

14 August 2023

**Department of Planning, Lands and Heritage
140 William Street
Perth WA 6000**

via DPLH Consultation Hub

**RE: DRAFT POSITION STATEMENT – ELECTRIC VEHICLE CHARGING
INFRASTRUCTURE**

Dear Planning Team,

Introduction

The Australian Institute of Architects (the Institute) is the peak body for the architecture profession in Australia. It is an independent, national member organisation representing over 14,000 members across Australia and overseas. Almost 1,200 of our members are based in Western Australia and are supported by and professionally participate in our Western Australian Chapter.

The Institute notes that this document has been developed to provide guidance to proponents of developments and associated decision-makers further to the *State Electric Vehicle Strategy*.

The Institute supports the policy

Our overall response is that the Western Australian Chapter supports the *Electric Vehicle Charging Infrastructure Position Statement*. The Position Statement aims to provide consistent guidance on integrating the electric vehicle (EV) infrastructure into the West Australian Planning framework and is both necessary and socially/environmentally responsible. EV sales rapidly rise in Australia, with 2023 mid-year sales representing 8.4% of all new vehicles sold¹. The Clean Energy Finance Corp (CEFC) projects that EVs will

¹ July 2023, Electric Vehicle Council, *State of Electric Vehicles*,
<https://electricvehiclecouncil.com.au/reports/soevs-report-2023/>

make up 50% of new car sales by 2030². EVs are no longer an emerging technology, but a rising mode of transport, estimated to become the prevalent mode of transport in the next decade. Appropriate planning for associated charging infrastructure is critical to ensure appropriate future-proofing for all West Australians.

Not far enough in terms of outlook

The Position Statement does not appropriately consider the lifecycle/longevity of buildings and make appropriate provisions for when all new car sales will be 100% EVs.

For example, if all new car sales will be EVs within 15–25 years and a building is expected to last 40–100 years³, ***then all new buildings should be "EV ready"*** (i.e. planning for all/most car bays to have the infrastructure for installing electric charging now).

In the context of understanding the likely pace of change, the COP26 *Glasgow Declaration on Zero-Emission Cars and Vans*⁴ declaration provided insight to the trend. The signatories of the declaration have agreed to move to “all new sales of zero-emission cars and vans globally by 2040” (note, many of the countries listed are already well ahead of these targets such as Norway and Netherlands):

As representatives of governments, businesses, and other organisations with an influence over the future of the automotive industry and road transport, we commit to rapidly accelerating the transition to zero emission vehicles to achieve the goals of the Paris Agreement.

Together, we will work towards all sales of new cars and vans being zero emission globally by 2040, and by no later than 2035 in leading markets.

Several automakers and companies have also joined the declaration, including Ford, GM, Mercedes-Benz, Jaguar Land Rover, and Volvo.

Albeit Australia is not a signatory, several jurisdictions of Australia, including the Australian Capital Territory, New South Wales and South Australia⁵, have joined as Regional Government signatories.

² 2018, Clean Energy Finance Corp, The Australian Electric Vehicle Market: An Industry Snapshot from the Clean Energy Finance Corporation: <https://www.cefc.com.au/media/u2gijzfc/australian-ev-market-study-full-report-jun2018.pdf>

³ Note this will be longer as the world moves to circular economy planning; For example, the UK has progressed its policies with the “Whole Life Carbon Roadmap”, refusing demolition unless a Life Cycle Assessment report demonstrates that the demolition will lower the whole of life carbon outcome. <https://ukgbc.org/our-work/topics/circular-economy/>

⁴ <https://climatechampions.unfccc.int/cop26-energizes-the-shift-to-clean-electric-transport/> and <https://www.gov.uk/government/publications/cop26-declaration-zero-emission-cars-and-vans/cop26-declaration-on-accelerating-the-transition-to-100-zero-emission-cars-and-vans#declaration>

⁵ ACT was the first official signatory: <https://cop26transportdeclaration.org/en/signatories/cities-states-and-regional-governments/>, with NSW <https://www.smh.com.au/politics/nsw/nsw-government-signs-cop26-agreement-bringing-electric-vehicle-targets-to-world-stage-20211110-p597s6.html> and then SA https://www.energymining.sa.gov.au/home/news/archive/articles/2021/sa_signs_global_cop26_declaration_for_100_per_cent_zero_emission_vehicles announcing alignment with the Declaration.

Roy Morgan Research most recent survey indicates over half a million Australians intend to buy an EV in the next four years.⁶

It is reasonable to expect (and appropriately plan for) the list of signatories (including Australia⁷) and manufacturers to rise rapidly⁸.

As such, to ensure that all new buildings are "EV ready", the Position Statement and subsequent policies need to consider:

- The number of charging bays now should include a programme for additional bays for each year.
- The policy needs to allow for statistical redundancy (i.e. adequately planning for regional trends of EV use to ensure adequate charging bays to meet demand in all locations and for all building typologies, such as office buildings).
- The policy needs to be transparent on the planned for trends in EV adoption with a clear understanding of the mathematical modelling used as a basis for the policy (including the understanding that the rate of uptake is going to increase rapidly).

