



19 March 2024

The Standing Committee on Climate Change,  
Energy, Environment and Water  
PO Box 6021  
Canberra ACT 2600

By email: [CCEEW@aph.gov.au](mailto:CCEEW@aph.gov.au)

Dear Standing Committee,

**Re: Inquiry into the transition to electric vehicles 2024**

On behalf of our members, the Victorian Greenhouse Alliances welcome the opportunity to make a submission to the 2024 *Inquiry into the Transition to Electric Vehicles*.

The Victorian Greenhouse Alliances are formal partnerships of local governments and statutory agencies driving climate change action across Victoria's municipalities. The Alliances' work across their networks, communities and partners to deliver regional mitigation and adaptation programs and have been active for over 22 years. This includes the implementation of joint initiatives that provide economies of scale and enable projects typically beyond the reach of individual councils and agencies. Our project work is complemented by targeted advocacy, capacity building activities and regional partnerships.

This submission is focussed on the needs and experience of electric vehicle (EV) uptake and management from the perspective of local governments, as early initiators and implementors in Victoria over a number of years.

It is important to state that the Alliances support the New Vehicle Efficiency Standard for Australia. We recognise that the Standard will greatly assist in the transition to electric vehicles and reduce Australia's greenhouse gas emissions in line with Australia's emissions reduction target. This is a great step, yet there is much more to do.

The Victorian Greenhouse Alliances recognise that climate change solutions are best addressed through a multi-level governance approach. A transition to electric vehicles would benefit strongly from applying the principles outlined in two 2023 national reports, *Many hands make light work*<sup>1</sup>, by Cities Power Partnership, and Energy Consumers Australia *Stepping Up*<sup>2</sup>. Both reports emphasise the importance of a socially inclusive transition appropriately managed by supporting consumer agency with appropriate financial support, and via structural policies.

The Victorian Greenhouse Alliances recommend a multi-level governance approach. This should be applied to the establishment of programs to fully fund the switch from petrol or diesel vehicles to EVs, and ensure accessible charging networks and home charging is made available to all.

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<sup>1</sup> [https://citiespowerpartnership.org.au/wp-content/uploads/2023/07/Many-Hands-Make-Light-Work\\_Screen-Singles.pdf](https://citiespowerpartnership.org.au/wp-content/uploads/2023/07/Many-Hands-Make-Light-Work_Screen-Singles.pdf)

<sup>2</sup> <https://energyconsumersaustralia.com.au/wp-content/uploads/Stepping-Up-Report-Final.pdf>



### **Recommendation 1: Adjust truck regulations and road-user charges to incentivise a diverse government-led supply of efficient, affordable, and second-hand EVs**

All levels of government are large-scale purchasers of vehicles. Currently many local government organisations are developing, or have already developed fleet EV transition plans and have begun purchasing electric or hybrid vehicles and charging infrastructure in an effort to provide leadership, information and education to the communities they serve. Deloitte estimates that by 2030 Australian Governments will purchase approximately 72,000 electric vehicles, and annually 13,000, which is more than the current EV market across Australia. Government and corporate fleet vehicles populate 80 per cent of the second-hand vehicle market.

However a large number of small and medium enterprises, community organisations and councils do not have the resources to fund the initial step in their transition to EVs and will struggle to meet targets of net zero emissions. For example, most small shires and cities will be forced to continue with their diesel and petrol fuelled emissions from fleet and meet the rising costs of managing their ageing internal combustion engine (ICE) fleets.

Local government fleets include significant numbers of large diesel vehicles (e.g., tipper trucks, tractors, waste trucks). These present an excellent opportunity for carbon emissions reductions. Taking large diesel vehicles off our roads is well worth the effort. Replacing a diesel six tonne truck with an electric version provides approximately five times the greenhouse emission reductions as could be achieved with a car<sup>3</sup>. An electric truck is quieter and less intrusive on communities than its diesel alternative and importantly, the expected air quality improvements are significant

Electric trucks currently have a significant price premium, costing roughly double a standard diesel model. As a result most local governments and small and medium enterprises, will struggle to transition their large vehicle fleets to electric. Offering financial incentives to councils to do this provides them the ability to participate in meeting the nation's net zero target, and the capacity to build a modern, diverse EV fleet that meets the demands of metropolitan, rural and regional conditions. One way of encouraging a competitive, diverse electric truck market is to coordinate truck weight and dimension regulations to bring Australia in line with our overseas trading partners. Undertaking these changes demonstrates to local freight and industry businesses in a tangible way that larger modes of transport can be reliably electric, and provides confidence to large vehicle manufacturers looking to import new models to Australia. In addition, appropriate incentives to produce these vehicles locally should be a priority. SEA Electric<sup>4</sup> is a good example of the progression to an integrated solution through a partnership of imported components and local manufacturing.

