**Submission to the Victorian Parliamentary Inquiry into Electricity Supply for Electric Vehicles**

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[redacted]

**Reference:**

https://www.parliament.vic.gov.au/electricvehicleinquiry

**Preamble:**

Ross is the former Head of Energy and Infrastructure at the Electric Vehicle Council.

Ross' background includes:

- Detailed work in the National Construction Code (NCC) to create EV readiness requirements in new buildings,
- Submissions to the Australian Energy Regulator (AER) that have shaped the AER's advice to ministers on consumer protections for EV charging.
- Input into regulatory reset processes, shaping the tariff structures applicable to public charging infrastructure operators in WA, NSW, Victoria, SA, and QLD.
- Close engagement with NSW government on the majority of EV charging programs currently in operation, including the kerbside program.
- Participation in the development of Australian Standards relating to demand response, electric vehicle maintenance, vehicle to grid, and the national electrical wiring rules.

For the avoidance of doubt, this submission is not to be considered the position of the Electric Vehicle Council. It is the position of an active industry expert, made as a private citizen, under conditions of parliamentary privilege.

In this submission I've addressed the specific terms of reference in order.

**(1) strategies to reduce EV charging during periods of peak demand on the grid and increase charging during periods of peak supply;**

Retail competition has this well covered, as does the falling solar FiT.

AGL night saver plan (which makes it very cost effective for drivers to charge at night) has well over 20,000 customers nationally. Origin's Power Up plan, which orchestrates EV charging for consenting drivers, also has thousands of customers.

Further, as we're moving towards V2G being a viable prospect, it is partnerships between the electricity retailers (Amber, AGL, and Origin) and the Vehicle manufacturers (BYD, Hyundai, Kia, Zeekr) that are overcoming the obstacles, and presenting viable offers to Victorians to support participation.

The Victorian government could:

a) Update Vic Energy Compare, and the SEC's Electric Home Planner, to include EVs.
b) Support the development and communication of resources that bring these offers to the awareness of consumers – like this one: https://electricvehiclecouncil.com.au/home-ev-plans/
c) Noting that AEMO's forecasting on this matter has consistently leaned towards overstating the risks, and understating the benefits of EVs, which has lead Victorian DNSPs doing likewise - the Victorian government could undertake its own independent modelling on projected grid impacts of EVs.
d) Ensure that regulatory changes, such as the upcoming change to the EESS scheme which will see EV charging equipment move from being treated as 'least risk', to 'most risk', do not impede supply of EV charging equipment to market – especially with respect to V2G equipment.

If the Victorian government were really serious about this one, it would look like a government funded education campaign about the energy system, including incorporation into the Victorian early high school science curriculum.

The tools and mechanisms to achieve the desired outcome all exist, they're in market at scale, and they work – there is room for public awareness to drive improved uptake of these mechanisms and outcomes.

This said, despite 'sky is falling' commentary from various stakeholders, EV charging at peak time is not currently a big deal, and is not likely to become one any time soon based on current driver behaviour. Indeed, as V2G comes on stream, the grid impact of EVs can reasonably be expected to be overwhelmingly beneficial:

https://electricvehiclecouncil.com.au/reports/home-ev-charging-and-the-grid-impact-to-2030-in-australia/

It's also worth noting that we are installing rooftop solar *much* faster than we're buying EVs, and the rooftop solar industry has a 15 year head start.

By way of simple example, we deploy about 3GW of rooftop solar each year in Australia, which adds about 12GWh of daily energy generation on sunny days.

We're adding about 150,000 EVs to our roads per year today. These EVs need about 8kWh each per day, for a total additional demand on 1.2GWh... perhaps half of which can practicably be delivered to the cars, while the sun is shining.

The new EV load, if well managed, amounts to a capacity to consume about 5% of the new solar supply.

Even if we shift a lot of EV charging to the middle of the day, very simple maths tells us that curtailment of rooftop solar on sunny spring days is still going to be a thing we need to do.

**(2) whether public charging infrastructure is being installed at a sufficient rate in different parts of Victoria, including older suburbs where most people do not have access to off-street parking;**

First, a correction.

It is not the case that "most people do not have access to off-street parking" in older suburbs.

If you use realestate.com.au to search for homes to buy in Moonee Ponds, for example, and include surrounding suburbs, what you find (at time of writing) is 565 available homes to buy.

Filter those homes for car parking spaces, and you find the number drops to 537.... Meaning, about 95% of the housing stock in and around Moonee Ponds – an inner suburb that dates back to the 1800s – have off street parking.

This doesn't mean that there aren't *some* EV drivers in this part of Melbourne that need public chargers as an alternative to home charging, but it's not even remotely close to 'most people'.

This said, the private sector deploying public EV charging has found Victorian DNSPs to be particularly obstructive by national standards.

In Victoria, we have rules relating to second lines of supply created by the DNSPs, that rule out efficient process that the Victorian electricity regulations explicitly allow.

In one recent case, it appears that these DNSP-created rules were used to force Moonee Valley City Council to run a new kindergarten on a diesel generator for three months – right beside Jemena's powerlines.

