

Markets Advisory Council: A fresh approach to REMA

15th December

octopusenergy



Four simple arguments bring focus, ambition and clear objectives to REMA

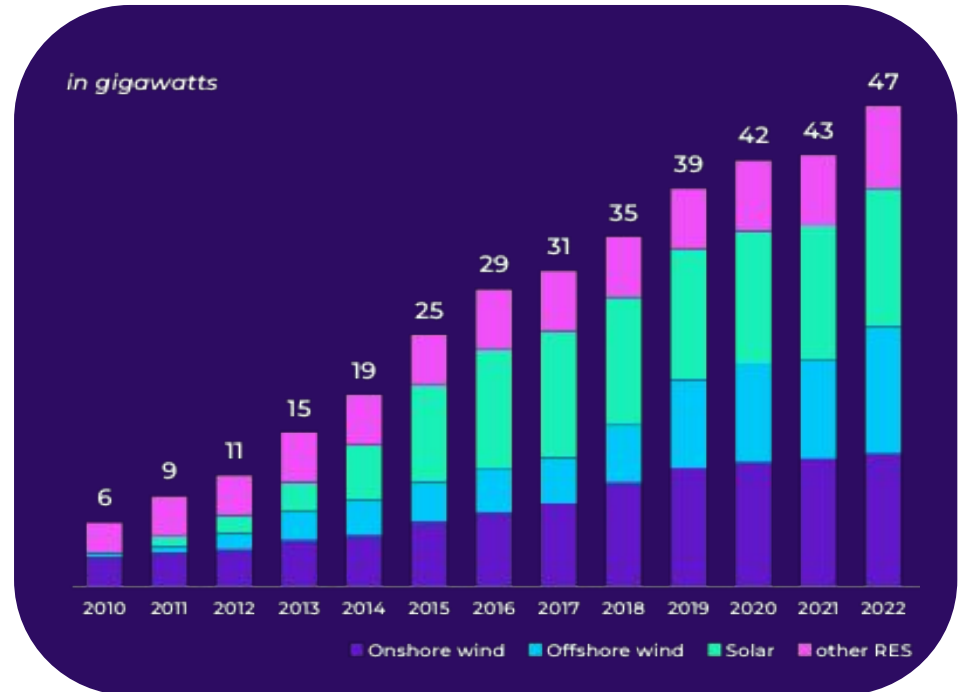
1. To meet net zero quickly and cheaply we need market arrangements that incentivise both renewable power and low carbon flexibility investment. Shouldn't be binary choice
2. Missing piece is incentives for flexibility - we are way behind where we need to be
3. Locational market pricing is key* to achieving this. A single GB price cannot signal system need or value of flexibility. Network pricing insufficiently dynamic.

(*necessary but not sufficient - changes at distribution level are needed and we must rekindle retail competition)

4. REMA needs to focus on
 - a. Designing locational markets that work for flex - this and locational signals for big demand are the key benefits
 - b. Amending CfDs so that they work with locational markets. International experience shows this is possible. And forming investor friendly transitional arrangements

Investment in flexibility must keep pace with investment in renewable energy to meet new and increasing demand

