

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

OCN response inquiry into the transition to electric vehicles.

March 2024

With reference to:

[https://www.aph.gov.au/Parliamentary\\_Business/Committees/House/Climate\\_Change\\_Energy\\_Environment\\_and\\_Water/Electricvehicles/Terms\\_of\\_Reference](https://www.aph.gov.au/Parliamentary_Business/Committees/House/Climate_Change_Energy_Environment_and_Water/Electricvehicles/Terms_of_Reference)

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## Introduction

OCN welcomes the opportunity to provide input into the inquiry into the transition to electric vehicles.

The Owners Corporation Network of Australia Limited (OCN) is the independent peak consumer body representing residential strata and community title owners and residents. As such, OCN is uniquely positioned to understand the needs and constraints within this unique housing sector, as well as to advise on the potential impacts that legislation may have on planning, development, and day-to-day operational outcomes. OCN are experts in residential strata, hence our comments relate to what our members are seeking. We do have significant expertise in developing strategies for the implementation of electric vehicles charging in strata buildings and were the authors of the NSW Government website – Making apartment buildings EV ready.

OCN strives to create a better future for residential and community living and ownership. We support the transition to resilient, empowered communities living in climate ready, defect-free buildings, including solar and electric vehicle charging.

## The Strata sector

Policies of successive governments to accelerate urbanisation and to cater for population growth have driven a significant shift to multi-household developments:

- There are 356,788 strata schemes in Australia of which 50% have been built since 2000<sup>1</sup>;
- Over 2.5 million people and 13% of all households live in strata apartments;
- There has been 7% growth in the last two years;
- It is the best option for affordable housing and recent strategies will drive this even harder;
- Total insured value is estimated to be 1.3 trillion dollars;
- It employs over 10,000 people and total economic benefit of about \$7.5bn per annum;
- Strata schemes in NSW are split 60% City 40% regional;
- 47% of apartments are rented, but tenants have no voting rights.

Strata living is not at all like living in a stand-alone house. It is a community with a co-owned asset. Few people realise that each owner bears unlimited joint and several liability for any damage, injury or death that may occur on all common property. Thus, individual actions can significantly impact other owners and residents physically and financially.

The owners corporation or body corporate is a statutory corporation, responsible for the management of the strata scheme, with unlimited liability and mandatory obligations to manage finances, hold building insurance and strict obligations to carry out repairs and maintenance.

The needs of this sector are different depending on if the client is an owner or an owners corporation.

- Owners are closer to standalone homeowners, and are responsible for the provision of appliances like the electric vehicle supply equipment (EVSE);
- Owners Corporations are responsible for the building and associated infrastructure. Apartment living requires approvals by the owners corporations, often complex technical solutions and significant expenditure for building infrastructure. The quantum of such expenditure for electric vehicle charging is significantly higher than standalone homes.

Because of these unique differences, we believe that the strata sector, particularly the needs of the owners corporation, need to be treated as a special case when considering strategies and incentives increase electric vehicle ownership, to meet of the needs of electric vehicle owners, including the installation of electric vehicle charging.

## Responses to Terms of Reference

OCN are experts in residential strata, hence our comments relate to what our members are seeking – which in this case is consideration of electric vehicle ownership and charging in existing apartment buildings.

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[https://cityfutures.adg.unsw.edu.au/documents/717/2022\\_Australasian\\_Strata\\_Insights\\_Report.pdf](https://cityfutures.adg.unsw.edu.au/documents/717/2022_Australasian_Strata_Insights_Report.pdf)

## **TOR 1 - The establishment of resources, systems and infrastructure required to support transition to EVs.**

Strata legislation varies from state to state. To simplify approval processes and communication within the strata community, it would be useful to have a standard set of principles to ensure a consistent approach to enable electric vehicle charging at home, for strata dwellers. For example:

Sustainability project approvals: Strata legislation varies across the states, between requiring 75% of owner approvals via a special resolution to 50% of owner approvals via a general resolution, to invest in sustainability infrastructure in apartment building, like electric vehicle charging. The higher 75% level makes it far more difficult for owners and owners corporations to obtain approvals. NSW legislation leads the way with sustainability project approval levels at 50%.

