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Department of Climate Change, Energy, the Environment, and Water
GPO Box 3090
Canberra ACT 2601

29th January 2026

**RE: Tesla's Response to the Strengthening the PEMM provisions consultation paper**

Tesla Motors Australia, Pty Ltd (Tesla) welcomes the opportunity to provide feedback to the Department of Climate Change, Energy, the Environment, and Water (DCCEEW) on the Consultation Paper on Strengthening the Prohibiting Energy Market Misconduct (PEMM) provisions in the Competition and Consumer Act 2010.

Regarding *Section 3) on providing greater protection for consumers in periods of cost increases,* Tesla supports the objective of protecting consumers from unreasonable price outcomes, noting that the rise in consumer energy resources (CER) has led to a shift in usage profiles for a portion of retail customers. Consequently, this has led to a mismatch between the grid usage profiles of battery customers and the 30-minute time-of-use (TOU) billing framework used by DMO/VDO, which risks misrepresenting the true cost and value of battery-enabled retail offers. To ensure fairness, a potential suggestion could incorporate additional criteria for evaluating contracts older than a specified threshold, while noting that there are upcoming guidelines on comparator changes which should improve the way battery offers and dynamic pricing components are displayed and ranked, leading to improved transparency in displaying and ranking battery offers and dynamic pricing mechanisms. Tesla's response to enhancing consumer protections for a dynamic and price-responsive CER customers is expanded in the following pages 3-4, including a graphed representation of a DMO vs battery customer usage profile.

Regarding *Section 4) on cross-market interactions in the NEM across spot, contract, and related electricity markets*, Tesla acknowledges the challenges outlined in the paper. The existing structure and state of the NEM, characterised by large generators and vertically integrated entities, has the potential to lead to market distortions and inefficiencies through cross-market interdependencies. Nonetheless, while Tesla supports the objective to expand PEMM provisions into cross-market manipulation, there are likely significant challenges around its implementation for such a design, with a substantial level of compliance for both market participants and regulators for proposed Options 2 - 4. As noted in the consultation paper, while introducing a broader spectrum of markets to be subject to these provisions will increase the monitoring, reporting, and assessment required for the regulator and the participant, leading to significant cost burdens. Tesla welcomes the AER's recently finalised Market Monitoring Information Order, which will provide insight into how contract markets interact with spot markets, and how retail markets are impacted by wholesale markets. Tesla's recommendation is to consider how this work program by the AER will progress before evolving regulatory frameworks further.

Tesla addresses *Section 4.1.3) Developments in the NEM*, which discusses the increase in battery storage and AI trading in the attached Appendix 1., taken from Tesla's response to the

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NEM Review Draft Report. Within this consultation paper, 4.1.3. acknowledges the increase in battery storage, increase in AI trading, and NEM concentration and common ownership of resources – although the characteristics described here of batteries are not unique to this asset type, and are instead reflective of firming assets more broadly, including gas-powered-generation, which similarly bids across energy and FCAS markets. Furthermore, Tesla highlights that the wholesale market is becoming more diverse across the concentration of asset ownership, given the rise of Independent Power Producers (IPP). Over the past 12–18 months, there has been extensive media reporting around the massive investment in new storage projects, described as the 'big battery boom'. While a majority of these sites are currently under construction or commissioning, they will bring in a wave of new, diversified ownership structures with the rise of multiple IPP and renewables developers, in addition to the traditional owners of flexible generation. Of the 16 successful projects (4.13 GW) awarded in the CIS Dispatchable Tender 3, only 2 (0.5 GW) were awarded to traditional gentailers.

Tesla welcomes continued engagement with DCCEEW to workshop any of the ideas above, including consideration for battery offers and dynamic pricing within consumer protections, or on storage behaviour, virtual tolling, and market concentration trends within cross-market interactions.

