

Dear Clare,

Tesla Motors Australia, Pty Ltd (Tesla) welcomes the opportunity to provide the AEMC and AEMO with feedback on its joint paper exploring essential system services (ESS) and inertia in the NEM. We commend the effort that has gone into these important issues to date, and appreciate the continued detailed stakeholder consultation.

Tesla's mission is to accelerate the world's transition to sustainable energy. In Australia, forward looking market design will be critical to achieving this outcome. As both AEMC and AEMO have outlined across many market reform pieces, there is a clear pathway to an Australian future that is predominantly reliant on renewable energy and storage and the NEM has a unique opportunity to ensure it is structurally fit for purpose to enable this future. Inherent in this approach is a rapid transition away from emission-intensive assets, with significant investments in new, flexible, largely inverter-based capacity alongside efficient procurement of services to match what will be needed in a renewables-based future. Within this context, our feedback to the paper is summarised as follows:

- Tesla is supportive of the approach to create new market signals and ultimately unbundle and value services, provided non-network and asynchronous solutions are afforded an equal playing field to incumbent technologies – i.e. ESS markets are technology & scale neutral with payment based on service not asset type
- In respect of scale neutrality, all ESS market development should specifically consider how aggregated, orchestrated distributed (or customer) energy resources can be incentivised for providing equivalent services. Note that scale neutrality does not mean that all assets should be treated exactly the same. We should continue to look at options to ensure greater market participation from DER and address barriers that may apply where thousands of customer assets are aggregated, that may not apply to single utility scale assets
- With power electronic capabilities and grid forming storage assets complementing renewables - the full suite of reliability and system security services can be provided without falling back on synchronous generation
- With the pace of the transition, low-regret/high-value reforms such as fast frequency response (FFR) markets, PFR incentives, and inertia procurement mechanisms should be expedited (the latter two ahead of the nominal 'post 2025' timeframes), with 2024/25 implementation timeframes achievable and non-contentious
- In parallel, and as an alternative to current 'capacity market for all' and Operating Reserve proposals, Tesla also recommends further exploration of a 'flexibility market' – to target additional revenue for new generation and demand response capacity that is both fast-ramping and able to provide defined services to support the grid (as opposed to simply rewarded registered 'peak MW' capacity). Services could also cover temporal needs, such as load-side response for low operational demand risks and inertia shortfalls. This approach would address the risks of disorderly coal plant exits by ensuring new capacity is incentivised to enter the market before old plants retire, and help avoid ad-hoc government interventions by providing transparent, efficient, and predictable price signals for new capacity (complementing future ESS markets) By coordinating service procurement through a new 'flexibility market' that strengthens investment signals for new, flexible capacity - resource adequacy and ESS will be met in a way that is both technology neutral (allowing inverter based resources to compete with synchronous machines) and scale neutral (allowing provision from distributed energy resources and virtual power plants) to ensure lowest cost, highest benefit outcomes for consumers over the long-term
- As we noted previously as part of the FFR rule change process, FFR was first formerly proposed in the AEMC's Frequency Control Frameworks Review report of July 2017. If implementation is only finalised by 2024, then it will have taken 7 years to progress a reform that has consistently received clear industry

support. This is clearly not keeping pace with the energy transition underway and is decoupled from AEMO's own identified need (i.e. we note AEMO's direction to ElectraNet to procure FFR in South Australia as another clear indication that FFR is required well ahead of 2024)

- Developers of battery projects are generally concerned about the need and speed of implementing market reforms to better recognise the value of services. As we noted in our response to the potential delay of 5MS, long and drawn out timeframes advantage incumbents whilst prolonging uncertainty for new technologies such as battery storage, even following successful demonstration of its ability to deliver outstanding outcomes for Australia's energy consumers upon immediate deployment
- New markets for inertia are crucial to contribute to both reliability and system security outcomes in the short term, and to drive affordability and efficiency outcomes for consumers over the longer term
- The AEMC must consider both the individual and collective impact of prolonging implementation against a broader assessment of what potential market and investment risks are arising over the same timeframe
- Improved price signals that reward fast, flexible and dispatchable assets (e.g. battery storage and demand response) is required to drive efficient investment. This will immediately flow through to greater reliability, system security, and lower emissions and costs for consumers
- Strengthening investment signals for new flexible capacity will also serve to mitigate the risk of early or disorderly thermal coal closures, and help ensure new plant (providing frequency as well as other essential system services such as system strength, inertia, and voltage control) is deployed ahead of old generators exiting.
- Accordingly, we recommend market bodies learn from the past and initiate the AEC rule change immediately, as there are significant net benefits to consumers for unbundling inertia services before shortfalls arise in the system
- Tesla strongly supports an approach that will allow DER to have access to all markets and services that they are technically capable of delivering – i.e. from the outset AEMC should progress a payments for services model (over and above set of minimum performance standards or mandatory approach)

Tesla looks forward to supporting these ongoing ESS market design reforms as initiatives are progressed towards the final recommendation paper.

Sincerely,

Tesla Energy Policy and Regulation team

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