

Market evolution and the whole energy system

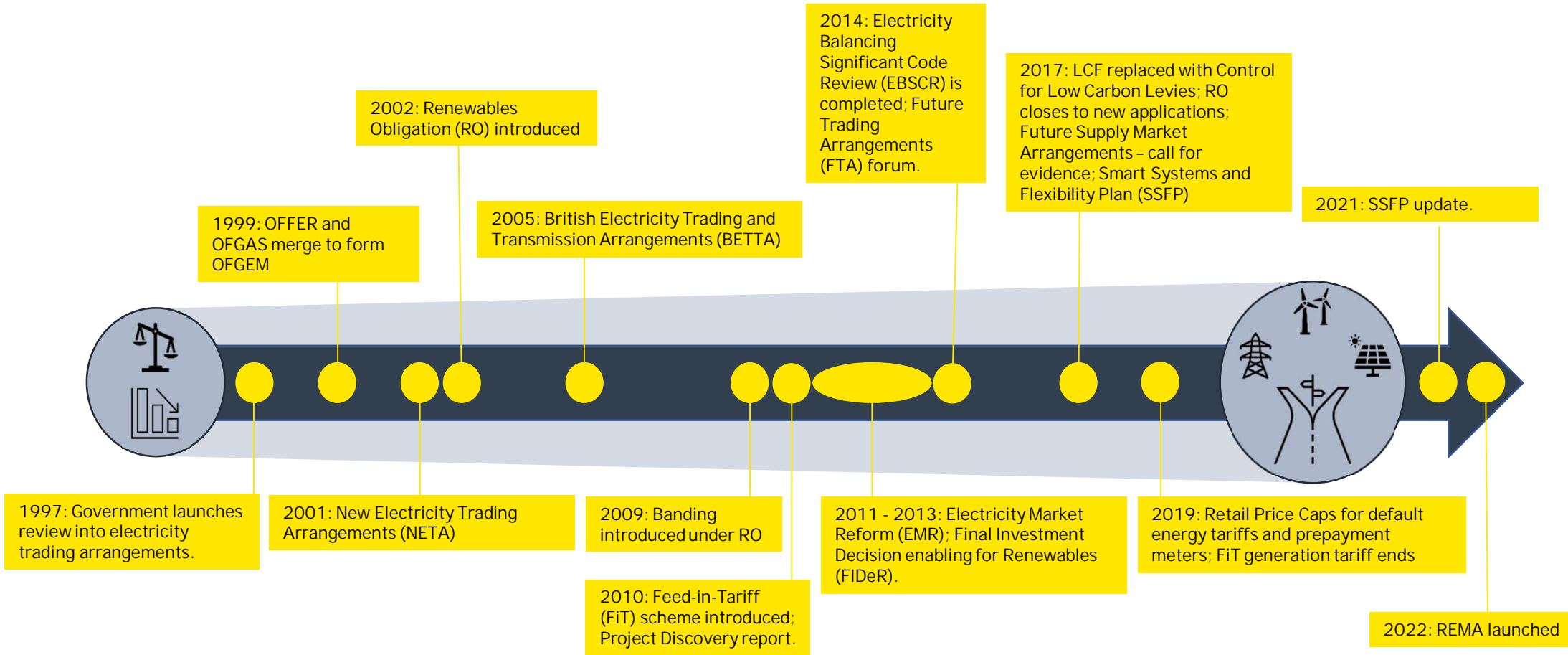
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22 September 2022

The EY logo consists of the letters 'EY' in a bold, white, sans-serif font. A yellow diagonal bar is positioned behind the 'Y'.

Building a better
working world

REMA is the next step in the evolution in GB market design since energy market liberalisation



REMA is likely to prioritise proposals that will support low carbon business models, efficient network build and can feasibly be delivered

The REMA consultation covers the first stages in the overall reform process, including 1) establishing the case for change, 2) setting out the criteria that options will be assessed against and 3) defining the long-list of potential reforms.