***Recommendation: OCN Recommends standardising on a principle of 50% approvals for sustainability projects in apartments buildings to simplify the approval process.***

Right to Charge: Various jurisdictions around the world are introducing or considering the introduction of the concept of *right to charge*. Administration of right to charge rules vary according to the local needs. In the Australian context, we think it should mean if an owner or tenant applies to instal electric vehicle charging in a residential building and meets a reasonable set of conditions, the owner or owners corporation cannot reasonably refuse approval. That set of conditions might vary according to the specific state legislation and intent.

OCN stands ready, given appropriate funding, to assist government to develop such a set of conditions.

Right to charge in this context is similar to legislation preventing owners corporations being able to refuse approvals for pets in apartment buildings in NSW.

***Recommendation: OCN Recommends that the principle of a national right to charge be implemented across the strata sector.***

Renters: 47% of residential strata is rented and irrespective of renters having no voting rights, they should be afforded the same opportunity to charge an electric vehicle in an apartment building. While many investor owners will understand the benefits of electrification, including electric vehicle charging, making it available to their tenants and adding to the long-term value of their investment property, not all investors will have the financial resources or incentive to improve their properties in a timely fashion. OCN believes there are three important steps to speed up the transition to electric vehicles for renters:

- Minimum rental energy standards should be introduced. This should include efficiency standards but also a requirement to ensure tenants can transition to a fully electric strata household over time, which includes electric vehicle charging. There was a 2020 Dcceew review into minimum energy standards for rental properties<sup>2</sup>. Part of that review notes the need for consideration lower income groups and incentives for owners/landlords to comply.

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<sup>2</sup> <https://www.dcceew.gov.au/sites/default/files/documents/minimum-energy-standards-rented-properties-international-review.pdf>

- OCN believes that strata investor owners (landlords) will need special financial incentives to speed up the transition to electric vehicles. This could include for instance accelerated tax write-down of the capital and installation costs required to convert their strata units to fully electric.
- Implement the *right to charge* legislation, as referred to above, to apply to renters as well as owners, such that the owners corporations and landlord owners cannot deny reasonable requests from renters to charge electric vehicles.

***Recommendation: Minimum energy rental standards including a requirement to transition strata units to fully electric should be legislated. Investor owners (landlords) should be incentivised to speed the transition of these standards.***

Level playing field: It costs about \$2,000 to install electric vehicle charging in a standalone home. Strata dwellers, have to pay this same \$2,000 for the EVSE and connection to the building infrastructure, but also pay a contribution to the cost of the building infrastructure to connect to the building switchboard, plus building approval costs, plus any building electricity upgrades if necessary. In large buildings, this can amount to hundreds of thousands of dollars. For many, it is no longer an option to live in an apartment building, but a necessity driven by high housing costs. Renters similarly have few options. The concept of a level playing field is that Governments help owners corporations with these infrastructure costs in residential apartment buildings so that owners and tenants pay the same as standalone homeowners for the connection of electric vehicle charging. The NSW Government established such a grant program in Oct 2023<sup>3</sup>, but it was oversubscribed in just 2 months and subsequently closed, proving the popularity of such grant programs.

***Recommendation: The Federal Government establish similar grant schemes to the NSW Government electric vehicle ready grant, to accelerate the transitions to electric vehicle charging in apartment buildings.***

One size does not fit all. Many think of apartment building as large 100 lot city complexes. This is not the case. Only 1% of all buildings in NSW are large buildings of more than 100 apartments. 24% are between 11 and 99 apartments and 75% are 10 or less apartments. And 40% of apartment buildings are regionally based<sup>4</sup>. This would be similar across the Nation. The needs and cost of building upgrades to owners corporations across this range of building sizes and topologies is vastly different. The solutions for and cost of providing infrastructure for electric vehicle charging across the wide range of buildings vary markedly. On behalf of the NSW Government, OCN developed a range of approaches and methods to address these issues<sup>5</sup>. Victoria and ACT have adopted similar approaches. Part of that NSW EV Charging Grant scheme referred to above, is to develop a set of exemplars across the range of funded buildings, providing a rich data set for actual working case studies and options. This data will provide further insights into a robust and workable set of solutions across the range of buildings.