Appropriate financial incentives for local governments can be created by adjusting road user charges to ensure a fair distribution of revenue. While local governments own and maintain 80-85% of Australia's roads, this tier of government receives almost none of the transport-related taxes that federal and state governments collect. This is despite some of our smallest shires managing thousands of kilometres of major trucking routes, regularly impacted by climate change events<sup>5</sup>.

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<sup>3</sup> Connected Thinking, Adiona Tech <https://www.adionatech.com/resources/connected-thinking-report>

<sup>4</sup> [https://www.sea-electric.com/en\\_au/](https://www.sea-electric.com/en_au/)

<sup>5</sup> Hume Region Renewable Energy Roadmap, 2019, p. 37, Department Environment, Land, Water & Planning.



As the national vehicle fleet moves from fossil fuels to EVs, it will be necessary to move from duty on fuel consumption to road taxes based on distance travelled. Such taxes need to be carefully designed, should cover all vehicles and should take into account both carbon emissions and vehicle weight, since the latter is proportional to damage on the road surface.

The necessary changes to road user charges to accommodate EVs represent an important opportunity to address some of the fiscal imbalances that exist between various levels of government. This ongoing revenue source will create financial ability for local government to build EV fleets and infrastructure whilst benefitting communities, with its purchasing power providing an ongoing, healthy supply of EVs to the second-hand market.

### **Recommendation 2: Address residential charging barriers in multi-level apartments and households without off-street parking**

As EVs become more affordable, residents living in multi-level apartments and others without off-street parking are increasingly hoping to own and operate one. Although it has been mandatory since October 2023 through the National Construction Code that all new apartment blocks are built with the infrastructure to allow electric car charging, many existing apartments face body corporate resistance, high costs of connection, and building power supply issues. When retrofitting apartment buildings to be EV-ready, many layers of bureaucracy are potentially involved across federal, state, territory, and local governments. This is in addition to body corporates, energy retailers and electricity networks.

It would be valuable to emulate the regulatory changes implemented in NSW where the threshold of body corporate votes required to pass a proposal with environmental benefits has been lowered. This change aims to shorten the lengthy wait many residents experience when seeking approval to install EV charging infrastructure through their body corporates. Reducing this wait will assist in encouraging apartment residents to purchase an EV, and reduce the demand on public charging infrastructure from EV owners with no home charging capability.

Existing apartments face very high installation costs compared to single residential dwellings due to additional wiring, building capacity, and mains work. The government needs to recognise the long-term benefits of installing apartment EV charging infrastructure. These benefits include improving social equity, reducing greenhouse gas emissions nationally, improving market value of apartments with access to EV charging. By implementing appropriate incentives that lessen the financial burden on owners, renters and/or body corporate funds who happen to be in-situ at the time of this extraordinary transport and energy transition, the government can rapidly assist a growing and diverse community of metropolitan residents to shift from ICE to electric vehicles.

Households without off-street parking face their own specific challenges, but in many metropolitan areas these households are numerous. Funding is required to create, model and trial a variety of remedies, such as residential charging hubs, in order to arrive at best-value solutions that meet the needs of these residents.



**Recommendation 3: Improve visibility of network capacity to accelerate charging infrastructure deployment, and the implementation of grid management strategies and support energy distribution providers to integrate EVs on a national scale.**

Currently multiple applications to assess a geographic area against charging infrastructure equipment deployment plans consumes several organisations' time and resources, with no certainty that a site will eventually be considered fit-for-purpose. It is a slow and expensive process for all parties. The lack of up-front visibility at the most fundamental level can significantly delay the successful installation of EV charging infrastructure.

A resource similar to [Essential Energy's NSW online tool](#), which shows estimated substation and network capacity, is required to improve the ability of businesses to swiftly ascertain the suitability of specific areas for EV charging infrastructure.