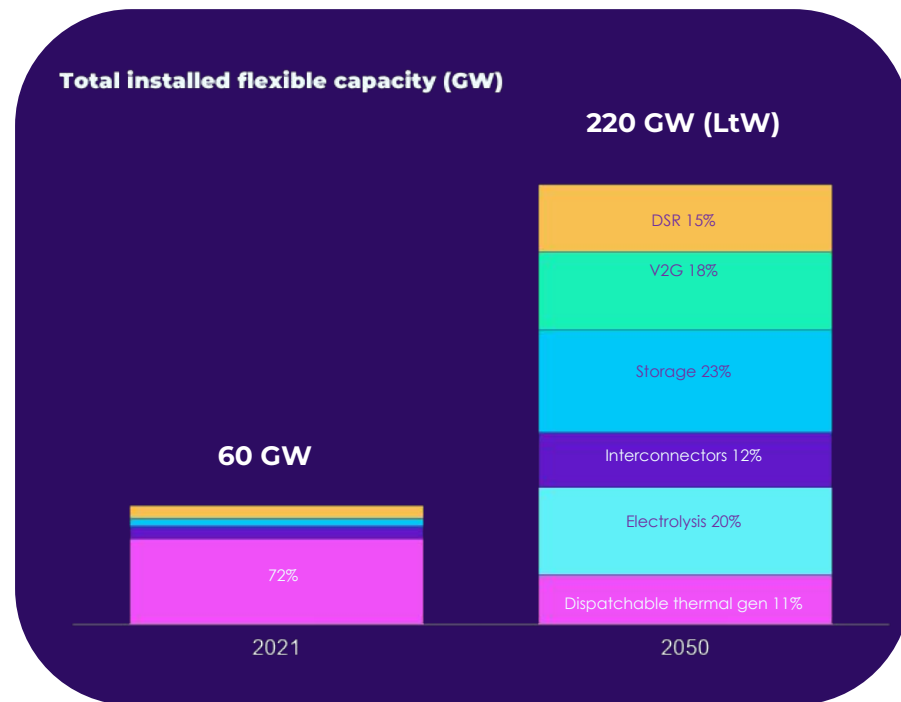
- The UK is decarbonising its power system, primarily driven by investment in renewables
- Demand growth is expected to double by 2050, primarily due to the electrification of heat and transport
- Therefore we must continue to build renewables at pace, but at the same time ensure we have flexible assets on the system that can provide backup and minimise wider system and balancing costs



Source: Aurora Energy Research

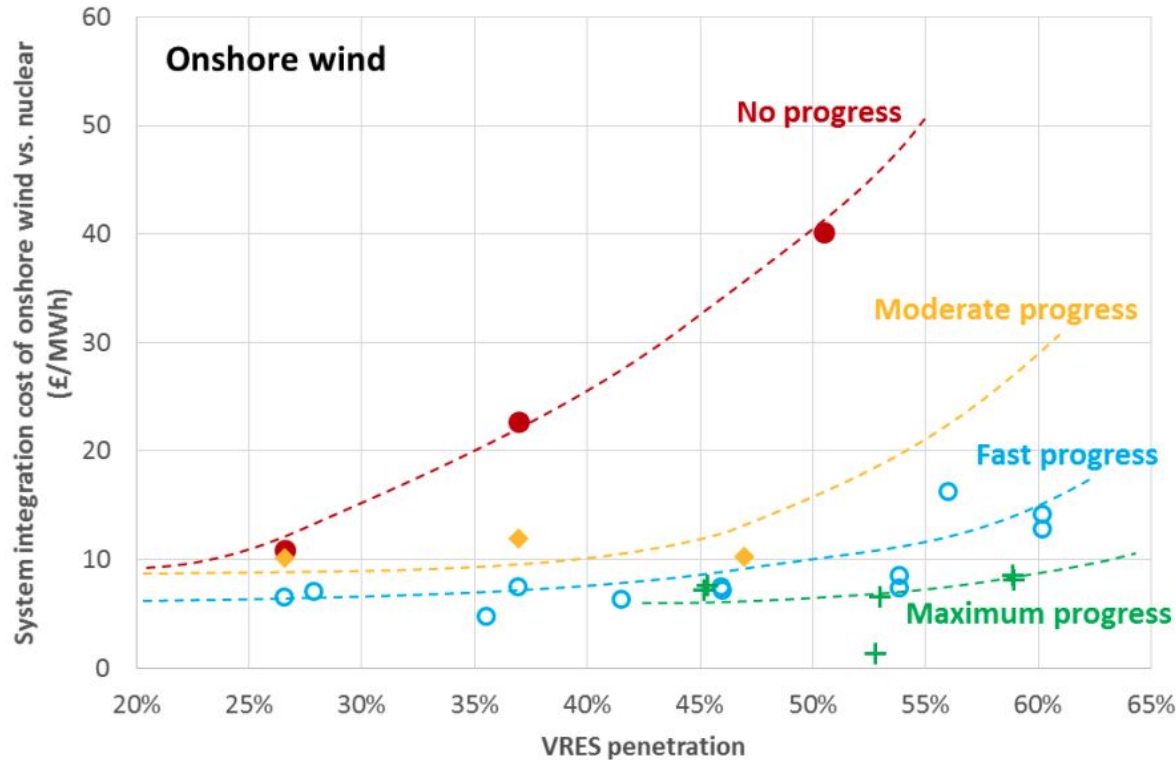
We are currently dependent on dispatchable thermal flexibility. To hit net zero with system resilience we need a big step change from where we are today

