EVC submission to AER on the Energex regulatory proposal 2025-30

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With reference to:

Energex - Determination 2025–30 | Australian Energy Regulator (AER)

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Introduction

The Electric Vehicle Council (EVC) is the national body representing the electric vehicle industry in Australia. As the market is emerging in Australia, our work is particularly aimed at increasing certainty for investment through policy, knowledge sharing and education. The accelerated uptake of electric vehicles enables a more sustainable and prosperous future.

The EVC welcomes the opportunity to provide feedback to the AER on the Energex regulatory proposal.[1] We commend Energex for cleaning up legacy tariffs in the interest of streamlining current process and improving efficiency. It is also pleasing to see preferences for time-of-use (TOU) tariffs recognised and various structures and timelines presented. Unfortunately, some areas remain where the AER need to consider exercising their regulatory powers.

The EVC recommends the AER to:

- Prohibit Energex from implementing import control without consent over a.c. 32A/phase EVSE.
- Mandate that Energex offer tariff structures that do not inextricably link peak export rewards (peak periods, kW) with export charges (minimum demand periods, kWh).
- Ensure Energex form a firm position on whether they are investing in measures to avoid network augmentation or investing in network augmentation.
- Inform Energex that there is no legislative barrier to creating a tariff that allows opt-out of capacity charges for connections over 100kVA and under 160MWh/annum.

These requests are discussed in more detail below.

Demand management

Energy Queensland (EQL) and their subsidiaries Ergon Energy Networks and Energex write the Queensland electricity connections manual (QECM) for how electricity installations are to be carried out in the state. The latest version 4 requires that for installations under 100A per phase, an a.c. single phase 32A EVSE may only be installed if an acceptable method of control is given over to the DNSP for use in peak demand periods. This change to the QECM will affect the uptake of EVs, TOU tariffs and smart meters, and therefore feeds into the regulatory 2025-30 proposal (the proposal).

Queensland is the only jurisdiction in Australia mandating such a control and the AER has stated their opposition to measures which control or constrain the flow of electrons to a premises.[2] Queensland has a history in demand management of consumer loads such as hot water, pool pumps and air conditioners. These loads are discretionary in this context as a brief interruption or constraint during a peak demand event will usually not inconvenience the consumer, as the service can be provided later that day. EVs are different, a consumer could have need at any time to charge their vehicle as rapidly as possible. Control without consent in this context, as proposed in QECM V4, falls short of industry and consumer

[1] The EVC submission to the Energex 2025-30 draft plan can be found here: EVC response to Energex 2025-2030 draft plan - Electric Vehicle Council

[2] Report template (aer.gov.au)

expectations, and runs counter to the consumer protection advice given to Energy Ministers by the AER.

There are costs associated with standing up such a control regime, further costs are incurred in the operation, maintenance, compliance and policing of it, as well as keeping it secure.

Regarding the existing demand controls to hot water etc. DNSPs have argued that the limitation is justified as it helps in efficiently managing the network to keep the lights on and prices down for everyone. They have also argued that should a consumer not wish to have their EVSE controlled, they can just plug their car into a power point (slow charging) or upgrade their connection to 3-phase so that they can install a 3-phase EVSE, where the requirement for control does not exist. The EVC does not accept this methodology, slow charging may not be suitable for certain would-be EV owners and others may not be able to afford upgrading their connection and EVSE for that purpose and may forgo making the change to an EV.

Instead of control without consent, there are other more cost-effective solutions that do not reduce customer amenity, such as TOU tariffs and control options preceded by a consumer consent process, such as the Peaksmart program. There is more information on this in the EVC's response to the QCA. Energex state their investment priorities in the overview "..uphold reliability, resilience, service and safety." for this reason, the AER should step in to require a consent process, so that should the consumer need their vehicle charged, they can opt-out of any rewards for not charging the car and opt-out of DNSP import limits.

TOU tariffs and two-way tariffs

The EVC is pleased to see TOU tariffs being offered across a range of customer groups in the proposal. TOU tariffs have been shown in many studies to reduce EV contribution to peak demand to about 100W/EV.[3] TOU tariffs are good for the grid and keep prices down for everyone. However, uptake of TOU tariffs has historically been poor, probably due to the way they have been structured. The benefit to the consumer of low prices at off-peak times have often been clawed back by the network and retailer through high prices at peak times. Usually, consumers that took up the deal, quickly changed back after realising their non-discretionary loads, such as cooking the evening meal, fell into the peak period and they were not able to benefit overall. Energex state, "While retailers have assigned a small number of customers to the optional time use energy structure, we expect the majority of customers will remain on existing structures." Network tariffs underpin retail tariffs and the EVC would counter that many more customers would transition to TOU tariffs if they were structured in an attractive way.

The two-way tariffs presented in the proposal are poised to make the same mistakes. Coupling peak export rewards with the risk of incurring an export charge in the middle of the day will result in poor uptake up until 2028 and consumer dissatisfaction after consumers that export are mandatorily moved to two-way tariffs from 2028. A peak export reward window should not be inextricably linked to an export charge window. Happily, they actually don't need to be linked, a peak export reward window at the right rate will incentivise prosumers to save the energy produced during the day in a battery (home or vehicle) for export later on.

[3] 20230703-AGL-Electric-Vehicle-Orchestration-Trial-Final-Report.pdf (arena.gov.au) p 15

Linking export charges with an export reward has the effect of selectively disadvantaging consumers that export who would like to participate as part of a virtual power plant or using vehicle-to-grid (V2G), as it is these consumers who would otherwise most benefit from export rewards.