The transition to EVs will not only require strategies addressing the uptake of vehicles, but also strategic planning to ensure Australia's electricity distribution networks are equipped to integrate EVs on a national scale.

Research by the University of Melbourne<sup>6</sup> has found that metropolitan and regional distribution networks are significantly limited in their EV hosting capacity. Currently grid voltage drops would occur with as low as 20% EV penetration, and become widespread at 40% penetration. This issue is most acute in regional and rural areas. Consultation and coordination with electricity distributors will be crucial to ensure they are equipped to integrate a significant increase in EV penetration into the national electricity grid. Direct or indirect management of EV charging to mitigate congestion through such tactics as staggered time-of-use tariffs, as well as strategic investment in distribution networks, and bi-directional EV charging to power the grid and homes, will be critical to increasing the grid's capacity to support increasing numbers of EVs.

Currently there is little incentive for distributors to support the roll-out of charging infrastructure, either with regards to new connections or pole-mounted chargers. Distributors' over-riding concern is the reliability of the grid, and they can see charging infrastructure at best as a distraction, or at worst as a threat. It would be valuable if the remit of distributors could be expanded to include support for Australia's carbon targets through the electrification of transport.

**Recommendation 4: Introduce national standards of service delivery across the EV value chain, with a focus on geographic and social equity**

In 2020 the Victorian Greenhouse Alliances finalised 'Charging the Regions' (CtR), a strategic collaboration of 53 local governments, the Victorian State Government and the Electric Vehicle Council, as well as other key private and public stakeholders. The project objective was to provide participating councils with relevant information and tools to facilitate a coordinated EV charging network across Victoria. The project included EV Charging infrastructure mapping tools, case studies, investment and implementation modelling, an outcomes report, all underpinned by extensive consultation and communications.

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<sup>6</sup> L. Ochoa, W. Nacmanson, Managing EVs in Australian Urban and Rural Grids, May 2022, The University of Melbourne.



CtR clearly showed the value of EVs to Victoria's local economies through local government collaboration and the Alliance's ability to scale this major strategic infrastructure project. However, the implementation, particularly in regional areas, has been uneven, delayed, and challenging. As the charging infrastructure has expanded, there is clear evidence of significant gaps and redundancies. For example, without co-ordinated installation plans chargers can be clustered in one locality while leaving adjacent regions without any. This is a particular issue in some tourist zones, where EV charging demand is already outstripping supply, leading to significant queues and opportunity costs for regional economies. Equally, Councils leasing bays to charging operators are currently all developing their own agreements. A third issue is the current lack of clarity around accessibility standards for EV chargers.

While local governments and some private companies are attempting to rectify these issues with limited resources, the lack of clarity around roles and responsibilities is a significant barrier. To resolve this, support for councils is required through the national or state provision of tools and standardised templates. These could include standardised risk assessments and risk management processes for EV charging sites, standards to ensure EV charging infrastructure is accessible for all-abilities users, and standardised contracts for charging operators. All regional and rural townships need to be given every opportunity to connect to the EV charging network. To avoid unnecessary delays and inefficiencies, any national guidelines must clearly articulate and support the relationships between, and responsibilities of EV infrastructure installers, EV service suppliers, and governments.

Along with standardised processes, the Victorian Greenhouse Alliances recognise the importance of growing the electrical trades to support EV charging needs and ensuring we have technical skills to build the EV service, maintenance and repair industry. A shortage of EV mechanics and technicians means a lack of access to local and timely fleet servicing options and the local economic development and employment implications as traditional ICE vehicle mechanics transition to service and repair of EVs. At a local level, converting a workshop and upskilling staff is a significant investment for SMEs, so programs are needed to support these businesses to meet the changing demands of vehicle servicing.

Government can work with industry, education and training sector and other stakeholders to identify opportunities and challenges for the EV servicing industry as we transition to EVs including current and projected job numbers, skills gaps and associated training needs. This includes numbers of existing mechanics and other jobs that need to upskill, the number of trainers needed and the standards for safety and service/repair, along with costs of equipment to re-tool workshops.