Kind regards,

Tesla Energy Policy Team
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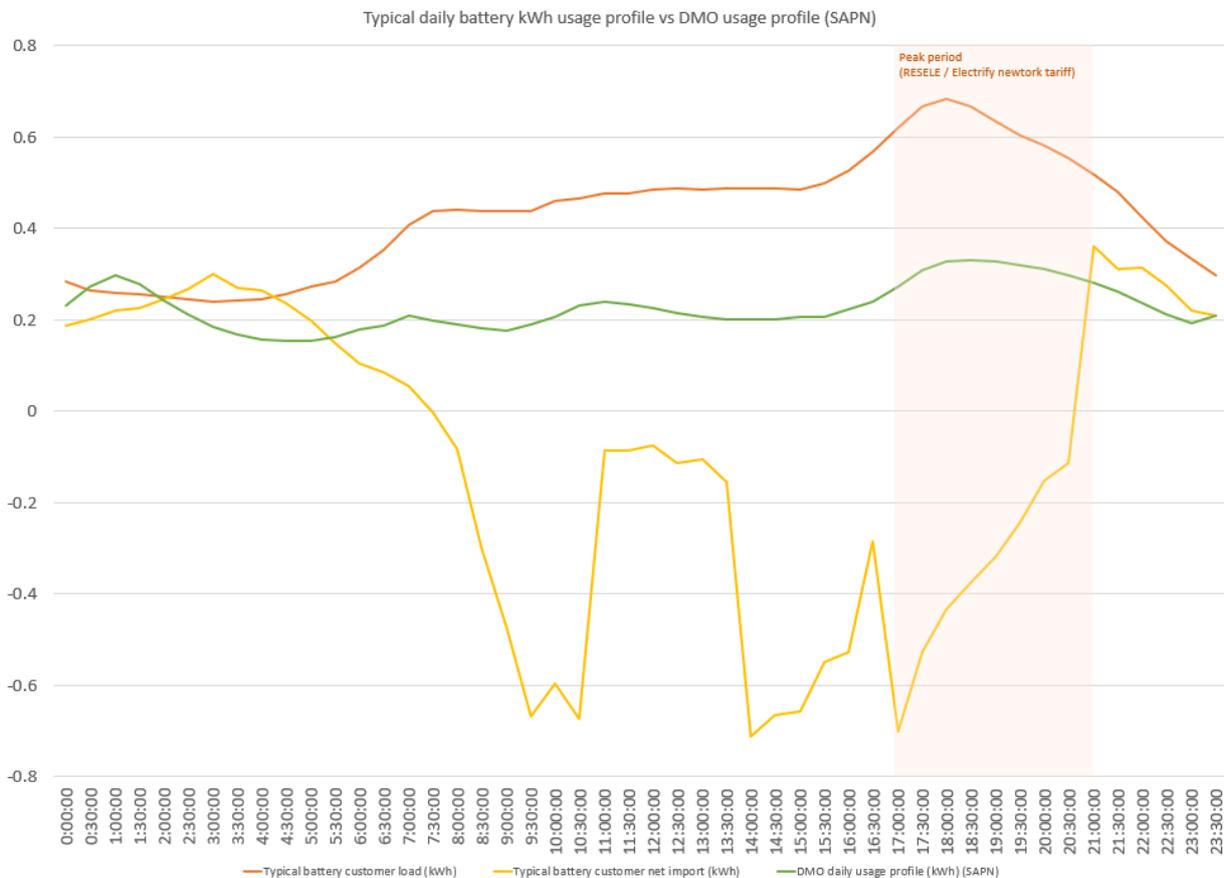
TESLA logo in the top area

**Recommendation 2: Undertake further consultation on amendments to PEMM provisions that could improve effectiveness, specifically:**

- the potential to make the retail provision "symmetrical" - to operate to protect consumers in both periods of cost increases and cost decreases.
- the potential to either amend existing provisions, or introduce a new provision, to prohibit potential cross-market manipulation to avoid circumstances where generators through their actions seek to gain benefit in a parallel market, such as

Tesla supports the objective of protecting consumers from unreasonable price outcomes. However, any expansion of the retail pricing provision must be carefully designed to reflect the structural changes already underway in the retail market and avoid unintended consequences for innovation, competition and customer outcomes.

An increasing share of Australian households are actively adopting consumer energy resources (CER) and now actively produce, store and optimise electricity through rooftop solar, batteries, electric vehicles and smart energy management systems. These customers do not behave like traditional passive consumers. Their usage profiles are intentionally dynamic, responsive to price signals, network constraints and market incentives, as demonstrated in figure 1 below. As a result, pricing outcomes for these customers often appear more variable over short timeframes, but this variability is often a feature of product design rather than an indicator of unreasonable conduct.

*Figure 1: modelled usage profile of a battery customer vs the DMO*



Typical daily battery kWh usage profile vs DMO usage profile (SAPN)

Peak period
(RESELE / Electrify newtork tariff)

Typical battery customer load (kWh) — Typical battery customer net import (kWh) — DMO daily usage profile (kWh) (SAPN)

In this context, a symmetrical pricing provision that is framed around short-term price movements, or static notions of reasonableness risks misclassifying innovative retail products as harmful. For CER-enabled households, consumer protection is delivered not through price smoothing per say, but through

risk management. This includes product design features including but not limited to caps on extreme exposure, automation that shields customers from having to respond manually to volatility, and clear rules that align customer outcomes with system value over time. These mechanisms can provide stronger protection than traditional static tariffs, even though prices are more variable.

