



STATERA
BALANCING THE GRID

Statera Energy Limited
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Frequency Risk and Control Report 2025 Consultation

About Statera Energy

Statera Energy develops, owns, and operates flexible generation and storage technologies that work to balance the grid in a renewables-led energy system, at the lowest cost to consumers. These technologies include grid-scale batteries, green hydrogen, pumped storage hydro and flexible generation. Today, Statera is a market leader in storage and flexibility with over 2GW of UK projects operational or in construction, and over 16GW in development or consented. In August this year, Statera energised the UK's biggest battery storage system, the 300MW/600MWh Thurrock BESS.

Questions

Question 1) What is your view on NESO's FRCR 2025 policy to reduce the minimum system inertia requirement? Please explain your reasoning, with relevant evidence to support your views.

Statera supports NESO's proposal to reduce the minimum system inertia requirement in line with their ambitions for zero-carbon operation in 2025 and the Government's target for a 2030 Clean Power system.

Battery Energy Storage Systems (BESS), such as those that Statera develops and operates, can respond quickly to changes in frequency, allowing NESO to operate the grid at lower levels of inertia and reducing their reliance on conventional generators. In doing so, this can lower the carbon intensity of the grid and pave the way for increasingly long periods of zero-carbon operation.

The DC-low service is a highly liquid market in which many BESS compete. Procuring additional frequency response through this market is both low cost and low carbon. NESO should employ robust performance monitoring and penalties for non-delivery to ensure the reliability of this service.

Question 2) Do you have any further comments?

Whilst Statera welcomes the reduced inertia requirement, system operations could be further decarbonised by utilising BESS with grid-forming technology (GFM) to contribute to the remaining inertia requirement.

Statera analysis shows that for a RoCoF (rate of change of frequency) event at 1 Hz/s, each 100MW of grid forming BESS could provide around 1.2 GVAs of inertia (or an implied inertia constant, H, of 12). With an increasing level of BESS on the system (24-27GW 2030 target), batteries operating in grid-forming mode could make a significant contribution to the 102GVA requirement. This would further reduce the need to rely on conventional power plants for inertia, improving NESO's ability to operate the grid at zero carbon.



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However, grid-forming invertors introduce additional up-front costs and engineering complexity to BESS developers, who are unlikely to invest in GFM without support. Statera welcomes NESO's commitment to GFM market development through the Long-term 2029 Tender as it will be important for NESO to signal firm support for this technology so that developers can accommodate GFM in upcoming projects. NESO should commit to further long-term stability tenders to continue to encourage the GFM market.