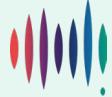




Submission to the Inquiry into Electricity Supply for Electric Vehicles

Submission to the Legislative Council
Economy and Infrastructure Committee

DATE: 21/10/2025



Summary

Energy Consumers Australia (ECA) appreciates the opportunity to provide input to the Victorian Inquiry into Electricity Supply for Electric Vehicles.

As the national voice for household and small business energy consumers, we advocate for a fair, affordable, and reliable energy system—one that meets everyone's needs and leaves no one behind on the journey to net zero.

We encourage the Legislative Council Economy and Infrastructure Committee to consider that public electric vehicle charging infrastructure (EVCI), and particularly kerbside EVCI (KEVCI) is essential to support the uptake of electric vehicles (EVs) and to provide significant cost savings for all electricity consumers, including those who do not own an EV. Policies must consider the diversity of consumer circumstances and encourage greater collaboration between the plurality of actors who can help deliver better consumer outcomes.

Introduction

ECA welcomes the opportunity to provide input to the Inquiry into how Victoria can best harmonise electric vehicles with electricity supply and demand. As the national voice for household and small business energy consumers, we advocate for a fair, affordable, and reliable energy system—one that meets everyone's needs and leaves no one behind on the journey to net zero.

In the context of this inquiry, it means ensuring that all consumers can use, charge, and pay for their electric vehicle conveniently and fairly, unlocking benefits for themselves, the wider community, and the grid.

Electric vehicles (EVs) offer perhaps the greatest opportunity for consumers in the energy transition by significantly reducing their energy costs.¹ Our Stepping Up Report shows that by 2030, households who own an EV will save \$1,310 more on electricity than those who do not.² It should also be noted that CSIRO modelling—which ECA commissioned—suggests that the uptake of EVs benefits everyone by reducing electricity bills for all consumers, not just those who make the switch.³ This is due to electric cars usually being charged at times of low energy demand,⁴ resulting in better network utilisation.⁵ With around 31% of households being renters,⁶ EVs may present a more accessible option for those unable to participate in stationary electrification, provided that they have convenient access to charging infrastructure, ultimately leading to cost savings for everyone.

The 2024 Integrated System Plan (ISP) Step Change scenario assumes that in 2030 there will be 18 times more EVs on the road than today and that 97% of all vehicles will be battery EVs by 2050.⁷ In this context, there is an urgent need to plan and roll out EVCI to ensure all consumers can access and benefit from EV uptake, especially as consumers will expect to be able to conveniently charge their vehicles. Rolling out a

¹ Energy Consumers Australia, 2025 – [Submission to the Inquiry into infrastructure for electric and alternative source vehicles in NSW](#)

² Energy Consumers Australia, 2023 – [Stepping Up Report](#) p. 12

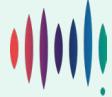
³ CSIRO, 2023 – [Consumer impacts of the energy transition: modelling report](#)

⁴ CSIRO, 2023 – [Electric vehicle projections 2023: update to the 2022 projections report](#)

⁵ CSIRO, 2025 – [Electric vehicle projections 2024](#) p. 36

⁶ Australian Bureau of Statistics, 2024 – [Home ownership and housing tenure](#)

⁷ AEMO, 2024 – [Integrated System Plan](#) p. 50



robust EV charging network is essential, not only to meet and support demand, but also to reduce “range anxiety”, which remains a meaningful contributor to consumers reluctance to invest in an electric car.⁸

We strongly believe that an EV transition will be equitable only if all consumers are able to conveniently charge their EV, which requires a public EV charging network that includes all segments and demographics within our communities.⁹

Further, the cost of charging an EV depends on the location, the amount of energy required and the speed of the charging cycle. As a result, home charging is usually more affordable than using a public DC fast charger.¹⁰ For households without off-street parking or easy access to a power point, and thus more reliant on public infrastructure, the affordability of charging is a critical factor. It is absolutely essential for it to be taken into account to prevent disadvantaged cohorts from being further burdened by an increased cost of charging their vehicles.