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<sup>3</sup> <https://www.nsw.gov.au/grants-and-funding/electric-vehicle-ready-buildings-grant#:~:text=The%20NSW%20Government%20will%20fund,electrical%20cabling>

<sup>4</sup> NSW Land Registry Service report 2016

<sup>5</sup> <https://www.energy.nsw.gov.au/business-and-industry/programs-grants-and-schemes/electric-vehicles/electric-vehicle-ready/strata>

Lack of clear guidelines, approaches and costing can lead to over servicing, gold plating and profiteering as have been experienced in some incentive schemes like the home insulation scheme.

***Recommendation: OCN recommends consideration be given to encourage similar approaches to the adoption of steps and methods to charge electric vehicles in residential across the states, based on the data from the NSW Grant scheme, to simplify and educate on the path to electric vehicle charging for strata residents.***

## **TOR 2 - The impact of moving from internal combustion engine vehicles, including fuel excise loss, existing auto industry component manufacturers and the environment.**

Does not relate directly to the strata sector.

## **TOR 3 - The opportunities for fuel savings, such as by combining EVs with other consumer energy technologies and savings for outer suburban and regional motorists.**

40% of strata schemes are regional. Making it easier for regional strata residents to charge electric vehicles at home has a direct impact on regional electric vehicle ownership by addressing two of the key barriers to regional electric vehicle ownership – range anxiety and the ability to charge at home, where the home is an apartment.

When the addition of electric vehicle charging in apartment buildings causes the need for a building supply upgrade, combining solar and/or batteries behind the meter to augment electricity supply upgrades, rather than traditional network upgrades, is particularly important in regional areas where there are real electricity demand and supply issues. See TOR 4 – Energy Supply response.

Of importance in this context is the fact that 75% apartment buildings contain 10 or less apartments, where there is adequate roof space for solar, however that roof space is not owned by the owner of the apartment, it is owned by the owners corporation, so any incentives to provide batteries and solar, need to be directed to owners corporations and not individual owners.

## **TOR 4 - The impact on electricity consumption and demand.**

The impact of energy consumption and demand should be considered within the building – not just impacts on the grid, from several perspectives:

- energy efficiency of the building to reduce energy demand in the building;
- energy supply to and behind the meter in the building; and
- emerging technologies like bidirectional charging.

### Energy Efficiency

Creating energy efficiency in a strata building is not as simple as a standalone home. Roof space, external walls, doors and windows are common property, requiring approval by the owners corporation for insulation and air tightness upgrades with all the caveats that go with that. Because of the complication, expense and competition for scarce funding, insulation and air tightness

initiatives are rarely considered. This is a case where specific owners corporation based incentives should be developed and implemented.

There are already incentives for homeowners to upgrade to energy efficient appliances like heat pump based water heating and air conditioning, inefficient electric motors, etc. These appliances make a huge difference to demand. Where these incentives apply to strata owners and they should be identified, maintained and clearly communicated.

Incentives for owners corporations to replace existing gas based and older resistive based electrical building infrastructure with new heat pump based appliances are almost non-existent and/or not targeted to strata owners corporations. Clearly identifiable costs savings from the investment energy efficient appliances, leaves the way open for incentives via low or low interest loans to cover the capital cost and which can subsequently be paid back via the savings as the accrue.

**Recommendation: identify and create incentives such as incentives for the provision of insulation, air tightness and energy efficient appliances for owners corporations to increase the energy efficiency of strata buildings.**

**Recommendation: Identify and create incentives for owners corporations to replace aging gas fired and resistive electrical water heating and HVAC systems with new heat pump based systems.**

#### Energy supply

Energy supply to strata buildings is largely constrained by the capacity of the energy sub-station, connecting cables and/or switch board that was installed when the building was built.

When most existing strata buildings were built, EV charging, full electrification and opportunities for local generation and storage were not considered, leading to a scenario whereby the energy capacity within these buildings, even after the implementation of energy efficiency measures, may not be sufficient to support these new requirements.

This would traditionally be overcome by building energy supply augmentation via switch board upgrades, network access and sub-station upgrades, all of which are very expensive and create additional up stream load across the network and transmission, which is also expensive to manage. Behind the meter battery and/or battery/solar augmentation can potentially alleviate this additional load at a lower cost and be funded by foregone network costs, therefore benefit both the owners corporation and the network operators.

Incentive schemes to fund such upgrades from foregone network upgrade costs should be directed to owners corporations for full effect.