Scope of current REMA consultation

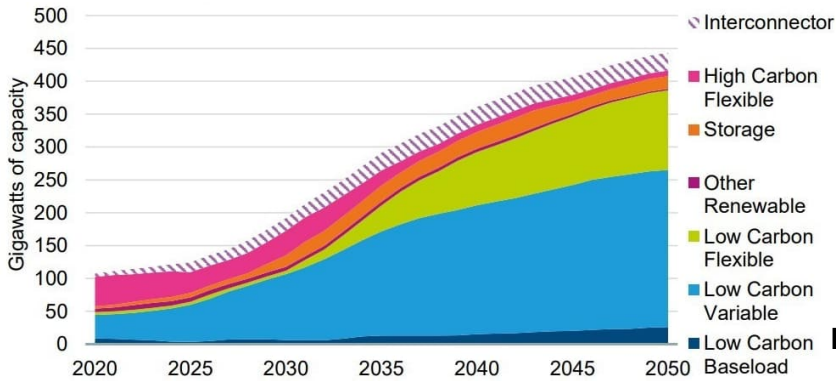
- Important for stakeholders to help shape Government's view on the most pressing issues to resolve
- The proposed criteria and objectives are overlapping and there is an opportunity to rationalise and better define these
- A long list of options under five over-arching themes is included, with the key next step to combine into packages
- The selection of packages is being shaped by the near-term market interventions – in particular the Pot Zero negotiations

Next phases of REMA process

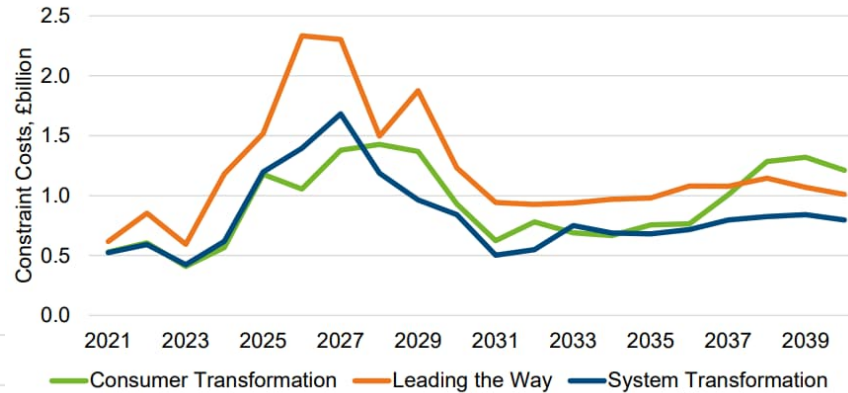
- Stakeholders should seek to anticipate and shape the next stages in the process
- The key next step will be establishing the longlist of packages, which presents the opportunity to eliminate some infeasible options early
- Given risk of a hiatus in investment and uncertain political environment, there is an opportunity to define the optimum package of more easily deliverable changes to address the most pressing concerns

BEIS has set out a compelling case for change and the importance of engaging on the problem definition should not be under-estimated

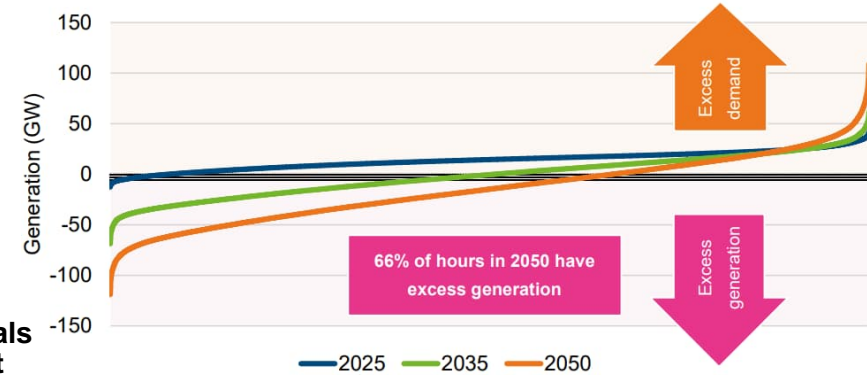
Factor 1: Increasing pace and breadth of generation investment



