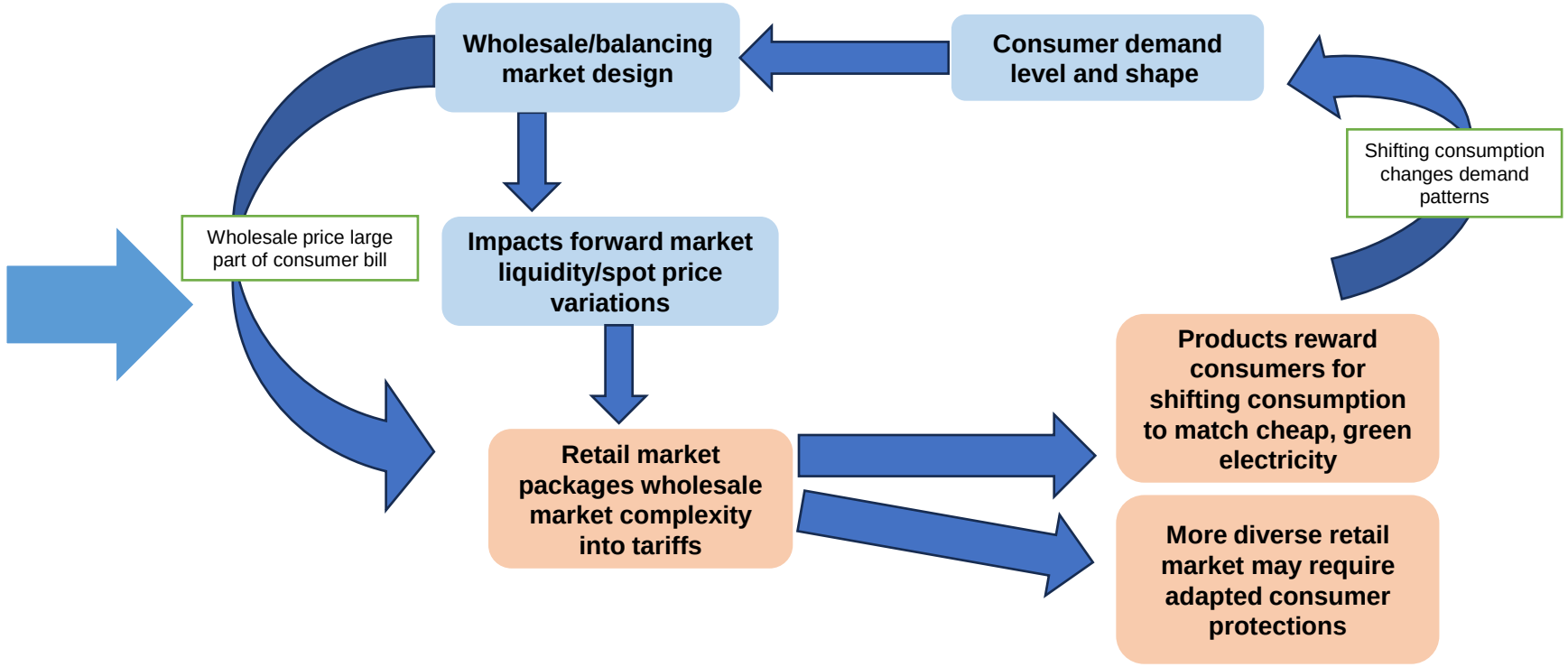
We are testing some of these interactions through the <u>Alternative Energy Markets Innovation Competition (£18m)</u>: Support development and demonstration of innovative domestic demand side flexibility tariffs, products and services in a future energy system.

Programme aims

REMA - Major review into Britain's electricity market design that will enhance energy security and help to deliver our world-leading climate targets whilst ensuring a fair deal for consumers.

Retail reform – to create a market that works better for consumers, is more resilient and investable and supports the transformation of our energy system.

