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Australian Energy Market Operator
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via email: isp@aemo.com.au

16 February 2024

**RE: AEMO Draft 2024 Integrated System Plan – Tesla Response**

Dear AEMO,

Tesla Motors Australia, Pty Ltd (Tesla) welcomes the opportunity to provide AEMO with feedback on its Draft 2024 Integrated System Plan (ISP), building on our previous submissions to the Inputs, Assumptions and Scenarios consultations over the past 2 years.

Tesla commends AEMO's continued efforts and the significant work that has gone into developing detailed and transparent modelling across the spectrum of engineering and system challenges faced by the National Electricity Market (NEM), and in particular the time spent working closely with industry and government on refining the ISP since first publication in 2018. The finalised 2024 ISP will continue to drive Australia's energy market discussions forward and will undoubtedly be used as a credible reference for the next tranche of critical energy policy decision making.

Tesla's submission focusses on storage, recognising the critical role that both grid-scale (short and medium duration storage), and CER (consumer energy resources) will play in Australia's future renewables mix.

Specifically, Tesla recommends that AEMO's final 2024 ISP incorporates:

1. **Higher and more consistent incremental uptake of shallow and medium duration storage.**
2. **A more reflective VPP uptake rate under current market conditions.**

Tesla looks forward to continued engagement and actively participating in ongoing discussions to support AEMO in the finalisation of the 2024 ISP.

Kind regards,

Tesla Energy Policy Team

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**1. Shallow and medium duration storage incremental capacity:**

Tesla has reviewed the storage projections in ISP Step Change Scenario and noticed some potential data discrepancies. From the late 2020s there are several instances of zero or negative incremental growth in shallow and medium storage projections. This raises the following questions:

- These numbers appear incongruous with the announced Capacity Investment Scheme (CIS). If we assume that the full 9 GW of storage capacity will be contracted through the CIS, we would expect to see growth in shallow and medium storage every year between 25/26 through to the early 2030s at least. There also appears to be broad recognition that there needs to be a long-term solution incentivising new storage capacity. We would expect to see annual incremental growth in storage capacity for a number of years.
- Tesla notes that the ISP Step Change Scenario predicts a significant decline in additional shallow duration storage built after 2025-26, with only 0.8 GW of incremental capacity built in total from 2025-27 to 2028-29. As the current minimum duration of the CIS tender design is 2 hours of capacity, it is fair to predict that there will be a significant number of tenders will be bid at this level within that time frame.
- The negative incremental capacity projections do not appear to be reflected in AEMO's retirement projections, so it is not entirely clear what is driving these numbers. It would be helpful for AEMO to provide more transparency on the year-by-year growth projections as well as total cumulative storage numbers.

From Tesla's perspective both the CIS and the growing role of grid-forming batteries providing critical system security services (very fast FCAS services, system strength, inertia) would suggest continued storage growth. We recognise the relative circularity of the ISP (in that it is both informed by policy and is used as a key input to policy). While the CIS is in design stages, Tesla believes it would be beneficial that the final ISP maintains a smoother curve of incremental shallow and medium duration storage over the next decade. This is likely both to be more accurate, and to provide strong guidance to DCCEEW and AEMO Services in setting the forward work plan for the CIS.

**2. Coordinated CER uptake:**

Tesla notes that the AEMO ISP Step Change scenario sees a very significant growth rate in CER storage, and more particularly, in coordinated CER storage. Tesla is supportive of both the high levels of embedded CER, and specifically the growing rate of aggregation with coordinated CER storage in joining VPPs, but also question if these projections can be achieved in the absence of a federal incentive. To achieve this level of coordinated CER uptake, Tesla reiterates the need for an extension of the Small-scale Renewable Energy Scheme (SRES) to 2040 to include residential energy storage, with an additional incentive for orchestration.

Historically, Tesla's data shows that state-level policies in South Australia and Victoria were effective in increasing uptake rates for CER to join when providing up front rebates (versus zero-interest loans), however once these programs completed, VPP orchestration rates returned to baseline lower levels. Tesla commends other jurisdictions like Queensland for their recent Battery Booster scheme. We especially support policy design that directly incentivises orchestration to achieve the level of coordinated CER storage outlined in the ISP Step Change Scenario. However, Tesla notes that ultimately, jurisdictional alignment through a federal program will be the most effective in achieving AEMO's predicted embedded storage and coordinated CER energy storage rates.

Tesla also recognises another key driver in increasing the proportion of CER energy storage that is coordinated through a VPP to be the success of AEMO's rule change request to the AEMC for Integrating Price Responsive Assets into the NEM. Tesla supports AEMO's rule change request to allow VPPs to participate in scheduled processes and access new markets, as these will improve the financial incentive for consumers with previously passive CER assets to join a VPP, increasing rates of coordination.