While Australia is performing reasonably well on public DC fast charging,¹¹ it is lagging on public AC charging. Additionally, public EV charging infrastructure remains unevenly distributed, with disparities between metropolitan and regional/rural areas.¹² Therefore, it would be a mistake to assume that the market will deliver infrastructure for all Australians, as it would likely leave a number of consumers without appropriate public charging options.¹³

In this context, a report from HoustonKemp—commissioned by ECA—highlights the need for collaboration between transport and energy sector organisations, local, state and federal governments, and regulators.¹⁴ We also believe that there may be a role for DNSP involvement and investment in public charging under specific circumstances, provided that this role is carefully regulated, and contingent on DNSPs being good actors and not creating barriers that would jeopardise the private EV charging market.

We have provided further details and responses to the lines of inquiry below.

1. Are there strategies to reduce EV charging during periods of peak demand on the grid and increase charging during periods of peak supply?

At a time when EV adoption is encouraged by state and federal governments through programs and incentives,^{15,16,17} concerns have emerged that uncontrolled EV charging could add significant load during peak demand periods, ultimately putting the power system at risk and requiring expensive network

⁸ NRMA, 2024 – [Changing Gears: The road ahead for EV adoption in Australia](#) p. 16

⁹ Energy Consumers Australia, 2025 – [Submission to the Inquiry into infrastructure for electric and alternative source vehicles in NSW](#)

¹⁰ NRMA, 2024 – [What are the cheapest cars to run?](#)

¹¹ LinkedIn, 2025 – [Andrew Simpson: A Plug for the Australian Public Charging Sector on World EV Day](#)

¹² HoustonKemp, 2025 – [Creating accessible and affordable public EV charging networks for Australia](#)

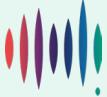
¹³ Consumer Policy Research Centre, 2022 – [The barriers and potential enablers of electric vehicle uptake in Australia](#) p. 13

¹⁴ HoustonKemp, 2025 – [Creating accessible and affordable public EV charging networks for Australia](#) p. iv

¹⁵ Australian Government – [Government support for buying EVs](#)

¹⁶ DEECA – [Zero emissions vehicles](#)

¹⁷ RACV, 2025 – [Electric vehicle rebates, discounts and incentives in Australia](#)



upgrades.^{18,19} Yet, evidence from Norway—where EVs now account for 20% of vehicles—shows that the EV uptake has a negligible impact on peak demand.²⁰

In Australia, several trials—notably those by Energex (2022), AGL (2023), and Jemena (2023)—have established average daily load profiles for EVs, which have been used by CSIRO to develop unscheduled and time-of-use (TOU) tariff charging profiles.²¹ While other research showed that most at-home charging occurs either during midday, when solar production is at its peak,²² or overnight, this report further highlights that de facto EV charging behaviour is beneficial to the grid, with a very low rate of charging during peak times.²³ Additionally, CSIRO identifies a tendency towards less charging in the evening and more during daytime gradually over time.²⁴

Therefore, we have little concerns about the impact of EV charging during periods of peak demand, especially as it can be used to ‘soak up’ solar production.²⁵

Moreover, network tariffs are not necessarily an appropriate tool to signal supply. Instead, we recommend working with retailers to signal optimal charging times—something many already do through off-peak residential EV plans. These retailer EV plans are better suited to reducing network costs because these are mainly driven by congestion and the need to accommodate increasing peak demand, and generally speaking, network peaks tend to align with times when wholesale prices spike. Further, network tariffs may obstruct effective price signals: consumers still incur network consumption charges, even when wholesale prices are low or negative. This issue has been identified by the National Electricity Market (NEM) Review Panel, noting that current network tariff signals are misaligned with wholesale pricing, and fail to deliver least cost electricity outcomes for consumers.²⁶

However, retailer EV plans must be carefully designed, as blunt TOU signals can inadvertently create new network peaks. For example, if a discounted rate is applied at 11pm, all EV owners may immediately plug in at that exact time, and this surge in demand may create a new peak. We anticipate multiple ways to mitigate this risk, many of which may not depend on changing the charging behaviour of specific vehicles. Emerging control options like dynamic operating envelopes can help mitigate this risk by ensuring energy use remains within network capacity limits while still enabling consumers to benefit from more favourable pricing periods. Alternatively, small-scale batteries can help temporarily flex network capacity to accommodate additional electric vehicle charging.