Recent policy reforms are still bedding down. The Cheaper Home Batteries Program has only recently launched and is already accelerating the deployment of behind-the-meter storage at scale. Industry is now actively developing new retail propositions that translate asset base into bankable revenue streams for customers while lowering system costs. Introducing additional layers of scrutiny before these models have matured risks creating regulatory uncertainty at precisely the moment investment and innovation are accelerating.

Tesla also supports the suggestion that any expanded retail pricing provision could be targeted to contracts above a certain age, rather than applied uniformly across all market offers. This proportional approach would help focus regulatory attention on areas of greatest consumer risk, while avoiding unnecessary scrutiny of new products that have not yet had time to demonstrate long-term outcomes. For innovative retailers and CER-enabled households, this distinction is particularly important, as new products often require historical operational data before performance, and customer benefits can be fully assessed.

Tesla therefore encourages DCCEEW to ensure that any amendments to the retail pricing provision ar are explicitly CER-aware and proportionate. The focus for reform should remain on preventing deliberate misconduct that harms consumers, not on constraining price variability that arises from participation in dynamic energy markets. In practice, this means assessing retailer conduct through a broader lens that considers product design, transparency, customer choice, and outcomes over an appropriate horizon, rather than relying on short-term price benchmarks design for legacy retail models.

From a competition perspective, it is also important to recognise that new entrant retailers serving CER customers compete on fundamentally different dimensions than incumbent retailers. Competition is driven by technology integration, automation, data access, and the ability to create customer value from participation, not just headline tariffs. Overly rigid interpretations of price reasonableness could inadvertently entrench incumbent business models and raise barriers to entry, reducing the very competition PEMM is intended to protect.

For recommendation 2, Tesla supports the intent but cautions that its design will be critical. Done well, a symmetrical pricing provision can strengthen trust and consumer outcomes while supporting innovation. Done poorly, it risks freezing the retail market at a time of rapid transformation. We encourage DCCEEW to engage closely with CER-focused and new entrant retailers as it considers the final form of any amendments.

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**APPENDIX 1. EXTRACT FROM TESLA'S RESPONSE TO THE NEM REVIEW DRAFT REPORT.**

**Recommendation 4: Market bodies should use the rule change process to ensure the efficient and competitive functioning of the real-time energy-only spot market**

4A: Market bodies and the Australian Competition and Consumer Commission (ACCC) should work together to develop regulatory responses, including rule changes if needed, that address risks created by excessive rebidding and algorithmic bidding

Tesla's proprietary Autobidder software product is a real-time trading and control platform integrated with Tesla storage resources that automates and optimizes battery dispatch 24/7/365 based on owner preferences and needs.[1] Tesla's Autobidder – noting the overlap in nomenclature with generic auto-bidding software – enables owners and operators to configure operational strategies according to their individual business objectives and risk preferences.

### Rebidding

Tesla acknowledges the Panel's identification of the growing volume of rebidding data over time, which is creating challenges for the AER in reviewing and overseeing this information. To address this, Tesla encourages the Panel to collaborate with the AER on strengthening their data analytics capabilities. This would help better manage rebidding, an established feature of the NEM that is partly driven by batteries' need to update a full day's bids for minor changes, such as shifts in state of charge or weather conditions. Tesla suggests engaging industry stakeholders to explore targeted minor reforms could address potential concerns, such as shortening bid amendment periods to 12 hours or limiting amendments to cases that truly benefit AEMO's dispatch and reliability management.

Tesla notes that the primary issue highlighted in this recommendation is the AER's capacity to handle data volumes as the market evolves over time within its existing framework. There are currently no clear defects within the rebidding rules themselves, with market participants submitting rebids in line with their compliance requirements. Therefore, further analysis should focus on specific components of the rebidding framework before introducing additional regulations on operators. Any proposed solutions should prioritise this goal to ensure balanced, effective outcomes.

### Algorithmic bidding

Algorithmic bidding streamlines the complex, real-time co-optimised bidding process for energy assets in the NEM, enabling operational dispatch across energy and ancillary services markets to ensure compliance, optimise performance, and respond dynamically to grid needs. Batteries must utilise algorithmic bidding to remain compliant with market rules, as their state of charge can change quickly and unexpectedly—such as from unpredictable energy throughput during FCAS or ancillary services dispatch—allowing participants to adjust economic bids that accurately reflect the latest expectations of battery availability to the market operator and ensure physical delivery on committed awards.

