

Department of Planning, Industry and Environment
Via email: energy.consumerpolicy@dpie.nsw.gov.au

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RE: NSW DPIE: Enabling the Transformation of the Energy Sector Paper – Tesla submission

Tesla Motors Australia, Pty Ltd (Tesla) welcomes the opportunity to provide a submission to NSW Government's 'Promoting innovation for NSW energy customers' consultation paper. Tesla's mission is to accelerate the world's transition to sustainable energy. Tesla is the largest supplier of energy storage and electric vehicles and one of the leading providers of grid-scale and home battery systems in Australia.

Tesla provides this summary note as a complement to the CEC response and is strongly supportive of the detailed comments and proposed solutions included within their submission. In summary, we provide the following recommendations for NSW Government:

- (a) immediately **re-design the Empowering Homes program** to accelerate uptake and improve access to DER and flexible load services, as the scheme is currently not fit-for-purpose in incentivising small-scale storage systems across NSW at the scale or pace required (i.e. it is insufficient to achieve the NSW target of 300,000 systems by 2030, or ~700,000 systems according to AEMO's latest ISP forecasting 3.5GW of DER storage).

DPIE should consider that NSW currently has the third lowest per-capita uptake of residential storage in Australia¹, and the design of the current zero-interest loan scheme is not adequately incentivising installation of new storage systems. The postcode limitations and lack of interest in zero-interest financing appears to doing little to drive additional battery sales beyond baseline organic growth in NSW. The current scheme is also biased against low-income households, such as pensioners without disposable income or customers that may otherwise be continually cash-flow constrained.

As the uptake of rooftop solar continues to grow at a compounding rate, grid risks (e.g. low operational demand) and the need for local flexibility services becomes more pronounced. Increasing uptake of locally connected battery storage is the best way to ensure consumer costs are minimised whilst consumer protections are maintained (i.e. avoiding solar curtailment or blunt requirements such as remote disconnect).

We re-iterate with CEC's comments on this point:

"the key to unlocking the benefits of high solar PV penetration on the distribution network is more controllable, market-responsive energy storage on the distribution network...VPPs are [a] promising business models for providing that energy storage".

Managing solar and battery operations in a controlled manner under a VPP means that systems not only reduce peak demand stress, but can contribute to the grid when energy or system security services are required, as well as minimise grid exports during periods of low demand. Therefore, actively encouraging the uptake and aggregation of local storage systems is critical.

There are currently thousands of residential battery systems deployed across NSW, with only a small percentage of this fleet operating as VPPs. The vast majority of these systems are not being capitalised for market participation, largely because of the lack of market incentives, but also due to perceived complexity

¹ Per AEMO's DER Database – NSW is behind SA, TAS, ACT, and Queensland; and although ahead of Victoria and WA – both these states now have funded VPP programs in place

and upfront investment cost. Updating scheme design to help scale to hundreds of thousands of systems can be achieved by including requirements / incentives for VPP capability as a simple way to encourage grid interactivity and remove some of existing barriers. As an example, Tesla's SA VPP, which successfully expanded from public housing trust customers to private customers in South Australia, is leading the way in highlighting opportunities that can be realised across multiple stakeholders, with local network utility SAPN, market operator AEMO and residential customers all enjoying the benefits of aggregated storage and solar systems providing energy and ancillary services.

We note DPIE can leverage the work already underway for a new NSW Energy Security Safeguard mechanism, potentially combining program budgets to provide direct financial incentives for household storage. As a starting point, we recommend DPIE focus on keeping the scheme simple and easy to understand for customers and providers. Broad-based, up-front grants are the best and most proven approach, and allow for programs to adjust incentives based on uptake (e.g. in SA, Victoria, California etc).

For example, we suggest NSW Government:

- **Eliminate locational restrictions** (e.g. via postcode tranches) as these create significant disruption to the wider industry as the unintended outcome is a deflation of demand that would have otherwise existed - as customers rationally postpone business as usual purchases on the hope their post-code or nominated area becomes included in future subsidy rounds.
- Provide **upfront grant payments** (scaled \$ per kWh) – i.e. tied to the system's capacity (e.g. \$250/kWh capped at \$3k) at the point of sale (or to VPP aggregators on behalf of customers), to remove perverse incentives to undersize systems or sacrifice quality products in order to maximise subsidy payments.
- Ensure the scheme is **future-proofed to support VPPs** and energy market innovations– e.g. meet minimum functionality for communications (ability to follow control signals), are VPP compatible (at minimum) or automatically enrolled at commissioning, can autonomously provide fast frequency response, back-up functionality, voltage regulation and power factor control services, and comply with all product safety codes and standards.
- Consider **payment for services** (via aggregators) as a proven mechanism to incentivise additional system and network services. This avoids introducing additional operational requirements which may be at odds with the economic signals customers receive via their retail tariff or market signals as part of VPPs, which would introduce unnecessary complexity in dispatch optimisation.

Additional recommendations for DPIE (and aligning with the detail provided in CEC's response) include:

- (b) explore alternatives to ensure **DNSPs are incentivised towards non-network solutions such as SAPS**; and
- (c) overcome barriers to community battery projects by working with NSW NSPs and **enabling cost-reflective network charges** (e.g. local use of system rates in place of exorbitant DUOS costs) and exploring the use of **regulatory sand-boxing**.

Ultimately, a NSW energy system that effectively scales the integration of storage will be able to best optimise the value of household renewable generation and load profiles. Tesla looks forward to continued engagement in supporting the NSW's transition to sustainable energy to benefit of all customers.

Sincerely,

Tesla Energy Policy Team

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