***Recommendation: The inquiry should consider the opportunities to coordinate demand with local building electricity supply – and include behind the meter battery and solar upgrades, funded by foregone costs of network and transmission upgrades.***

#### Bidirectional charging:

Bidirectional charging is still in its infancy and technical aspects of vehicle to grid (V2G) being established. In its simplest form, vehicle to home or load (V2H/L) is being provided by some electric vehicle manufacturers but will have no impact on grid supply. However, there is potential for use it as a local power source in the event of emergencies and power outages and should be included as appropriate into disaster recovery strategies.

Bidirectional charging is widely reported as one of the next big steps in energy delivery and efficiency, with CAGR in the 15% range<sup>6</sup>, with lack of Government support called out as one of the restraining factors.

Battery costs have been in the range \$1,000 to \$1,500 per kW for some years now. Electric vehicles have 40kW to 100kW batteries and cost in the range \$50,000 to \$100,000 plus, so if based on the average household battery cost, you get the car for free!

While residential building battery costs remain high, from an energy and value perspective there are potential savings from using electric vehicle batteries.

In the case of apartment living and potential use for augmentation of building supply, there are a range of issues that need to be addressed:

- The owner of the electric vehicle would need to maintain a high level of charge, which may not be a problem if charging is available in daily off-peak periods and from renewable supplies, including locally connected solar;
- The owner of the electric vehicle would need to be willing and/or incentivised to use the vehicle for this purpose. One such incentive might be some form of payment for the energy returned to the building;
- The building would need to have to appropriate building infrastructure to support bidirectional charging, either behind the meter and/or to the grid, and the ability to support payment regimes referred to in the previous point.

#### Incentives for bidirectional charging

As there is this intrinsic high value in the use of electric vehicle batteries and large savings on the cost of home or building based batteries, which would otherwise have to be funded from some source, there remains scope to incentivise the use of electric vehicle batteries from the savings foregone from funding home/building batteries.

**Recommendation: The Government fully investigate the options available to benefit from the emerging bidirectional charging capability which electric vehicles will offer.**

#### **TOR 5 - The opportunities for expanding EV battery manufacturing, recycling, disposal and safety, and other opportunities for Australia in the automotive value chain to support the ongoing maintenance of EVs**

Does not relate directly to the strata sector

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<sup>6</sup> <https://www.globenewswire.com/news-release/2024/01/25/2817309/0/en/Europe-Bidirectional-Electric-Vehicle-Charger-Market-Projected-to-Soar-with-Striking-CAGR-of-15-11-from-2022-2031.html>

<https://www.technologyreview.com/2024/02/21/1088748/virtual-power-plant-electric-vehicle/>

## **TOR 6 - The impact of Australia’s limited EV supply compared to peer countries.**

Does not relate directly to the strata sector

## **TOR 7 - Any other relevant matters.**

### **Fear, Uncertainty and Doubt (FUD)**

OCN is concerned about the existence of the increasingly sensationalist commentary and misinformation, like fire risk and building structural load, creating FUD – Fear, Uncertainty, and Doubt - which both promotes misinformation and barriers to the introduction of electric vehicle charging in apartment buildings. This directly affects the implementation of the government’s sustainability and safety agendas.

***Recommendation: OCN recommends that the Government work to combat misinformation impacting the implementation of electric vehicles and electric vehicle infrastructure through public education campaigns and the dissemination of fact-based information.***

### **Examples of misinformation**

#### **Electric Vehicles fire Risk**

The number of electric vehicle fires in Australia have been small, with a total of 6 while in normal operation. Causes were: 3 associated with building fires, 1 debris, 1 arson, 1 accident and in each case the electric vehicles suffered major damage to the high voltage lithium-ion battery pack, leading to thermal runaway (battery fire). In all cases, fire fighters have successfully responded using existing tools and techniques for vehicle fires. There have been no fires while any road registered electric vehicle is being charged.

Analysis shows that road registered electric vehicles are far less likely to catch fire than petrol and diesel powered vehicles<sup>7</sup>, so there is no overwhelming need to treat garaging or charging of electric vehicles any different to any other vehicle.