We have Citipower's track record of seeking to set exceptionally high rental fees (via the Facilities Access Agreement mechanism) for putting EV charging on power poles – and when this causes private operators to not be able to take advantage of Victorian government funding to deployment pole-mounted EV charging, they seek to run trials into how they might take the space over, rather than fixing their failure to offer viable terms for the competitive players.

That the AER has recently approved this trial, over the reasonable objections of the competitive parts of the market, is highly concerning. This said, the AER is not entirely asleep at the wheel on this matter - In the AER's most recent regulatory draft determination[1], they've proposed to increase regulation of the Victorian DNSPs in this space, in order to ensure that access to poles

[1] https://www.aer.gov.au/industry/registers/determinations/citipower-determination-2026-31/draft-decision

for this purpose is “on terms that are fair, reasonable and cost reflective”… for the avoidance of doubt, this is happening because the terms offered by Citipower on this front, to date, have been unfair, unreasonable, and not cost reflective.

We have long connection timeframes, and high costs for upgrades, for basic equipment deployments, that could be much quicker, if the Victorian DNSPs were motivated to be quicker or more efficient.

Aside from the shortcomings of our DNSPs, the Victorian government was quite slow to support the rollout of regional EV charging infrastructure. As recently as Autumn 2023, I took a family holiday to Warrnambool from Melbourne.

On that route through Geelong and Colac, after the western suburbs of Melbourne, there was not a single high powered charger available for use by non-Tesla cars. From the outer suburbs of Melbourne heading west along that route, the first high power charger that our family car (a Polestar) could have used was over the South Australian border in Mount Gambier.

The situation is much improved today, following the DCAV program and much private investment.

Victorian government could:

a) Require the DNSPs to do better. Many requests have been made along these lines to DEECA and to the Energy Ministers office; the situation is still quite poor.
b) Provide funding at a level commensurate with the population. NSW outspends Victoria in supporting public EV charging infrastructure by at least 10:1, running a wide variety of useful programs.
c) Refrain from giving the Victorian DNSPs any additional power, authority, or control in this space. They’re generally a key source of the problems and obstruction in getting EV charging deployments done, not the organisations who should be empowered to mount an anti-competitive take over.
d) Engage with FRV, who seek to require (against the best available evidence) that EV charging installations be treated as special hazards.

**(3) the best role for electricity distribution businesses in rolling out EV charging infrastructure, and how distribution network tariffs should be set for EV chargers;**

The best role for the electricity distribution businesses in the rollout of EV charging infrastructure is to promptly and efficiently provide network connections for the businesses deploying public facing EV charging infrastructure.

This is their core task – and they are, in a word, **woeful** at it. Poor performance by DNSPs in this respect has already led to major multinationals, including BP, re-allocating capital for building public facing EV charging equipment to other countries.

A comparison of DNSPs, published by the Electric Vehicle Council in December 2024, shows that Victorian DNSPs are among the worst in the country on matters like provision of a team to support EV connections, second lines of supply, and timeliness of provision of connections[2]

The *worst* thing to do would be to allow the DNSPs to compete with the businesses that their monopoly enterprises exist to serve.

The requests by the monopolies to relax ringfencing rules should be opposed by government – because the removal of those crucial consumer protections can be expected to wash the costs of public charging infrastructure into everyone's energy bills (whether they can afford an EV or not), and stall innovation and investment on the part of competitive businesses.

As for tariffs:

Engagement between industry and the minister's office following the last regulatory reset yielded a requirement for DNSPs to allow commercial connections consuming less than 160MWh/annum to opt out of demand charges.

This was an important step, to enable high-power, low-utilisation public fast charging sites to be commercially viable, and has since been replicated through the regulatory reset processes across most of the country.

We are currently going through the regulatory reset in Victoria for the period 2026-2031 – and in that process, the focus needs to move towards ensuring that the network tariff structures support V2G, because it is in this five year period that V2G has the potential to start to scale.

Per the next section, the proposition from the DNSPs to this point is that their new CER tariff should be structured such that the DNSP sequesters to itself the vast bulk of the benefit associated with improved network utilisation that will stem from consumer participation in V2G – this level of greed is the antithesis of what's required, if consumers are to be provided with the necessary motivation to participate in V2G for the benefit of everyone.

The AER's draft determination (released September 30, 2025) has rejected the Victorian DNSPs tariff proposal on multiple fronts, so there is presently a short window in which to address this matter, before the next 5 year period is locked in, and it becomes too late to require the DNSPs to properly support V2G until some time after 2030, unless further ministerial intervention is applied.

**(4) strategies to facilitate the take-up of EV ownership, including the facilitation of bidirectional charging;**

Victorian government should support the rollout of EV charging infrastructure to a level commensurate with the size of the population.

Victorian government should refer to NSW for examples of what to do. The Victorian DEECA team, if appropriately funded, could easily and directly replicate much of what the NSW DCCEEW team have already successfully done.