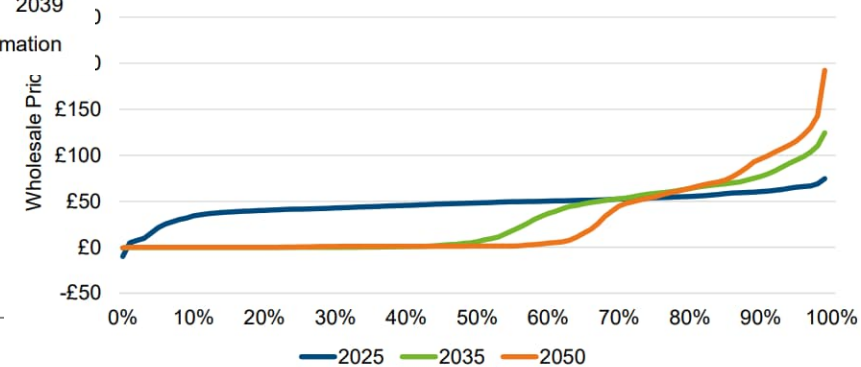
Factor 3: Stronger locational signals needed to minimise system cost



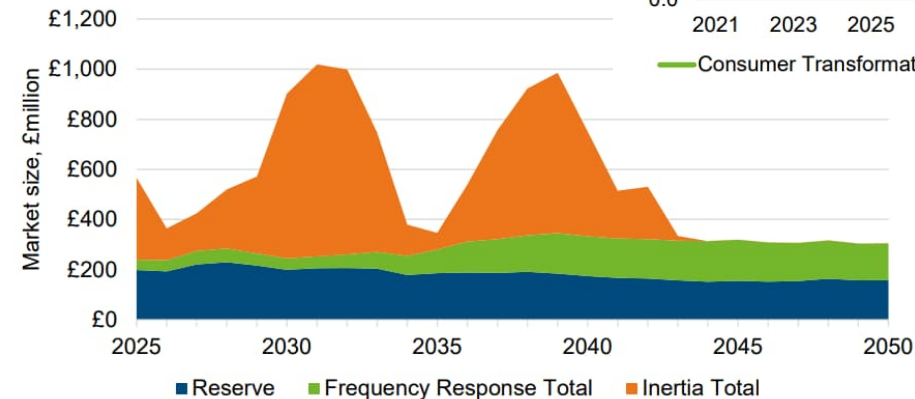
Factor 2: More flexibility needed to address growing mismatch between generation and demand



Factor 5: Challenges of managing increasing price volatility



Factor 4: Rising costs to maintain system operability



BEIS is consulting on a comprehensive range of measures – with the potential to transform the GB power sector