There has been an overreaction to the road registered electric vehicle fire and charging risks, with some quarters calling for excessive and costly imposts on apartment owners for the installation of ‘special hazard’ remedies for electric vehicle charging and charging infrastructure, which based on the data and risk, is unwarranted.

**Recommendation: Government note that road registered electric vehicles are a very low fire risk and avoid any imposts on apartment owners via unnecessary regulation, such as some calls for the treatment of EV charging installations and EV car parking locations as ‘special hazards’.**

#### **The real battery powered vehicle fire risk**

Worldwide H1/2023, there were 44 electric vehicle fires resulting in 4 fatalities, compared with over 500 micro mobility or e-bike/ e-scooter devices, resulting in 36 fatalities<sup>8</sup>

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<sup>7</sup> <https://electricvehiclecouncil.com.au/submissions/evc-response-to-the-nsw-parliamentary-inquiry-into-electric-and-hybrid-vehicle-batteries/>

<sup>8</sup> Source EVFiresafe



Road registered electric vehicles are highly regulated, not subject to excessive misuse and are garaged and charged external to living spaces.

e-bikes and e-scooters are poorly regulated, subject to misuse and modification and often charged inside residential space. This is proving to be a lethal combination.

The real fire risk is from is modified and cheap imported e-bikes and e-scooters.

ACCC and CSIRO reports call for increased regulation and compliance testing of these micro mobility devices<sup>9</sup>.

**Recommendation: Governments note and act on ACCC and CSIRO recommendations to improve education and regulation of lithium-ion powered devices and given the increasing incidence of apartment fires caused by modified and cheap imported e-bikes and e-scooters, an immediate focus on regulation and compliance testing for e-bikes and e-scooters.**

#### Fire Extinguisher Misinformation

There are claims by various manufacturers and suppliers of fire suppression equipment (blankets) and extinguishers that there is electric vehicle specific suppression equipment and extinguishers available.

Advice from the CSIRO<sup>10</sup> and EV Firesafe is that there are NO certified electric vehicle or li-ion battery extinguishers. The only known effective approach is the call 000 and leave it to the fire professionals.

#### Building Structural Load misinformation

There are claims that heavier EVs have the potential to damage building fabric by exceeding carpark structural loads. While there is a weight penalty with EV batteries, a short comparison of some popular vehicles shows similarity in respective weights between Electric and Internal combustion vehicles:

	Electric Vehicle (kg)	Internal Combustion Vehicle (kg)
<b>Sedan</b>		
Tesla type 3	1760 - 1844	
Mercedes C class		1590 - 1940
<b>SUV</b>		
Volvo XC 40 Recharge	1955 - 2192	
Volvo XC 40		1497 - 1733
<b>Dual Cab Ute</b>		
LDV eT60	2300	
Ford Raptor		2431
Ram 1500		2640
<b>Large SUV</b>		
Kia EV 9 (to be released)	2405 - 2664	
Toyota Landcruiser		2580
Volvo XC9		2111 - 2356

<sup>9</sup> [https://www.accc.gov.au/system/files/Lithium-ion%20Batteries%20report\\_3\\_0.pdf](https://www.accc.gov.au/system/files/Lithium-ion%20Batteries%20report_3_0.pdf)

<sup>10</sup> <https://activfire.csiro.au/pdfs/documents/CSIRO-AN-004.pdf>

The real issue is that vehicles, including the increasingly popular SUVs, are all getting bigger and heavier.

<https://uk.motor1.com/news/622233/obesity-of-cars-new-industry-challenge/>

AS 1170 defines dead and live loadings as 3kN/m<sup>2</sup> or about 300kg/m<sup>2</sup>, equating to about 3,880 kg for a standard size car space (2.4m x 5.4m). This general increase in bigger and heavier vehicles, electric or not, is generally not considered a significant structural load risk in residential car parks. If the size and weight of vehicles continues to be an issue, this should be addressed via the Australian Standards.

### **Funding options**

OCN has responded to the Senate Economics References Committee - Residential Electrification Public Hearing 21.02.24 via a supplementary submission, which outlines our preferences for funding for residential electrification, which includes the funding preferences for the transition to electric vehicles<sup>11</sup>

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<sup>11</sup> <https://ocn.org.au/wp-content/uploads/2024/03/OCN-Supplementary-Submission-Senate-Economics-References-Committee-Questions-VI.pdf>