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SEM Committee & CRU

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SEM-22-054 Call for Comments on EY Review of the Performance of the SEM Capacity Remuneration Mechanism

Fluence Energy is a global market leader in energy storage products and services, and cloud-based software for renewables and storage. Fluence is also the leading provider of battery-based energy storage systems – including the very first commercial deployment – on the island of Ireland.

Energy storage is and will continue to play a significant role in facilitating higher levels of renewable generation on the power system and is required to achieve national renewable electricity targets. Storage systems are extremely flexible and versatile assets, and can act in the energy, capacity, and system services markets to meet peak requirements and increase flexibility in demand and generation, thereby providing a wide range of consumer benefits, including wholesale energy price reductions, significant CO2 emissions abatement, as well as essential system operational and network support services to support security of supply and manage the grid to integrate growing levels of renewable penetration.

We would like to thank the SEM Committee for the opportunity to provide feedback on the consultation on the EY Review of the Performance of the SEM CRM.

Question 1: Was sufficient capacity procured in the capacity auctions?

We believe that to date, insufficient volume has been procured. Especially considering the current energy crisis, energy security concerns, increasing electricity demand and increasing levels of intermittent renewable generation, we encourage the SEM to further consider new-build capacity which can be built out in an accelerated manner. Overall, the capacity market in its current form is not equipped to sufficiently accommodate storage, particularly storage of multi-hour durations (2-4 hours and more). With battery-based energy storage providing one of the lowest levelized cost of capacity, fast response time and the ability to provide multiple values to the energy system, it is critical to consider a market structure that allows for the accelerated buildout of the current

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connection queue, as well as addressing the different cost structures of battery-based energy storage (high CAPEX / low OPEX) compared to gas-based generation.

Question 2: Did capacity auctions attract sufficient participation?

Fluence cannot comment on the specific participation in the auction, but there is clear interest from the market to develop and build assets to participate in the auctions. There is already a substantial quantity of permitted energy storage projects. We believe that this is another reason to consider specific measures to incentivise energy storage, which can deliver permitted projects into auctions in a much shorter timeframe than new gas generation plants.

While many of the initial energy storage systems deployed in Ireland are short-duration systems (30-minutes), many newer assets being installed in 2022 and 2023 have longer durations (2-hours). In discussions with our customers, there is a strong desire to develop and build storage assets with a minimum duration of four hours, which has the potential to deliver a tremendous amount of capacity to the grid during peak hours. Furthermore, energy storage can be sighted more strategically and is therefore more capable of delivering capacity in the areas of greatest need.

Question 3: Did new capacity procured in auctions get built?

Not specifically answered.

Question 4: Was the capacity procured of sufficient value?

The report does not address the benefits that battery storage could provide in the capacity market. Fluence disagrees with CCGT and energy storage being addressed in the same category, as there are very clear differences between the two – both in the ability to accelerate the build out of new assets and the multitude of values energy storage can provide to the system. Please note that Fluence supports the positions and research references put forward by *Energy Storage Ireland* that underline the value of energy storage within capacity markets for long-term security of supply, energy cost reduction, and increasing the share of renewables.

The CRM is failing to recognise key benefits of battery-based energy storage:

- Lower risk of permitting for battery-based energy storage
- Speed of construction of battery-based energy storage that can be delivered in 18 months for the coming winter periods
- The abilty to strategically site assets throughout the system and therefore being more capable of delivering capacity in the areas of greatest need
- The contribution to capacity adequacy of multi hour battery-based energy storage

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However, battery-based energy storage is hindered by the current CRM design not providing sufficient signals to accelerate investment and build out of planned projects. It lacks long-term revenue certainty for high CAPEX / low OPEX assets; network charges discriminate against storage; locational and / or time-of-use incentives are absent. Furthermore, current CRM design does not accurately reflect or reward the low emission profile of energy storage technologies.

In addition to fundamental market design challenges, we are currently witnessing supply shocks, the aftermath of a global pandemic and shifting demand patterns that have coalesced to challenge global supply chains and create upward pressure on pricing. Price spikes in raw material used in batteries, primarily lithium, have driven battery material prices up by 289% through 2022 when compared to June 2020. In addition to upward price pressures, the global storage market is facing unprecedented demand in the United States, because of the recent introduction of an energy storage tax credit, and continental Europe. The energy storage industry also faces competition with increasing demand from automotive companies and limited supply of bankable battery cells resulting in tight supply.

We believe, that in an environment where supply chains remain strained and inflationary pressures are mounting, improvements in the CRM design and remuneration mechanisms are even more critical to ensure that the market structure is designed appropriately to align with the overall policy objectives of improved energy security and lower emissions. Otherwise, this will undermine investment in battery-based energy storage in the SEM as a whole and disincentivise developers to build longer duration systems (2-4 hours) that are most needed in the market. This will in turn jeopardise the buildout needed to enable the accelerated deployment of renewables and ensure energy security.

Conclusion

We would like to thank the SEM Committee for the opportunity to provide feedback on the consultation on the EY review of the performance of the SEM CRM. We are available to discuss any of the points made above in more detail should you require.

Sincerely,

Julian Jansen
Director – Strategy, Market Development, Policy