Moreover, batteries often provide additional non-market services, like those under the Hornsdale SA government contract or Victoria Big Battery's System Integrity Protection Scheme (SIPS), necessitating an optimisation solution that simultaneously handles multiple objectives, including market participation and reserved power/energy for these obligations, while dynamically maintaining compliance with both market rules and bilateral contracts with AEMO or NSPs.

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[1] https://www.tesla.com/en_au/support/energy/tesla-software/autobidder

As highly flexible assets, batteries can swiftly respond to evolving market signals, adjusting bids to prioritise the grid's highest needs and maximise their overall utility and services. Algorithmic bidding does not only facilitate the operations for the individual generator but also is a necessary part of the NEM's energy-only operating structure. Unlike fossil fuel plants, which base bids on the marginal cost of inputs like gas or coal, batteries are inherently energy-limited resources whose marginal cost is defined by market opportunity costs; thus, as forecasts for energy and ancillary services prices shift, they require continuous re-optimisation to deliver maximum value to the grid. In the NEM, all batteries are limited to 10 price intervals (with another 10 for charging). Algorithmic bidding is effectively constrained by these bid bands, which promote structured and disciplined participation, thereby supporting the NEM's integrity while accommodating the unique dynamics of battery storage.

In addition to managing compliance obligations, algorithmic bidding enables operators to manage operational requirements from OEM warranties on cycling and throughput to manage technical limitations, enable settlement validation, and audit battery dispatch and market awards against market operator invoices. These obligations will only grow in complexity as we see a growing number of true, co-optimised hybrid plants in the market.

Auto-bidding software does not function with unchecked autonomy; instead, they adhere rigorously to human-established strategies, operational constraints, and risk thresholds to ensure transparent and compliant behaviour in dynamic markets like the NEM. While the software is able to automate real-time bid adjustments for battery energy storage systems (BESS), optimising across energy, FCAS, and ancillary services based on precise forecasts and grid signals, it remains firmly under human control, with operators defining key parameters like price thresholds, state-of-charge limits, and multi-objective priorities to prevent unintended actions and align with both market rules and non-market obligations. This structured approach mitigates risks of anti-competitive behaviour, as the system cannot independently deviate or coordinate with others without explicit human input, thereby promoting fair participation while maximising grid value through rapid, data-driven responses. In the interests of transparency to the industry however, it is recognised that a "trust but verify" culture with this complex technology is important, with independent verification of the independence of the bidding algorithm between IRPs could increase confidence in this new technology, and Tesla would welcome providing input to this.

Tesla welcomes the creation of a working group with relevant regulatory bodies and the inclusion of industry participants – which is key to designing a framework that does not distort outcomes in operating behaviour. Limiting the capacity of algorithmic bidding, i.e. artificially limiting the operations and response of batteries to price signals, when there is no direct case for algorithmic bidding, goes against the NEO to 'to promote efficient investment in, and efficient operation and use of, electricity services for the long term interests of consumers of electricity with respect to price'. It similarly reduces the ability of operators make informed data-backed decision making, increasing transaction costs. Additionally, a large majority of incoming storage projects have state or federal underwrite schemes, which has a required objective of maximising revenue. Limiting the returns for these projects increases the likelihood of requiring government underwriting, as well as reducing the likelihood of payment back to the scheme underwriter.

Tesla does recognise the importance of transparency of the Market Participant who is Operating (bidding or influencing bidding) the IRP, that this is captured in the Registration process, and updated when ownership changes. The Market Participant should also be very clear on capturing any potential MMO obligations and standardised contracts under the ESEM's proposal, to ensure transparency and

競competition. This could require a new category of participants, noting that there could be multiple influences on Operations.

Any regulatory response should be balanced against the risk of deterring participation of flexible resources and should promote competitive markets rather than restricting algorithmic bidders. We recommend leveraging industry experience in further investigation of potential risks and resolutions to avoid interventions that may have unintended effects on competition in the market. Thus, when considering how the application of this software may be managed in the energy market, there are additional considerations (like the benefits outlined above, and the fact that this is in essence the very nature of how the NEM seeks to operate), when approaching solutions for designing regulatory approaches for this application.