[2] https://electricvehiclecouncil.com.au/wp-content/uploads/2024/12/1734312344781.pdf - page 57

In the context of inner-urban suburbs addressed in point (2), an emergent challenge to the rollout of privately owned EV charging infrastructure to support EV uptake is the heritage overlay scheme.

For example, in the recently launched trial of an EV charging boom by Vehicle Charging Solutions Australia (https://conversations.merri-bek.vic.gov.au/ev-charging-trial), which has been supported by the excellent LaunchVic program (https://launchvic.org/announcements/meet-the-teams-through-to-the-civvic-labs-energytech-challenge/) , approximately half of the sixty Merri-bek residents that have expressed interest are in a heritage overlay area, and are thus ineligible to participate in the trial.

There is not a clear pathway through this issue, or much evidence of willingness on the part of the teams within local government which exercise authority in matters related to heritage to engage in constructive dialogue towards development of solutions that will meet consumers needs.

Discussions with EV-focussed individuals within sustainability teams from multiple local governments in Victoria have yielded feedback that heritage overlay arrangements are already routinely used to impede and obstruct the installations of rooftop solar, and are expected to block installations of EV charging equipment.

In inner suburban Melbourne, heritage overlays can affect up to 70% of dwellings, depending on which local government area is being considered.

Victorian Government could assist in this domain by undertaking a close review of the Planning and Environment Act, with the goal of making amendments to remove the obstacles to rooftop solar installations and EV charging installations within areas of Melbourne covered by heritage overlay.

In addition to supporting EV uptake, this would support individual residents of Melbourne in their efforts to take control of their energy bills, and to take meaningful action on climate change.

Facilitation of bi-directional charging in Victoria specifically could be supported by:

a) Providing a short term subsidy for the installation of V2G equipment in domestic homes, much like the new cheaper home batteries scheme.
b) Addressing DNSP Network tariffs, which are on track in the 2026-2031 regulatory rest process to enable the DNSPs to derive a significant benefit from consumers participating in V2G, without sharing much of the value created back to consumers.

With respect to point (b), and for clarification, the proposal that I've seen for the network tariff applicable to a consumer participating in V2G is that, assuming the network tariff is passed through:

The consumer gets paid 5c/kWh for exporting at peak time, and pays 4c/kWh for consumption in the middle of the night – creating a 1c/kWh arbitrage benefit over the base case, which is that the consumer does not engage in V2G activity.

When a consumer is using energy from the grid at peak time, the consumer pays 35c/kWh.

So, if we imagine two houses in a street on this arrangement, one exporting at peak time to meet the load of the other, whose car isn't at home at that moment (because it's a car, and will not

always be at home) – then the exporter is getting a benefit of 1c/kWh.... While the network is picking up the difference between 35c/kWh and 5c/kWh, off the back of the customer paying 35c/kWh.

This means the network sees roughly ***thirty times*** the benefit that the consumer engaging in V2G sees – after the consumer has invested in the car, the V2G hardware, and then changed their behaviour for the common good.

Unfortunately, despite this matter being raised with the Victorian DNSPs, the AER, DEECA, and the Minister's Office, it appears that the Victorian DNSPs are still on track to lock in a residential network tariff structure for the next 5 years that is highly favourable to themselves, but which does not share the benefits with consumers in a manner that will support V2G.

**(5) whether old EV batteries could have a second life as household or community batteries after removal from vehicles;**

Yes. The re-use of vehicle batteries for second life purposes is already well established overseas.

Locally, we're already seeing businesses that sell written off vehicles as salvage, acting as a source of second life batteries for off-grid applications. Pickles Auctions in particular are in this space.

It is perhaps more likely that old EV batteries will be 'second-lifed' in industrial or community settings, rather than in homes, but this can be expected to play out over time.

Victorian government could assist in this matter by ensuring effective engagement between electrical safety regulators and industry participants seeking to deliver solutions of this nature, as the space evolves.

In particular, based on their past form with respect to EVs, it would be reasonable to assume that FRV will attempt to obstruct work of this nature. It would be prudent for the Victorian government to engage with the fire services, with the view to striking an appropriate balance between the non-evidence-based precautionary principle the fire services seem to prefer when it comes to EVs, and the opportunity for benefit to all that will stem from re-use of EV batteries.

**(6) the barriers and opportunities to the manufacture, reconditioning and recycling of EV batteries, or other elements of the EV supply chain, in Victoria; and**

The overall EV supply chain is global, and massive, with much opportunity.

The market today, for services specific to EV batteries in Victoria, is small – because the cars are made overseas, and for the most part are nowhere near the stage of life where repair or reconditioning of the battery is needed.

This said, there are already local businesses in Melbourne working in this field.

I'd suggest ask them what they need – the Electric Vehicle Council can likely help you identify some of them, but as examples:

https://www.biggerenergizer.com.au/about-us-1

https://liviumcorp.com/battery-recycling/

**(7) any other related matters the Committee considers relevant.**

I'm available to the committee to discuss any other matters relating to EVs that the committee considers relevant.