¹⁸ Harvard Kennedy School, Belfer Centre for Science and International Affairs, 2024 – [Leveraging Charging Strategies to Reduce Grid Impacts of Electric Vehicles](#)

¹⁹ Electric Vehicle Council, 2024 – [Home EV charging and the grid: Impact to 2030 in Australia](#)

²⁰ Ibid. p. 1

²¹ CSIRO, 2025 – [Electric vehicle projections 2024](#)

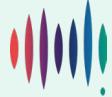
²² Electric Vehicle Council, 2024 – [Home EV charging and the grid: Impact to 2030 in Australia](#)

²³ CSIRO, 2025 – [Electric vehicle projections 2024](#) p.35

²⁴ Ibid. p. 36

²⁵ EVSE – [Charging your electric vehicle from the grid or your solar battery?](#)

²⁶ National Electricity Market Review Panel, 2025 – [National Electricity Market wholesale market settings review \(Draft Report\)](#) p. 218



2. Is public charging infrastructure 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?

EV uptake and the availability of public chargers is an ongoing dilemma within the EV ecosystem. The “absence of robust public charging networks” has been identified as a factor preventing EV mass adoption,²⁷ yet investment in public charging infrastructure typically requires pre-existing demand from EV owners. This has significant consequences, with many consumers being locked out of the EV transition because of their living and/or financial circumstances.²⁸

A large number of Australian households either don’t have off-street parking, or if they do, don’t have easy access to electricity where the park. Previous research shows that 32% of Australians identified the lack of charging points near their homes as a barrier to buying an EV,²⁹ while 13% are unable to install charging infrastructure at their properties because they are renting, and 10% are unable to do so because they live in an apartment building.³⁰ This is particularly acute for renters: 31% of those in the private market and 21% in public or community housing reported access to charging infrastructure as a barrier to buying an EV—a figure that drops to 4.5% for people who owned their place of were paying off their mortgage.³¹

Research indicates that the geographic distribution of EV uptake is uneven, with adoption concentrated in metropolitan areas—such as Melbourne—likely reflecting socioeconomic factors and availability of home charging.³² While Australia performs well on public DC fast charging, and Victoria has installed 311 fast and ultra-fast charging sites, we are still significantly behind in terms of public AC charging.³³ As a result, the Electric Vehicle Council rates the state’s energy infrastructure at just 3/10, citing slow rollout and a general lack of government support in this space.³⁴

This imbalance between fast chargers and slower kerbside infrastructure is all the more critical given DC charging is more expensive (and possibly less convenient) than AC charging could be, placing an additional financial burden on consumers who are already further away from EV adoption.³⁵ Thus, public AC charging infrastructure, particularly KEVCI, should be rolled out to provide a more affordable and convenient solution for those without home or workplace charging access.

ECA strongly believes that it is the role of state government to determine the number of AC chargers needed in each Local Government Area (LGA). This should be done in concert with local councils, as they are best placed to assess and approve specific locations for public EVCI from a land-use planning perspective and can engage with communities to secure social licence.³⁶

²⁷ Pellegrini, Borriello, and Rose, 2023 – [Assessing the willingness of Australian households for adopting home charging stations for electric vehicles](#)

²⁸ Energy Consumers Australia, 2025 – [Submission to the Inquiry into infrastructure for electric and alternative source vehicles in NSW](#) pp. 4-5

²⁹ Consumer Policy Research Centre, 2022 -- [The barriers and potential enablers of electric vehicle uptake in Australia](#) p. 5

³⁰ Ibid.