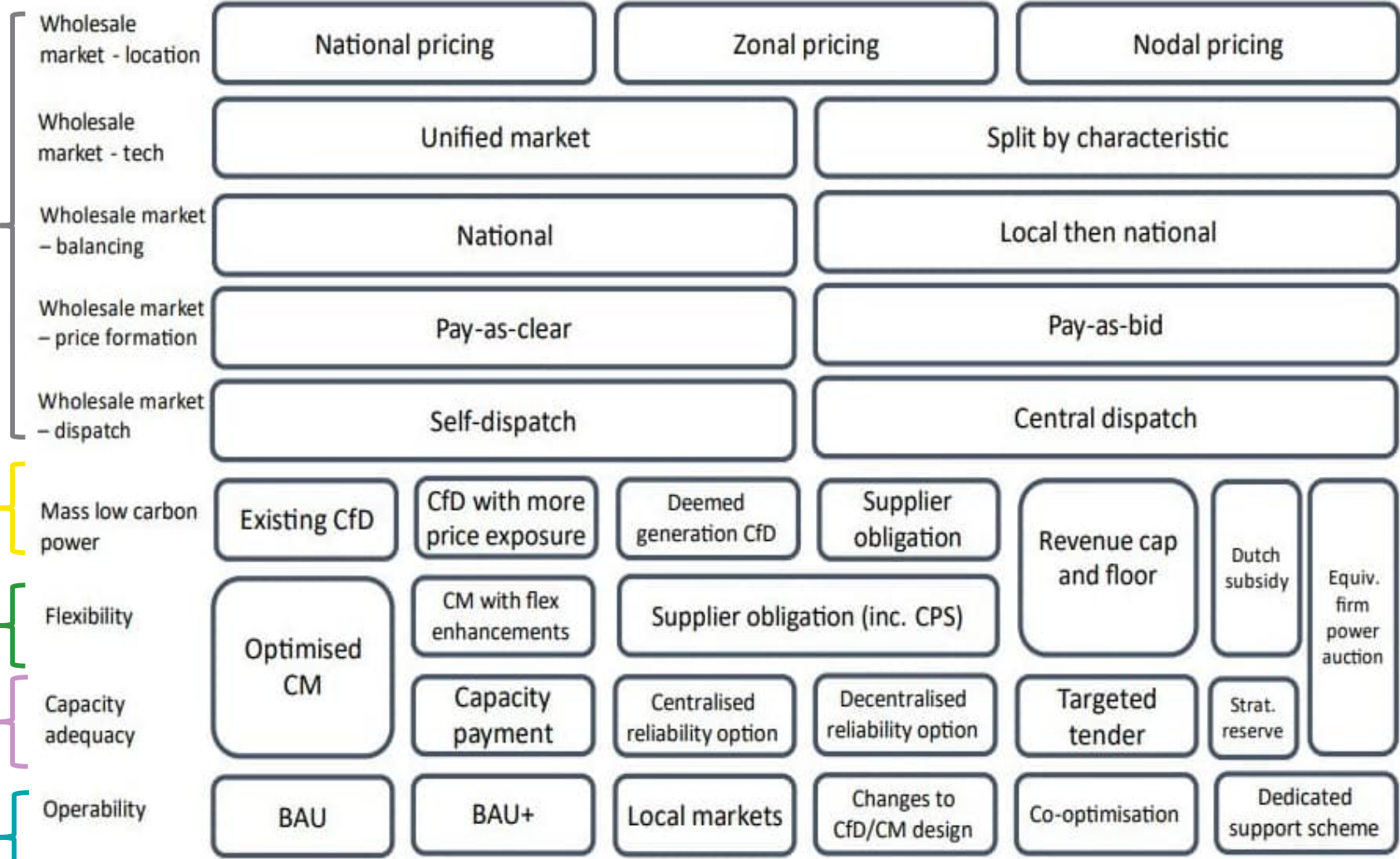
> The Net Zero Wholesale market involves two key decisions – locational pricing and segmenting the market to reduce costs.
 > Pay-as-bid / segmented markets could be politically attractive given cost of living crisis.
 > Zonal or nodal pricing can be economically efficient but complex to implement and politically challenging.
 > A return to central dispatch would be unprecedented and remove some of the dynamism in the market

> BEIS considering alternatives to existing CfDs which provide more market exposure, though potentially conflicting with other objectives of hedging consumer against gas price increases.