Key interactions



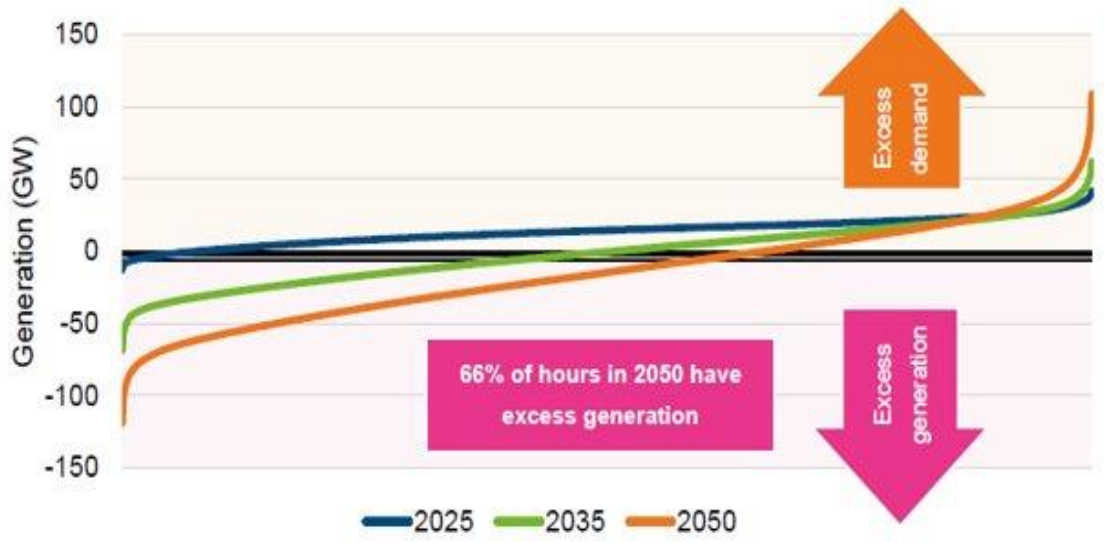
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REMA Flexibility

Net Zero Power by 2035

- To achieve net zero, we will need a **significant increase in low carbon flexible assets.**
- This includes short and long-duration storage, demand side response (DSR), interconnection, hydrogen to power (H2P) and carbon capture, usage and storage (CCUS).
- In 2021, there was approx. **~60GW of flexible capacity on the system,** of which ~20GW was from low carbon sources.
- FES 2022 suggested between **90-130 GW of low carbon flexibility may be needed by 2035**.
- We are considering reforms to ensure there is much greater low-carbon flexibility across generation and demand in order to effectively integrate variable renewables, with innovative solutions replacing the role which gas-fired generation currently plays to keep supply and demand in balance.

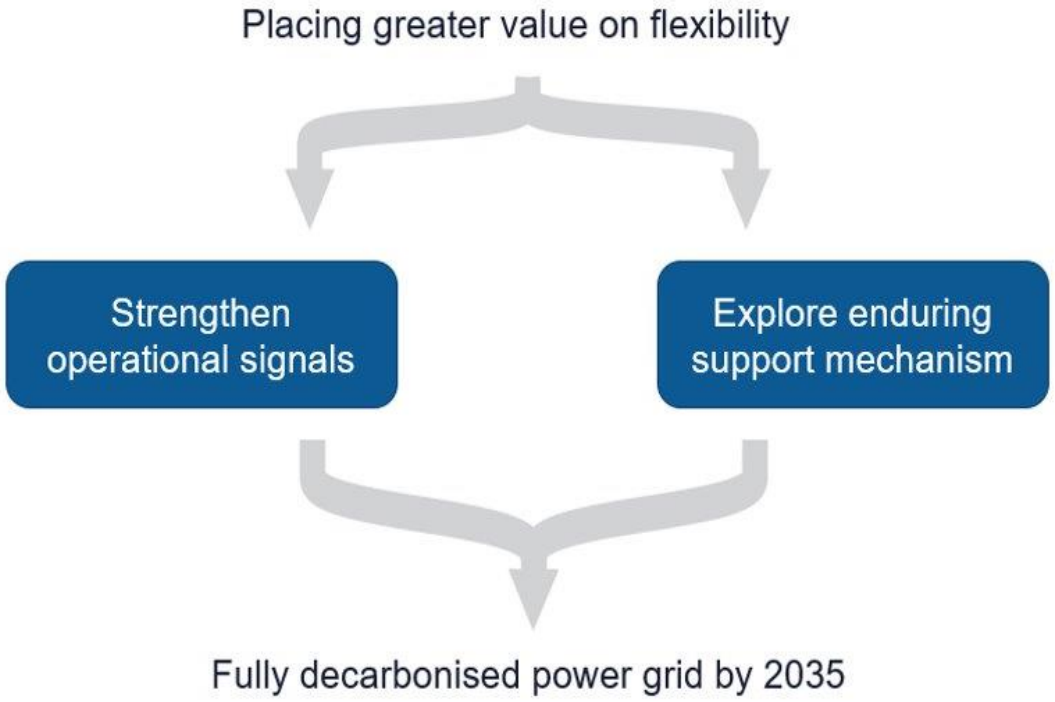
Figure 3: Residual Demand Distribution, GW, BEIS Higher Demand Scenario