An extra consideration is that PV inverters do not always respond very accurately to measurements taken by inverter smart meters used for export limitation. The risk is that the PV inverter could inadvertently go over the 1.5kW limit that incurs the demand charge and penalise the consumer, even though they were trying to do the right thing. Export rewards on their own would also incentivise PV installations to favour West facing PV modules. This will help in reducing evening peak demand and will also contribute less in minimum demand periods.

The AER should compel Energex to develop two-way tariffs that do not inextricably link export rewards with export charges. For clarity, the EVC would prefer if export charges were either applied to all tariffs or none at all. The problem is that coupling them disincentivises V2G. Energex should also develop tariffs for the short-term that offer peak export rewards to prosumers on a flat tariff. Once these offers are passed on by the retailers, they are likely to bring about the desired participation and behaviour in the short and long term.

Energex investment

Energex has on the one hand forecast the need for a 22% increase in capital expenditure to $3,422m over 2025-30, $56m of which is for DER integration amongst other expenditure on replacing ($914m) and reinforcing network ($610m) to mitigate issues of two-way flows, whilst on the other hand investing in control mechanisms and tariff adjustment to also address these concerns. This increased expenditure gets smeared across the whole network and leads to increased prices for Queenslanders.

Regarding tariff reform, in the overview, Energex state “As more customers respond to these high network charges by using less energy at peak times to save money, the need for network investment will be deferred.”, and yet the network investment is still budgeted for.

The AER should require Energex to break down and split out their investment into how much they intend to spend on control and tariff development to curtail renewables and reduce peak demand to limit the need for network augex, and then justify why they need to spend another ~$600 million to further build out the network.

V2G

Energex are not forecasting V2G will help keep down network peak demand. The EVC expects all regulatory barriers to V2G installations will have been removed by mid-2024 and for capable vehicles and EVSE to arrive in late 2024.

The technology is well understood, having been a feature of Japanese EVs for a decade, however the Japanese CHAdeMo plug standard has not won the plug war.

As all of the pieces will be in place by 2025, we can look at the last time a similar technology was afforded the same opportunity and offered consumers fantastic reward for investment;

rooftop solar. In 2007, installations rocketed from 3480 to 360,745 in 2011.[4] A mature technology coincided with a supportive rebate scheme in the renewable energy target based small-scale renewable energy scheme and the resulting manufacturing economies of scale, catapulted consumer adoption. V2G represents the next bastion in consumer control over their energy requirements, and it comes with a car. V2G take up could mirror rooftop solar take up and this will support the network in a reliable and predictable way through the diversity provided by large numbers.

Energex may be basing their forecast on the AEMO draft forecasting and assumptions update on V2G which the EVC has rebutted here. When AEMO revise their forecast up in the next integrated system plan, AER should compel Energex to incorporate this into their proposal.

Capacity charges

In Energex areas, capacity charges begin at consumption over 100MWh per annum. As explained here, this negatively impacts public fast chargers in regional areas as despite relatively low utilisation, they are faced with capacity charges that are very dear, and get dearer the higher the demand. Energex state in the explanatory statement that "as a distribution provider, we do not have the ability to alter this threshold." The threshold does not need to be altered, a tariff can be produced for customers consuming between 100 and 160MWh p.a, these can be considered large customers. We acknowledge that Energex has "re-developed our above 100MWh Low Voltage Network Tariff to provide customer opportunities to manage this transition", the tariffs concerned all include a demand charge component, which does not serve the CPO use case. An example of a potential new tariff is provided below in Table 1.

Tariff class:	Standard Asset Customers
Customer type:	Large customers consuming between 100MWh and 160MWh
Tariffs:	Narrow Demand (xxxx)
Tariff description	The Narrow Demand tariff is an anytime demand tariff (ie. This tariff does not have a peak charging window for demand).
Opt in and opt out arrangements	New SAC large business customers will be assigned by default to the LV Demand Time of use (NTC7200) tariff, however, these customers can opt in to the Narrow Demand tariff (xxxx) if their connection is >100kVA and consumption 100≤MWh≥160 per year.
Tariff components and application	Fixed charge: $/day applies to each energised connection point for each day in the billing period
	Volume charge: A flat volume charge, $/kWh, applies based on kWh energy usage in the billing period.

Table 1. Not all customers necessarily opt-out of demand charges as they may receive more competitive volumetric rates.

Coincidentally, the addition of a tariff where a customer could opt-out of demand charges if usage is under 160MWh will benefit some irrigators. Instead of using Diesel generators,

[4] Postcode data for small-scale installations (cleanenergyregulator.gov.au)

they will be able to afford grid electricity to pump water for the few days per year they need to. This is also better for the environment. Such a tariff may also benefit sporting stadiums. The EVC is not aware of any other types of customers that would be able to access such a tariff.

As an aside, as explained in the last submission, public charger providers that look to couple batteries with their chargers to avoid capacity charges should be given the opportunity to benefit from participation in the wholesale spot market. The AER should instruct Energex to devise tariffs that do not require "The customer must only import load from the network for the purpose of exporting it back to the network."[5] The most efficient use of infrastructure connected to the network benefits everyone through improved grid support, lower prices and more widespread access to public EV fast charging.

The EVC would be pleased to engage further on any of the topics discussed above.

[5] Ergon - Tariff Structure Statement - Explanatory Statement - January 2024 - public.pdf (aer.gov.au) pg. 61