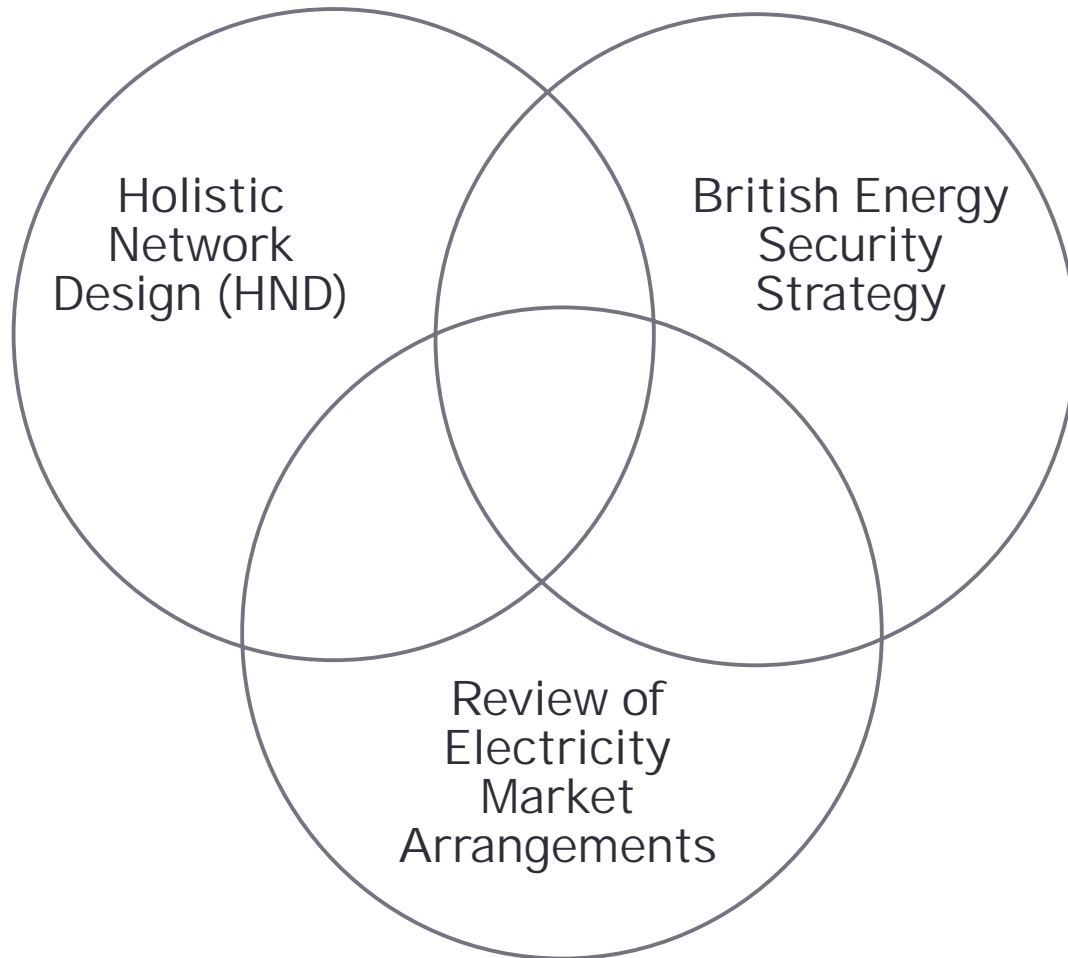
> Options to improve investment incentives for flexible assets, with some combined with other objectives.

> The capacity adequacy reforms being considered largely include options that were rejected as part of EMR, though a combined auction with new renewables would represent a significant shift.

> The operability theme covers how low carbon generators and others can be better incentivised to provide ancillary services.



REMA sits alongside the British Energy Security Strategy and HND at the heart of the choices we need to make about the energy system