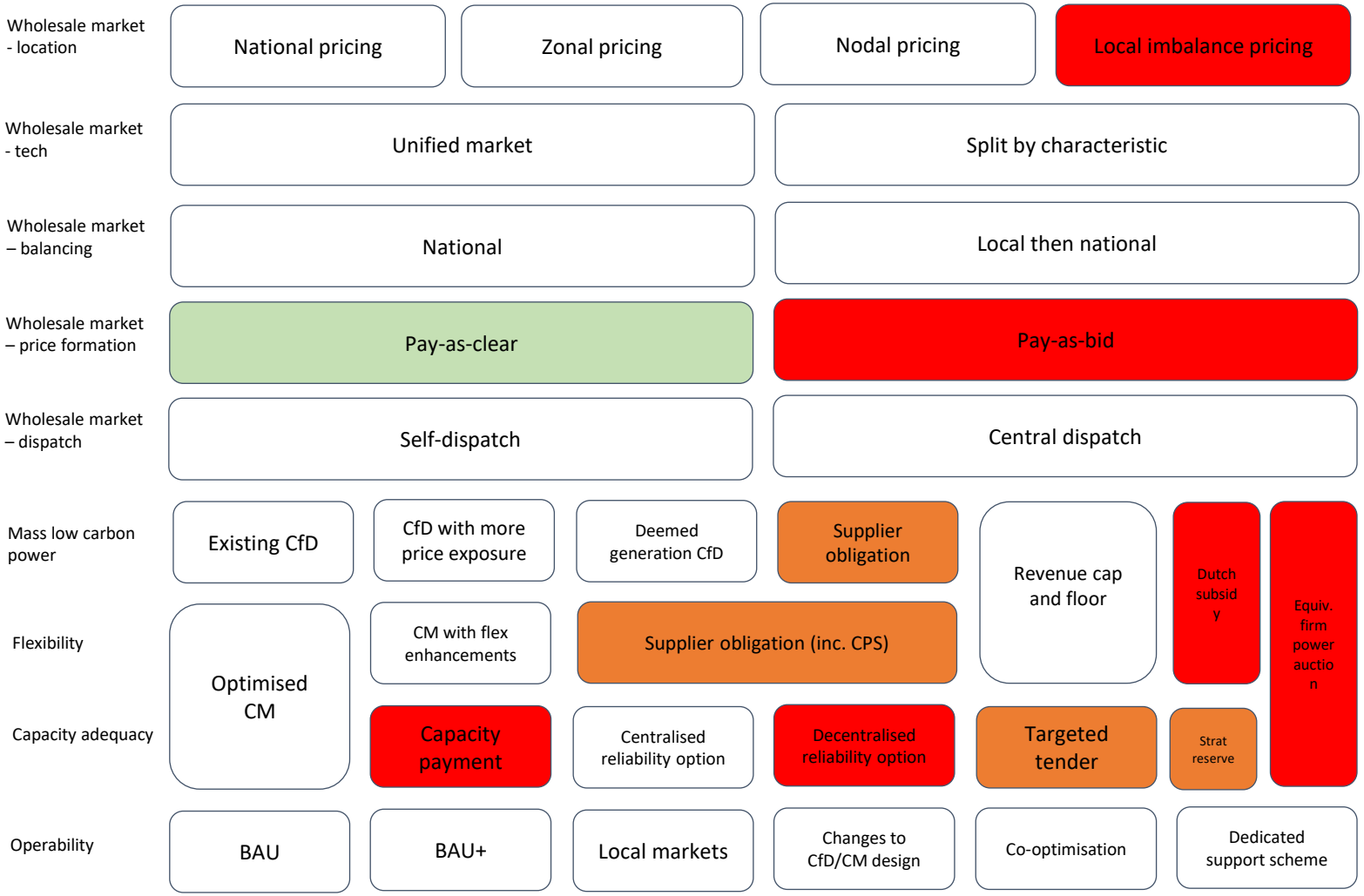
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Key issues

- Lack of sufficiently sharp, time and locational market signals mean flexibility is not appropriately valued
- Large-scale flexibility technologies are nascent with high upfront costs and dependence on infrastructure that is not yet in place so struggle to attract investment
- Multiple technology-specific mechanisms whilst needed now, in the long term could create a fragmented market and distort competition



REMA Options



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REMA Flexibility Workstream

To facilitate built-out & deployment of flexibility we intend to (REMA and closely linked policy areas):

1. **Implement bespoke support schemes to de-risk investment in some types of low-carbon flexibility including:**
   - The Dispatchable Power Agreement for power CCUS
   - Options for market intervention to support hydrogen to power
   - A policy framework by 2024 to enable investment in large scale long duration electricity storage

2. **Consider options through the REMA programme that have the potential to sharpen operational signals to increase built-out and deployment of distributed low-carbon flexibility, such as DSR or batteries.**

3. **Enduring solutions: Explore how reform to the Capacity Market could bring forward increased investment in low carbon flexibility, or whether supplementary mechanisms such as a Cap and Floor might be needed for some technologies**

