



Tesla Motors Australia Pty Ltd
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Joel Aulbury
Australian Energy Market Commission
PO Box A2449
Sydney South NSW 1235
19 March 2020

Re: AEMC 2020 Retail Energy Competition Review: Electric Vehicles (ref: RPR0012)

Dear Joel

Tesla Motors Australia, Pty Ltd. (Tesla) welcomes the opportunity to provide the Australian Energy Market Commission (AEMC) with feedback on the “2020 Retail Energy Competition Review: Electric Vehicles – Issues Paper” (EV Issues Paper). We appreciate the AEMC taking a focus each year on emerging technology types and how better utilisation of these assets can result in new customer energy offerings and improved value.

A number of the questions and current market considerations noted by the AEMC in the EV Issues Paper applies equally to controllable loads (EV charging and otherwise) as it does to stationary storage, controllable solar and virtual power plants (VPPs), the spotlight topic in the AEMC 2019 Retail Competition Review. As such, many of the Tesla recommendations included in the below response will apply more broadly to all distributed energy resources (DER) located behind the meter and capable of participating in energy or frequency markets and dynamically responding to market signals.

We believe that the work that the AEMC is doing in this space is important and the AEMC should continue to explore options for making it simpler for DER to actively participate in markets. The current market integration of DER is complicated and there are several regulatory barriers preventing full market integration of these assets.

Increasingly, it is also important to find the right balance between mandating specific response requirements and incentivising market participation. Tesla has concerns about the development of Australian Standards, such as AS/NZS 4755.2:2019, which mandates specific demand response settings driven more by control. These settings are unlikely to be compatible with the wholesale demand response mechanism (WDRM), the AEMO VPP Demonstrations Trial or any other work underway to develop two sided markets.

Our response below focuses primarily on the multi-party trading relationship aspect of the EV Issues Paper and the broader two-sided market work underway, and the need to manage market

incentives for new energy offerings, alongside our feedback on managing market incentives with regulatory requirements.

Tesla looks forward to continuing to support the AEMC on all measures related to market integration and improved customer value for DER and EVs. For more information on any of the content included in this response please get in touch with Emma Fagan (efagan@tesla.com).

Kind regards

A handwritten signature in black ink, appearing to be 'Emma Fagan', with a stylized flourish at the end.

Emma Fagan

Head of Energy Policy and Regulation

Questions for consultation:

Question 3: Regulatory environment?

Tesla supports further work done on the development multi-party trading relationships and considering how several different options may be made behind a single connection point. There is a major focus at the moment on the development of two-sided markets, and Tesla supports a continued focus on developing appropriate markets and regulatory settings for increased participation from EVs, VPPs and other behind the meter assets.

Based on our experience in VPPs, and DER (including demand response from EVs) more broadly, we consider the following to be important considerations for two-sided markets:

Bi-directional energy flows:

- Any two-way market integration should be managed at the customer connection point and consider energy in and energy out. This allows sites to take advantage of controllable loads – such as EV charging infrastructure, as well as generation and controllable bi-directional assets. This allows for better use of assets at all times – including when generation or storage is not being used to serve customer load.
- We note that the most recent WDRM draft rule change considers the inclusion of the export of energy from generation located behind the meter. This is a great step towards two sided markets.
- The AEMO VPP Demonstrations Trial, and subsequent finding released in December 2019¹, addresses a similar issue with the development of the market ancillary services provider (MASP) and ancillary services load classifications.
- Under these classifications, assets were anticipated to provide frequency control ancillary services (FCAS) on the load side only. The AEMO VPP Trial enables bi-directional assets to participate on both the load and generation side.

Full market optimisation:

The best market outcomes will be achieved where assets are fully co-optimised. Ideally a two-sided market should enable co-optimisation across both energy (generation and load side) and frequency services (generation and load side). This should also capture any future markets that are developed, particularly in respect of network services.

Single connection point:

The EV Issues Paper considers whether the Small Generator Aggregator (SGA) framework is an appropriate mechanism for the market integration of EVs.

The major issue with the SGA framework, is the requirement for two separate connection points. For the vast majority of residential customers, maintaining two separate connection points is not a feasible option. There is a high cost associated with setting up a separate connection point, and it raises a number of other issues such as whether to locate associated solar PV and storage behind the EV connection point, or the customer load connection point. As such, the SGA framework is

¹ https://www.aemo.com.au/-/media/Files/Electricity/NEM/Participant_Information/New-Participants/Interim-Arrangements-for-FCAS-from-DER.pdf

highly unlikely to be a successful mechanism for residential customers for EVs. This is evidenced by the lack of SGA offerings currently available for any other behind the meter residential asset.

The alternative approach to multi-party trading relationships is to enable customers to maintain more than one relationship behind a single connection point. This would reduce customer cost and energy flows, and frequency responses, and can still be managed through appropriate metering (see point below).

We note that many customers will only wish to maintain a single relationship behind their connection point, however enabling multi-party trading relationships will improve customer choice, and better allow for the development of new business models. This innovation has been clearly demonstrated for VPPs, particularly in SA, where a range of retailers (from large traditional gentailers through to white-label / start-ups), technology providers, and aggregators are partnering, competing and iterating on customer propositions. By streamlining the SGA framework in a way that further simplifies and minimises costs for all parties, this innovation will be vastly accelerated once EVs are integrated into the energy market.

Metering requirements:

Related to the point above, all work done on developing two-sided markets and looking further at multi-party trading relationships, should also consider the current metering requirements of the National Measurement Institute and the *National Measurement Act*.

Under the Act, all meters used for trade must be of a basic standard, which is the National Measurement Institute's pattern approval. Pattern approval is mandatory for measuring instruments used for trade in Australia and the National Measurement Institute is responsible for evaluating measuring instruments to ensure they meet Australian standards.

While it is critically important that meters used for any kind of customer trade are fit for purpose in respect of accuracy of measurement, the relevant data-points for new energy market services are increasingly capable of being delivered by asset level devices (such as the Tesla Powerwall Gateway). Considering whether the *National Measurement Act* should be reviewed to better enable assets to directly provide this data will be an important enabling factor in the development of two-way markets.

The current process for gaining pattern approval for new meters is cumbersome and time-consuming, and the process should be reviewed to focus more on outcomes and meeting all requirements of the National Electricity Rules chapter 7. The process for obtaining pattern approval should be reviewed and streamlined to encourage more suppliers to go through the process, and create more customer choice.

Based on the above, Tesla makes the following recommendations to the AEMC:

- **Review the need for a second connection point to enable SGA. Consider whether multi-party trading relationships can be managed under a single connection point.**
- **Review current metering requirements under the *National Measurement Act*. Streamlining the process for pattern approval for revenue grade meters would enable more asset level devices to provide the same outcome and reduce the costs of providing new energy services (by removing the need for a second meter in addition to the asset level measurement device).**

Question 6: EV value stream

As mentioned up front, the creation of future EV value streams will also require a balance between mandating or regulating settings, and creating the right market incentives.

In 2019, Tesla provided feedback to COAG in respect of the applicability of AS/NZS 4755.2:2019 to residential EV chargers.

Our view supported continued work to encourage manufacturers and energy providers to continue to develop innovative customer offerings, rather than mandating specific settings via an Australian standard.

All work under development in respect of two-sided markets will be customer opt-in, and managed remotely in response to market signals once customers have given their permission to participate under the scheme. Consumers will then see the direct benefit of their market contribution in exchange for signing up to a VPP or EV control scheme. Conversely mandating static settings via Australian standards will most likely lead to asset control with no consumer benefit.