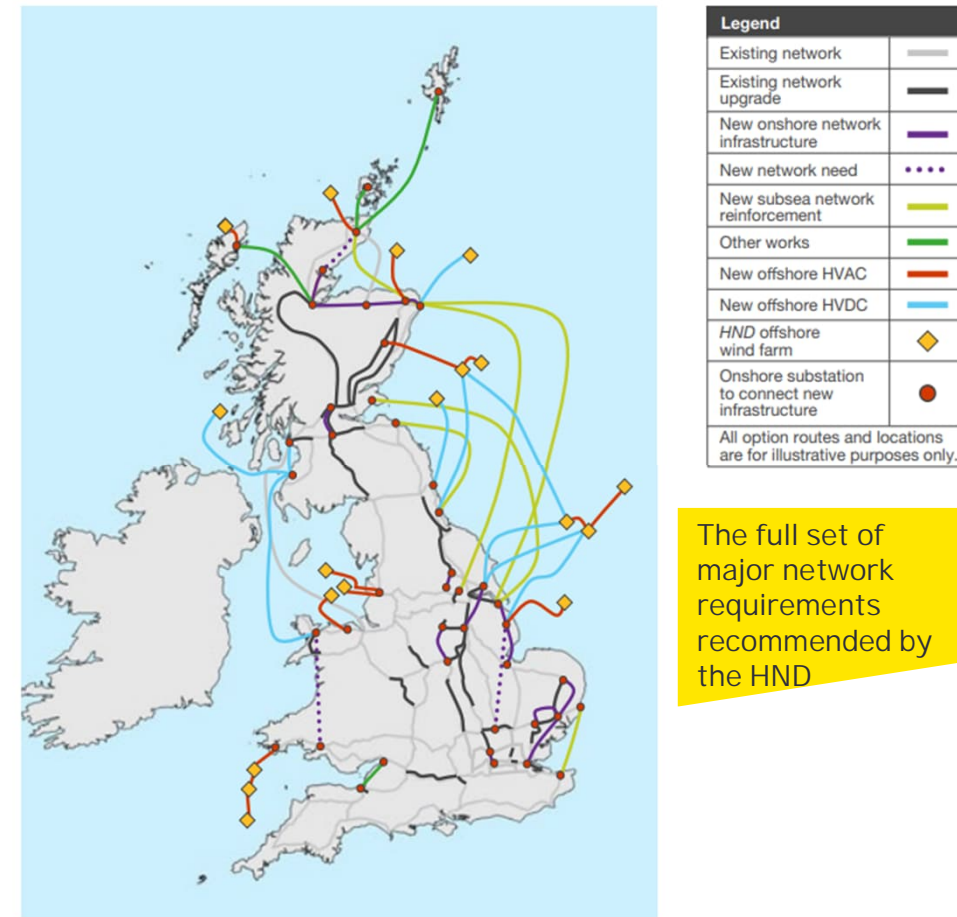


Key questions:



1. How are decisions about siting of generation going to be made?
2. How much will siting of demand respond to energy market signals?
3. Can we get better at building infrastructure, and hence how constrained will the electricity system be?
4. What are the implementation costs and risks of significant reforms to market design?

