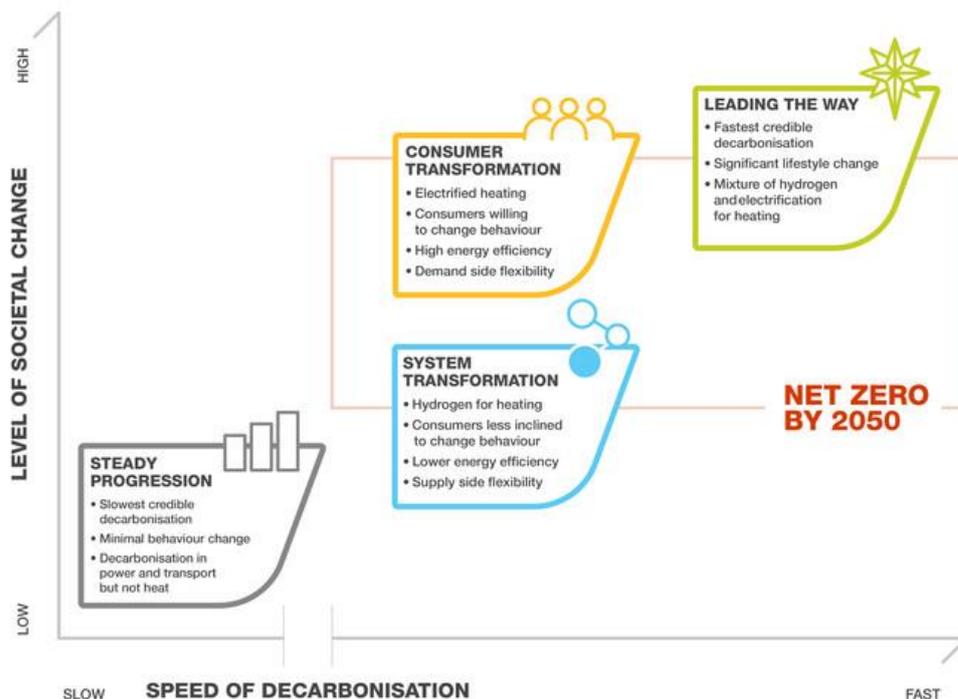


Quinbrook’s view on the recent publication of “Future Energy Scenarios 2021”, published by National Grid ESO

In response to the recent publication of National Grid’s (“National Grid ESO” or “ESO”) Future Energy Scenarios 2021 (“FES”)¹, Quinbrook highlights what it sees as the key points from the report regarding the value opportunity in new infrastructure solutions that are designed to deliver flexibility to the grid, especially in operational stability and inertia services. Quinbrook has already invested in and is nearing completion of the first new synchronous condenser to be built in the UK which will provide critical grid stability services to National Grid.

FES is published annually to guide investment decisions and flesh out policy development based on a holistic understanding of the ways energy supply and demand might change in the medium and long-term. This year’s FES provides practical context for the UK’s updated Nationally Determined Contributions (“NDCs”) ahead of COP 26 (NDCs - plans for how much each country will reduce its carbon emissions).

Last year’s FES 2020 depicted four potential scenarios with varying degrees of societal change and speed of decarbonisation. These four scenarios remain in 2021, but have been updated to incorporate the practical experience of the Covid-19 pandemic plus the more ambitious decarbonisation targets announced by the UK Government during winter 2020/21. FES’s 2021 scenarios are illustrated below:



FES 2021 predicts even faster decarbonisation through 2030 in all four scenarios. In Quinbrook’s view, the four key predictions and assumptions are summarised as:

¹ <https://www.nationalgrideso.com/future-energy/future-energy-scenarios/fes-2021#fes-reports>

- Increased electrification of transport and heating translates to both higher annual electric power demand and higher peaks than those modelled in FES 2020. This means that more zero carbon energy supply and storage capacity, especially renewables, is needed over the next 9 years to 2030. The projected range for additional offshore wind capacity now spans 31-47GW (compared to the BEIS target of 40GW by 2030 in the Energy White Paper² and a minimum of 25GW estimated in FES 2020);
- An increase in overall electricity demand and a higher penetration of intermittent renewables which taken together is forecast to require up to 13GW of new energy storage infrastructure by 2030 and up to 6GW of demand response capability to help manage both system security and supply reliability;
- National Grid ESO reiterates its aim to operate the electricity system ‘carbon free’ by 2025 and emphasises that alternative sources of inertia must be scaled up to do this;
- FES 2021 was also born out of more detailed analysis of changing heat demand, leading National Grid ESO to increase the predicted relative share of electrification over hydrogen for heating in both the domestic and commercial sector. This prediction is a key contributor to a medium-term increase in peak electrical demand and the critical need for more system flexibility to service sectors of UK customer power demand.

FES 2021 coincides with recent messaging from the UK Government around its policy priority to create green collar jobs with a view to “Build Back Better”³ following Covid-19. The UK Government and the Committee on Climate Change (“CCC”) made a series of milestone policy announcements at the end of 2020 and the start of 2021, including the release of the National Infrastructure Strategy⁴, Industrial Decarbonisation Strategy⁵ and Energy White Paper, which built upon the Prime Minister’s Ten Point Plan for a “Green Industrial Revolution”⁶. It also addressed the transformation of the UK’s energy system whilst promoting high-skilled jobs and clean, resilient economic growth.

This recent momentum in UK policy strongly supports increased investment in new renewable generation and grid support infrastructure. However, in Quinbrook’s view, it will be market fundamentals which will continue to drive investment decisions since the landscape appears to be becoming more crowded with a widening range of sophistication held by new entrants. Navigating emerging risks effectively is now more important than ever despite the increasingly attractive ‘macro picture’. Further, extreme weather is a major consideration along with medium and longer term physical climate related risks. The extreme weather conditions experienced during winter 20/21 highlighted the urgent need for more investment in flexibility in the UK energy market to keep prices affordable and to ensure reliability of supply at all times.

In the UK today, both new build wind and solar PV and, more significantly, new onshore wind and solar projects coupled with battery storage, has the potential to offer a lower cost of power than new build gas turbine plants⁷. Nevertheless, like most asset classes, some ‘energy transition’ projects are better than others in terms of risk and return and there is no substitute for experience when determining which is which.

² <https://www.gov.uk/government/publications/energy-white-paper-powering-our-net-zero-future>

³ <https://www.gov.uk/government/publications/build-back-better-our-plan-for-growth>

⁴ <https://www.gov.uk/government/publications/national-infrastructure-strategy>

⁵ <https://www.gov.uk/government/publications/industrial-decarbonisation-strategy>

⁶ <https://www.gov.uk/government/publications/the-ten-point-plan-for-a-green-industrial-revolution>

⁷ *BNEF Levelised cost of energy across technologies UK 2020, H1*