Introduction: Distributed low carbon flexibility

Distributed low carbon flexibility…	All low-carbon assets connected to the distribution system that can provide flexibility
Technologies include…	Commercial/industrial/public sector or households providing demand-side response by increasing, decreasing or shifting their electricity (ie water pumps, heat pumps, HVAC, heating systems, fridges and freezers, EV charging, electrolysers); electricity storage or hydrogen back-up generators
The benefits are…	Modelling by the Carbon Trust and Imperial College London showed that deploying demand side flexibility, could save around **£5bn per annum in 2050**
We need to…	Ensure markets are accessible and send sharper operational signals to incentivise further investment and deployment of flexibility technologies and services by creating opportunities for market participants to earn revenue

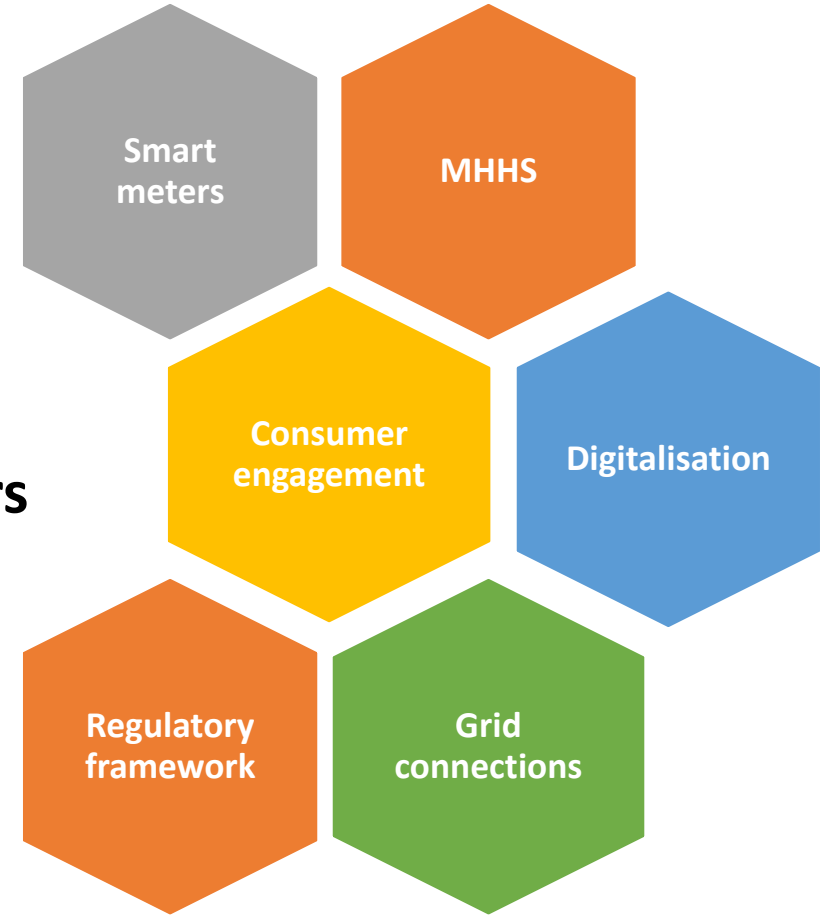
Distributed low carbon flexibility

Objective: Ensuring markets are accessible and send sharper operational signals to incentivise further investment in flex technologies and services by creating opportunities for market participants to earn revenue.

Focus on four key barriers:

1. **Inefficient market operations**
2. **Barriers to market access**
3. **Temporal signals that do not fully reflect system need**
4. **Locational signals that do not fully reflect system need**

Critical Enablers



Retail reform

Summer publications

On **24 July**, we published a number of documents:

- Our **vision** document: “Delivering a better energy retail market"
- Call for Evidence on how to **increase innovation** in the retail market
- Call for Evidence on **domestic consumers** receiving their energy via a **non-domestic energy supply contract**
- Summary of responses call for evidence on the transparency of carbon content in energy products
- Summary of responses call for evidence on how third-party intermediaries (TPIs) operate across both the domestic and non-domestic retail energy
- Summary of responses call for evidence on electricity licence exemptions

Aims for this session:

1. To collect notes from today's discussion to inform our Call for Evidence on Innovation in the Retail Market
2. To encourage collaboration and learning so you can provide detailed responses through the Citizen Space portal

Call for Evidence on Innovation in the Retail Market

Discussion questions:

- How can the retail market play an active role in unlocking flexibility in the energy system?
- How can retailers encourage and support consumers to engage in flexible consumption behaviour?
- What are the trade-offs that will come with pursuing greater innovation in the retail market?
- What are the risks to consumers that we need to consider as we move towards a more flexible, smart retail market?
- How can we protect those who may be ‘left behind’ in the transformation of the energy market?

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Close and End

REMA@beis.gov.uk