- Although traditional sources of flexibility (coal and gas) are slowly retiring, dispatchable thermal generation still dominates most balancing markets
- To enable the UK to meet its decarbonisation objectives whilst also ensuring security of supply, investment in low carbon and domestic flexibility is needed
- By 2050, the LtW FES scenario forecasts that 220 GW of flexible capacity will be needed with a 5 fold increase in DSR, a 13 fold increase in electricity storage and a need for 40 GW of V2G - from a starting point of 0 GW today
- A fully flexible system is expected to deliver material net savings of between £9.6-16.7 billion per annum in 2050 (Carbon Trust)



Source: NGENO FES 22

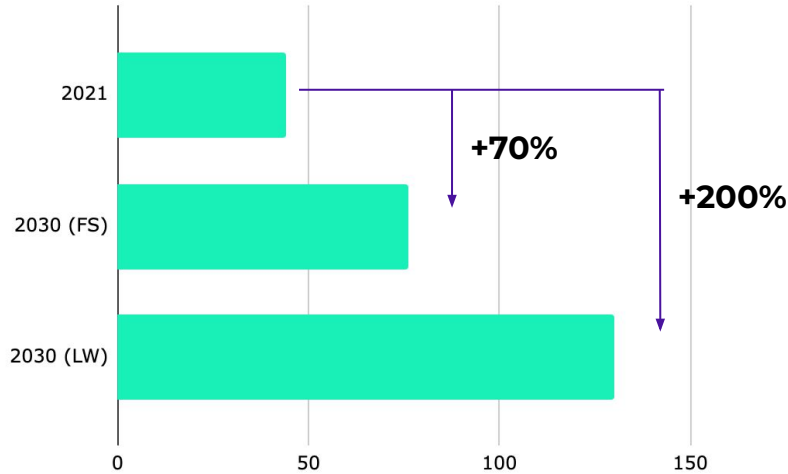
If we don't invest in sufficient flexible capacity, we may be at risk of very high integration costs for renewables that are connected - resulting in a more costly path to net zero for consumers



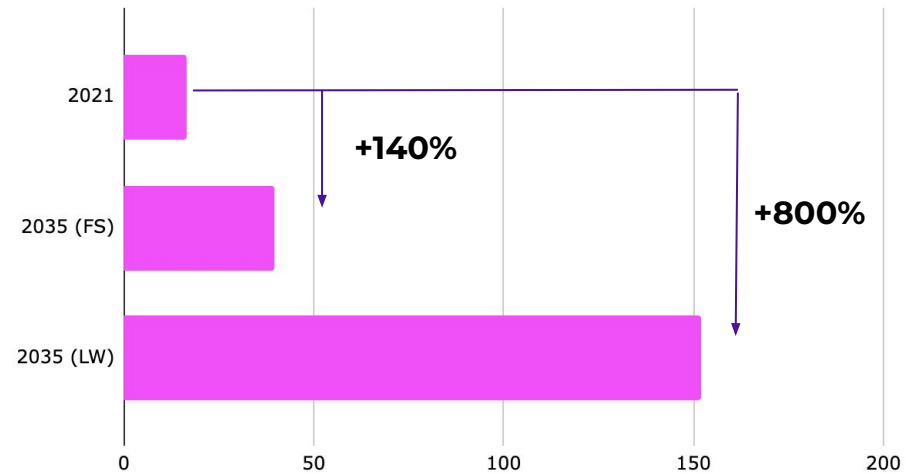
Source: Imperial College Net Zero Technical Annex for the CCC, 2019

The investment upheaval needed in low carbon flex is much greater than renewables

Renewables



Low carbon flex



Source: NGENO FES 22, note different dates due to scenarios within FES but point still stands. Low carbon flex includes interconnectors, electricity storage, V2G and DSR - excludes dispatchable thermal generation and electrolysis