How the Holistic Network Design (HND) relates to REMA

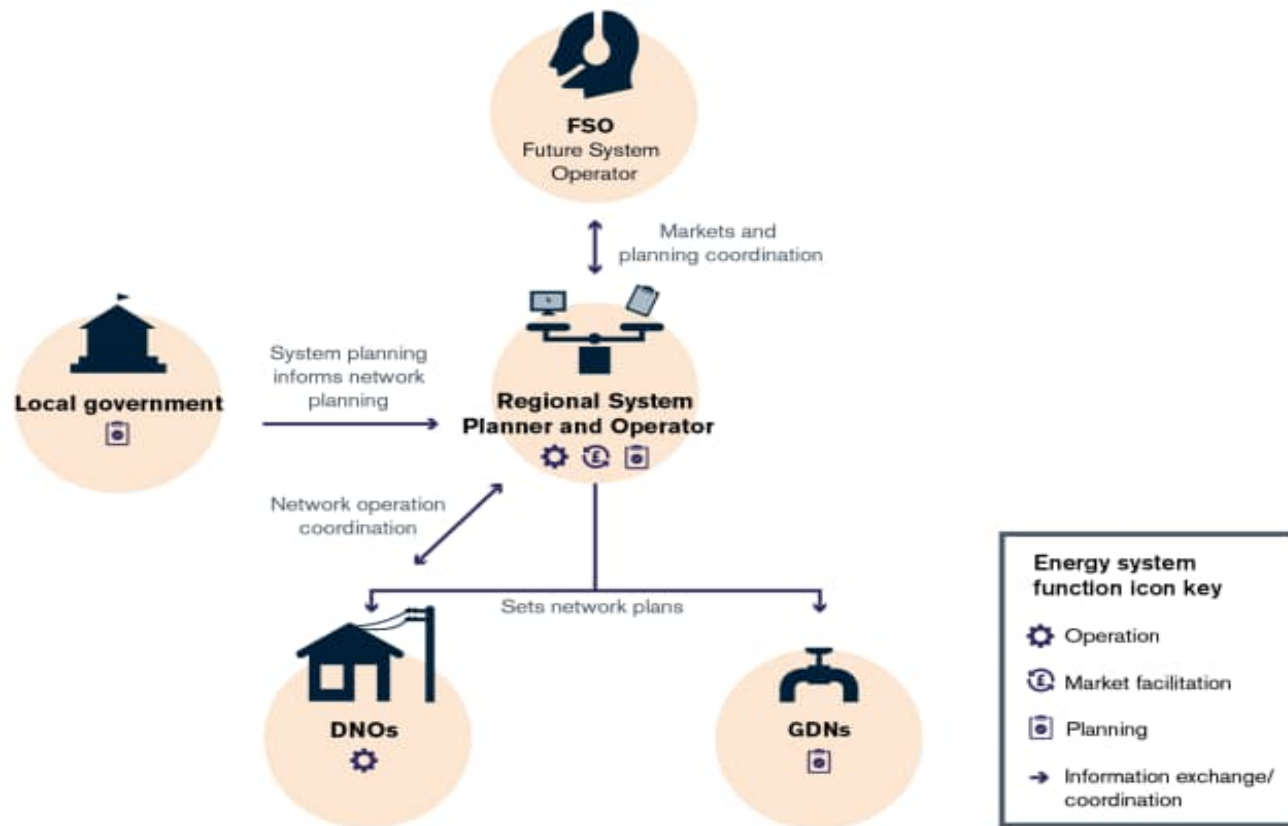
- The HND provides a coordinated recommended onshore and offshore design for a 2030 electricity network, that facilitates the Government's ambition for 50GW of offshore wind by 2030
- The HND expands the previous NOA findings on the importance of addressing Scotland to England network constraints. It also highlights how streamlining planning permission is essential to deliver these projects by 2030.
- The ESO has indicated that this is a first step towards more centralised, strategic network planning that is critical for delivering affordable, clean and secure power, on the journey to Net Zero.
- HND has implications for REMA, as Ofgem/FTI has indicated that inclusion of HND is expected to reduce consumer benefits of zonal/nodal designs (due to lower avoided constraint costs)



How does electricity market design relate to system operation and flexibility markets?

System operation (illustrative)	Market design		
	Single energy market + cost-reflective network charges + dynamic flexibility markets	Zonal energy market	Nodal energy market + cost recovery network charges + reduced flexibility markets
FSO-DSO co-ordinated world	FSO oversees energy, balancing and ESO markets, and coordinates with DSOs on flexibility markets, network charging and whole systems outcomes.		FSO and DSOs coordinate in managing nodal energy market, residual markets and network charging and whole electricity systems outcomes.
FSO-led world	<p>FSO oversees energy market, balancing market, network charging, and Electricity System Operator (ESO) and Distribution System Operator (DSO) markets.</p> <p>FSO defines standards and ensures compliance and consistency, including whole systems.</p>		<p>FSO oversees nodal energy market, which sends strong signals for investment and flexibility, and drives whole electricity systems.</p> <p>There is a smaller role for network companies in ESO and DSO markets and network charging.</p>

Electricity market design is also a key element of lowest cost delivery of Net Zero across the whole energy system



Source: Ofgem Call for Input: Future of local energy institutions and governance

- Delivering of decarbonisation of transport, heat and industry requires an integrated and efficient whole energy system
- A key question is whether we are heading for:
 - ▶ A command-and-control system with ever-integrating energy plans, or
 - ▶ A market-based system, where most investment and operational decisions are driven by price signals and efficient markets, or
 - ▶ A combination of both.

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