### Market competition

In recent months, there have been emerging concerns around the potential risks to market competition due to the rise of algorithmic bidding. However, when reviewing the content of such articles[2], it appears the real concern is that auto-bidding software is becoming a tool for existing actors with market power to maintain their high degree of market influence, based on the concentrated ownership of flexible generation, shown below:

*Figure 1: Market Share of Flexible Generation, AER[3]*



Figure 2.21  Market share of flexible generation
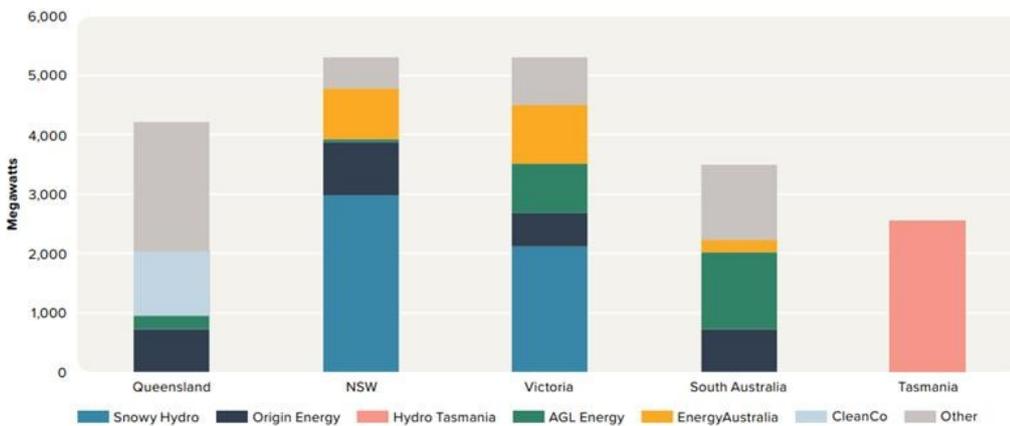
Note: This chart shows the registered capacity in each region for hydro, gas and batteries registered as at 31 December 2024. Market shares are determined based on ownership of each unit's output. Where we have been unable to determine ownership of output, we have allocated market shares according to ownership of the asset.

Source: AER; AEMO (data); various online sources (ownership information).

Flexible generation and dispatchable capacity have always been the price setters during the evening peak. The rise in batteries becoming price-setters is not inherently reflective of a reduction in market competition, but rather of an increase in resources that are able to displace gas as that marginal technology (with battery ownership being significantly less concentrated than that of gas generation), thus providing greater market competition.

Over the past 12-18 months, there has been extensive media reporting around the massive investment in new storage projects, described as the 'big battery boom'. While a majority of these sites are currently under construction or commissioning, they will bring in a wave of new, diversified ownership structures with the rise of multiple IPP and renewables developers, in addition to the traditional owners of flexible

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[2] https://reneweconomy.com.au/bad-bidding-behaviour-big-batteries-the-dominant-force-as-daily-electricity-prices-pushed-to-record-highs/

[3] https://www.aer.gov.au/system/files/2025-08/State%20of%20the%20energy%20market%202025%20-%20Full%20report_0.pdf

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generation. Of the 16 successful projects (4.13 GW) awarded in the CIS Dispatchable Tender 3, only 2 (0.5 GW) were awarded to traditional gentailers.

Similarly, Tesla notes that auto-bidding software also facilitates the uptake of coordinated DER and CER, a key objective of the Panel's work. This is due to enabling market participants with less sophisticated internal trading teams to participate through user-friendly yet still highly customisable software.

Consequently, Tesla aligns with the commentary from the AEMC's staff working paper on addressing the risk of algorithmic collusion[4] that 'auto-bidding software can reduce barriers to entry for generators by reducing reliance on people to make complicated bidding decisions'. The AEMC goes on to say 'the most effective policies to reduce the risk of algorithmic collusion are those that promote competitive and dynamic markets', and that policy makers should ensure the costs of entry and exit are low as possible for new electricity generation.

**Concluding remarks**

Tesla notes the primary issue identified in Recommendation 4A is to support the AER's data management infrastructure following the increase in rebidding volumes. While Tesla acknowledges potential concerns around market competition, primarily attributed to a concentration in battery ownership, this issue appears to be occurring at a transient point in time, with a committed wave of batteries featuring diverse ownership currently under construction. Without a clearly identified concern regarding market competition risks associated with algorithmic bidding software, Tesla suggests that regulators avoid raising barriers to entry for new participants through increased administrative burdens. Tesla welcomes the opportunity to engage further in the interests of transparency, market competition, and efficiency.

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[4] https://www.aemc.gov.au/sites/default/files/2025-09/AI%20and%20the%20future%20of%20energy%20regulation%20-%20Algorithmic%20Collusion.pdf