³¹ Ibid. p. 7

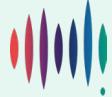
³² HoustonKemp, 2025 – [Creating accessible and affordable public EV charging networks for Australia](#) pp. 2-5

³³ Electric Vehicle Council, 2025—[State of Electric Vehicles 2025](#) p. 61

³⁴ Ibid. pp. 93-94

³⁵ NRMA, 2024 – [What are the cheapest cars to run?](#)

³⁶ HoustonKemp, 2025 – [Creating accessible and affordable public EV charging networks for Australia](#) p. 25



Further investigation is required to understand at a more granular level how many households would purchase an electric vehicle, if they were able to access a charge point near their home. This will help evaluate how large this problem is and therefore how many public chargers are needed and where they should be located.

3. What is the best role for electricity distribution businesses in rolling out EV charging infrastructure?

In recent years, several DNSPs, including ENA, Ausgrid, and CPU, have shown interest in playing a more meaningful role in the provision and ownership of AC public EVCI.^{37, 38, 39} Throughout the HoustonKemp process mentioned earlier, stakeholders expressed concerns about the potential for DNSP involvement to jeopardise competition. We consider that there are in fact many approaches to DNSP involvement in this space, and we intend to communicate a consolidated position by the end of the year. We are happy to continue engaging with the Inquiry and provide any additional details, if requested.

ECA strongly believes that non-negotiable requirements must be established, regardless of the approach taken. These requirements include:

- Reducing information asymmetries between DNSPs and charging providers
- Identification of optimal locations for EV chargers given network capacity limits
- Information on the suitability of DNSPs poles for public EVCI
- Customer service standards
- Open access to the sale of electricity from the charger

DNSP participation in the provision of public EVCI should be contingent on addressing these barriers and/or effectively demonstrating to regulators that such barriers do not exist.

Many of these hurdles stem from information asymmetries between DNSPs and third-party participants, which ECA is aiming to resolve through its Integrated Distribution System Planning (IDSP) rule change request.⁴⁰ Notably, this rule change will require DNSPs to make appropriate use of the data they have and to publish insights from this data. In the context of public EVCI provision, this means that DNSPs will be required to share network hosting capacity information to give third-party participants visibility on optimal locations for EV chargers and areas with sufficient network capacity.⁴¹

Further, private market participants have highlighted that they must get DNSP approval regarding pole suitability before installing public EVCI and often face extended connection timeframes. DNSPs should be clearly communicating all appropriate information about the suitability of their poles, including by publishing a map of suitable poles for hosting this infrastructure and to expedite approval processes on fair terms.⁴²

Should DNSPs provide EVCI, stakeholders were also concerned that distribution networks lack consumer service capabilities and are not incentivised to deliver efficient, user-friendly charging services. As a result,

³⁷ Energy Networks Australia, 2025 – [Street Smart: Scaling Up Kerbside EV Charging in Australia](#)

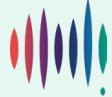
³⁸ Australian Energy Regulator, 2025 – [AER grants trial waiver for innovative kerbside EV chargers](#)

³⁹ Australian Energy Regulator, 2025 – [CitiPower, Powernet, and United Energy – Ring-fencing waiver – Electric vehicle charging infrastructure](#)

⁴⁰ Energy Consumers Australia, 2025 – [Integrated Distribution System Planning \(electricity\) rule change request](#)

⁴¹ Ibid. p. 5

⁴² HoustonKemp, 2025 – [Creating accessible and affordable public EV charging networks for Australia](#) p. 47



we believe that any DNSP provision of EV charging should be subject to strict minimum customer service standards, and comply with a set of payment and physical accessibility requirements to facilitate access to as many consumers as possible.