#### **Recommendation 5: Develop and invest in an official EV Battery Recycling Program, including a Code of Practice, and Safety Guidelines**

Currently most of Australia's lithium ion batteries end up in landfill which are managed largely by local governments. Research by the CSIRO and Battery Stewardship Council estimates that 30,000 tonnes of used EV batteries will enter Australia's waste stream by 2030 and 1.6m tonnes by 2050, with over 3,300 tonnes of lithium-ion battery waste already being produced (including home batteries, ebikes and EVs)<sup>7</sup>. What doesn't end up in landfill is turned into black mass and shipped overseas.

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<sup>7</sup> <https://reneweconomy.com.au/australian-battery-recycling-start-up-given-8-million-to-scale-battery-recycling-tech/>



Local government will require support to adopt safe transport and disposal measures for EV batteries that have reached end-of-life, as this is a rapidly emerging waste issue with major impacts on local government financial sustainability and employee safety. End-of-life batteries can still possess significant charge capacity with the ability to cause human fatalities, thus working with them should be considered an extremely high risk, specialised task. Australia does not have an official recycling program or a code of practice for EV batteries. This is urgently required throughout the EV battery supply chain, and must be complimented with mandatory training programs.

Although EV batteries are considered up to 97% recyclable, and each tonne of lithium-ion waste is estimated at a value of between \$4,400 and \$17,200, Australia currently only recycles around 10% of an EV battery due to scientific and engineering challenges extracting the raw materials<sup>8</sup>. The Victorian Greenhouse Alliances strongly support Australia's research, manufacturing and energy organisations being funded to collaborate with other leading global national laboratories, and continue their work developing a solution to this growing waste and resource issue. The Alliances also support broader end of life management and the development of technology to repurpose EV batteries into other useable batteries. Incentivising EV manufacturers such as Polestar and Volvo who prioritise battery recyclability, will also demonstrate to other EV manufacturers that Australia is serious about its greenhouse emissions targets. Investment in Australia's fledgling EV battery recycling by government is urgently required if Australia is to avoid a major waste crisis, and to gain from our global research leadership in EV battery stewardship.

#### **Recommendation 6: Implement low and zero-emissions zones in city sectors**

In a Zero Emission Zone (ZEZ), Low or Ultra Low Emission Zone, vehicles are subject to restrictions based on exhaust emissions. The first of these was introduced in Sweden in 1996. They effectively focus on urban areas where specified vehicles such as heavy goods, delivery trucks and vans, buses, taxis, private cars etc., must achieve specified emission standards in order to gain entry or alternatively, to avoid payment of a charge for entry. The implementation of ZEZs has been proven effective through numerous European studies. They have improved local air quality, and encouraged the switch to zero emissions vehicles, walking, cycling and public transport. High measured reductions in harmful emissions have been found in NO<sup>2</sup> (Nitrogen Dioxide) concentrations, and PM<sub>10</sub> (particulate matter 10 micrometers or less in diameter) in central London, Madrid, Munich, and Berlin, and surrounding areas adjacent to their ZEZ, LEZ or ULEZ<sup>9</sup>.

The VGAs would support the implementation of clean air zones in city sectors. These should carefully consider lessons learnt by those that have already implemented such initiatives. Clean air zones would provide a significant incentive for Australians to purchase EVs. They would also send a clear signal to vehicle manufacturers who see Australia as a 'dumping ground' for ICE vehicles which are not accepted in other markets, including the EU, the USA, and New Zealand.

Supporting the implementation of ZEZs intersects with the development of fuel efficiency standards, Australia's zero emission targets, health and wellbeing goals, and expansion of Australia's desire to assist its citizens to access a more affordable, wider range of EVs. For those on lower incomes who are unable to afford an EV easily, the pairing of ZEZs with measures that alleviate disadvantage such as assistance to local government to enhance land use planning for alternative transport uses. Land

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<sup>8</sup> <https://rac.com.au/car-motoring/info/ev-battery-recycling>

<sup>9</sup> Clean Cities Campaign, [Quantifying the impact of low- and zero-emission zones: Evidence Review, 2022](#)



use planning interventions could include creating more attractive and safer streets, malls, and footpaths which make cycling, walking and scootering easier and pleasurable.

Thank you for the opportunity to provide feedback on the Inquiry into the transition to electric vehicles 2024. If you have any further enquiries about this submission please do not hesitate to contact any of the below Executive Officers.



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*This letter has been approved through the Greenhouse Alliances governance structures but may not have been formally considered by individual members. The submission does not necessarily represent the views of all members*