Additionally, any DNSP-provided hardware should be open access, allowing any retailer and e-Mobility Service Provider (e-MSP) to sell electricity and charging services at that charging point. Further, this infrastructure should also be subject to the same minimum availability (uptime) standards as government-funded charging stations.⁴³ This uptime standard requires state-funded fast chargers to function properly at least 98% of the time,⁴⁴ which should build confidence in the reliability of public EVCI.⁴⁵

DNSP-owned EVCI comes at a cost. Considering that EVs benefit all electricity consumers—including non-EV owners—by reducing electricity prices, we find it plausible to socialise some of the cost of providing public charging infrastructure. This could be achieved through tax-funded grants, subsidies, and underwriting of EV chargers, or through increased Regulatory Asset Base (RAB) in a DNSP model.

4. How should distribution network tariffs be set for EV chargers?

Outside of locations with very high rates of new connection growth, it is unlikely that kerbside and home EV charging infrastructure will increase network congestion and lead to significant network capacity upgrades.⁴⁶

Unlike slow chargers, which main value resides in being close to where people live, high speed DC public charging's main benefit is to minimise charging times, especially on destination travels. As such, there may be a case for fast chargers to be priced differently to slower chargers, given their potential for greater impact on network investments, and ultimately, on network costs.

Public fast chargers may fall under a specific tariff category, as they typically have two-part distribution network tariffs that include a high demand charge and a relatively low energy charge.⁴⁷ This is because peak demand serves as a good proxy for the impact large consumers have on the energy system. While this tariff structure works well for mature charging stations where usage is consistent, it poses a significant challenge for new EVCI, threatening their financial viability. Examples from overseas show that demand charges can make up much of a charging station's total electricity costs, particularly when the charger's utilisation rate is low. The less frequently used charger ends up with high peak demand and low overall usage, which leads to disproportionately high network charges.⁴⁸ This tariff structure can frustrate the economics of early-stage public fast charging.

Thus, we recommend introducing a 'concessional network tariff' for new public fast chargers to support the provision of critical infrastructure, and keeping public chargers on such a tariff until they reach a certain maturation threshold. Under this structure, early-stage chargers would have a smaller demand charge and a higher energy charge, which helps account for the fact that this critical infrastructure needs to be priced in a way that enables its short and long-term financial viability. Once the charger's usage reaches a

⁴³ Energy and Climate Ministerial Council – [Minimum operating standards for government-supported public electric vehicle charging infrastructure](#) p. 1

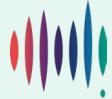
⁴⁴ The Driven, 2023 – [Australia cracks down fast charger reliability to address range anxiety](#)

⁴⁵ Electric Vehicle Council, 2023 – [Public high power EV charging availability](#) p.1

⁴⁶ Tahuconsulting, 2025 – [Economics of NSW kerbside electric vehicle charging infrastructure](#) pp. 4-5

⁴⁷ Rocky Mountain Institute, 2017 – [Rate-Design Best Practices for Public Electric-Vehicle Chargers](#)

⁴⁸ *Ibid.*



sustainable level, it should transition to the standard tariff model for load of its type, with appropriately high demand charges.

5. Are there strategies to facilitate the take-up of EV ownership?

As mentioned before, EVs likely represent the greatest opportunity for consumers to reduce their energy costs. Our Stepping Up Report shows that by 2030, households who own an EV will save \$1,440 per year, compared to \$330 for all electricity consumers. CSIRO modelling—which ECA commissioned—suggests that the uptake of EVs benefits everyone by reducing electricity bills for all consumers, not just those who make the switch.⁴⁹ This is due to electric cars usually being charged at times of low energy demand,⁵⁰ resulting in better network utilisation.⁵¹ With around 31% of households being renters,⁵² EVs may present a more accessible option for those unable to participate in stationary electrification, provided that they have convenient access to charging infrastructure, ultimately leading to cost savings for everyone.

As we showed, access to charging infrastructure is a key factor in helping those who have not yet considered purchasing an electric vehicle recognise that the technology is available and just as easy as, if not easier than refuelling at a petrol station.⁵³ However, other barriers, such as the prohibitive cost of purchasing an EV, and unfamiliarity with technology continue to hinder EV adoption.⁵⁴ While Victoria ranks just above the national average for electric car sales (12.9% compared to 12.2%),⁵⁵ EV ownership is yet to become a reality for all Australians.

Despite a significant drop in prices, EVs remain an expensive upfront purchase, with the cheapest vehicle currently available in the country costing just over \$30,000.⁵⁶ As such, we believe that reinstating EV purchase incentives, similar to the EV subsidy discontinued in 2023 would be highly beneficial.⁵⁷

Similarly, we see an opportunity to more effectively involve businesses in the energy transition by designing targeted incentives and providing tailored, adequate support.⁵⁸ While much of the push for EV adoption has been directed at households, businesses also have a significant opportunity to reduce costs and champion this shift.⁵⁹ In this context, offering subsidies or targeted tax benefits to social good organisations, such as Meals on Wheels and Oz Harvest,⁶⁰ could allow them to lead by example and influence individuals who might otherwise be hesitant to purchase an EV.

This may also be a useful way to counter misinformation and misconceptions about EVs, which continue to hinder adoption. Unsurprisingly, research shows that consumers who believe false claims about EVs are significantly less likely to consider buying one.⁶¹ Thus, it is essential that consumers are being

⁴⁹ CSIRO, 2023 – [Consumer impacts of the energy transition: modelling report](#)

⁵⁰ CSIRO, 2023 – [Electric vehicle projections 2023: update to the 2022 projections report](#)

⁵¹ CSIRO, 2025 – [Electric vehicle projections 2024](#) p. 36

⁵² Australian Bureau of Statistics, 2024 – [Home ownership and housing tenure](#)

⁵³ Energy Consumers Australia, 2025 – Submission to the Inquiry into infrastructure for electric and alternative source vehicles in NSW p. 5

⁵⁴ Pellegrini, Borriello, and Rose, 2023 – [Assessing the willingness of Australian households for adopting home charging stations for electric vehicles](#)

⁵⁵ Electric Vehicle Council, 2025 – [State of Electric Vehicles 2025](#)

⁵⁶ RACV, 2025 – [The cheapest electric cars in Australia for 2025](#)

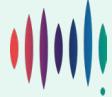
⁵⁷ The Mandarin, 2023 – [Victoria pulls the plug on \\$3,000 electric car discount](#)

⁵⁸ Small Biz Matters, 2023 – [Power over their Power: Small Business Perspectives on Energy](#) p. 5

⁵⁹ DCCEEW, 2025 – [Reducing transport emissions](#)

⁶⁰ LinkedIn, 2024 – [Brendan Wheeler: Supporting Oz Harvest with portable chargers for their fleet of electric vehicles](#)

⁶¹ UQ, 2025 – [9 myths about electric vehicles have taken hold. A new study shows how many people fall for them](#)



presented with clear, intelligible information, especially as more households invest in EVs and CER more generally.

Conclusion

ECA thanks the Legislative Council Economy and Infrastructure Committee for the opportunity to provide input to the Victorian Inquiry into Electricity Supply for Electric Vehicles.

We encourage the Committee to consider that public electric vehicle charging infrastructure (EVCI), and particularly kerbside EVCI (KEVCI) is essential to support the uptake of electric vehicles (EVs) and to provide significant cost savings for all electricity consumers, including those who do not own an EV. Policies must consider the diversity of consumer circumstances and encourage greater collaboration between the plurality of actors who can help deliver better consumer outcomes.

We make ourselves available for further discussion and collaboration throughout the inquiry process.

For any questions or comments about our submission, please contact Pauline Ferraz at
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Yours sincerely,

Brian Spak

GM, Advocacy and Policy



**The national voice for residential and
small business energy consumers**