Further considerations:

1. Table 1:
 - a. Noting the outlook statement above, the 2% provision for car parks, exhibition centres and recreation facilities appears inadequate. Tenants, especially in Class 1 and 2 buildings without onsite charging, will have to rely on public charging infrastructure that is not equally geographically dispersed and often in use by others, . This socio-economic divide is already well demonstrated with all sustainability technologies such as photovoltaics and batteries. Adequate planning to ensure all West Australians have access to reliable EV charging is critical.
 - b. Beyond item 6.1 there is no assertive policy direction or requirement for street-based charge points to be retrofitted to ensure equitable access to EV charging. With the establishment of federal and state policies focused on increased EV sales, more affordable new and second-hand EV's will provide for more equitable access to EV ownership. As the entry price of EVs continues to drop and more second-hand EVs become available, EV adoption will spread beyond traditional wealthy owners to all

⁶ Roy Morgan, *Over half a million Australians plan to buy a new electric vehicle in the next four years*, 20 June 2023. <https://www.roymorgan.com/findings/9258-electric-vehicle-intention-soars-june-2023>

⁷ Indicators include the new National Electric Vehicle Strategy released earlier this year: <https://www.dcceew.gov.au/energy/transport/national-electric-vehicle-strategy>

⁸ Case study of Norway: new car sales went from 1% EVs to 65% (2010) in ten years, and mid 2023 data indicates EV's represent 90% of new carsales in Norway.

<https://insideevs.com/news/675163/norway-plugin-car-sales-june2023/>
https://en.wikipedia.org/wiki/Plug-in_electric_vehicles_in_Norway

Case study of USA: New Private and Public Sector Investments for Affordable Electric Vehicles commitment for 50% of EV's as new car sales by 2030: <https://www.whitehouse.gov/briefing-room/statements-releases/2023/04/17/fact-sheet-biden-harris-administration-announces-new-private-and-public-sector-investments-for-affordable-electric-vehicles/>

demographics, Tenants will expect to be able to charge at home, as is the case with most EV users. It should also be noted that it is significantly more costly to retrofit a finished building to EV charging, than it is to install in construction. That Act Government found that the cost of an EV station in a new build apartment was \$1,700 – \$2,500 whereas a retrofit would cost \$2,500 to \$8,000.⁹ For Commercial buildings, the ACT found that the cost of retrofitting after the building was completed was between \$2,500 and \$21,000.

- c. Provision for all residential types is only “encouraged” for Level 1 charging – at one for each parking bay assigned to a dwelling. The provisioning status should be set to the higher bar to “preferred” for all new Class 2 buildings and provision for all Class 1 buildings. WA currently does not have an infrastructure policy for “Strata” development.
 - d. There should be a “preferred” requirement for EV charging in communal parking at 50% of bays as there is no specification for communal parking.
 - e. Whether in Class 2 developments with more than 50 dwellings any form of Level 2 Charging should be provided for dedicated use for car share schemes to encourage people not to own and use car share. Share vehicles would require more rapid Level 2 charging.
 - f. Provision for education facilities needs to be included – primary, secondary and tertiary for staff, and students.
2. Minimum parking requirements currently required in the Planning Framework – there is an opportunity to plan to offset these with additional EV charging bays for some building typologies. There may be a broader ‘share bay’ ethos bringing benefit to the immediate community, not just building owner/user.
 3. The position statement applies across WA and provides general guidance to local government in the preparation of local planning policies with respect to EV charging infrastructure. Policy measures should also be considered in the preparation and assessment throughout all levels of planning, including strategies, schemes, structure plans and development applications. However, Table 1 only sets our provisioning for mainly development applications, and certainly provides no specification for strategies, schemes and structure plans. The policy should set out threshold requirements to have broader provisioning ratios established in strategies schemes and structure plans based on local resident population, resident density or visitor traffic (e.g. to a commercial /retail or cultural/ recreational precinct).
 4. Technical requirements (applying to new builds and retrofits), with the recommendation that building permits are required for all installs (except Class 1):
 - a. Fire rating implications (to neighbours) assumed that the in-development FRL considerations will be considered in the NCC during building permit application.
 - b. EV fires are different from traditional vehicles fire. Lithium is a highly combustible element that burns intensely and is difficult to extinguish with traditional firefighting methods. Therefore, charging stations should be equipped with the necessary equipment to address these issues.

⁹ ACT Government – Urbis, Is Your Building EV ready? June 2022, https://www.planning.act.gov.au/__data/assets/pdf_file/0008/2021597/EV-Ready-information-for-Industry.pdf

- c. EV charging in underground parking or at ground level needs to be designed to the highest levels of waterproofing. Flooding is a big risk factor for EV charging. Flooding may not only damage the charging infrastructure but also pose a fire risk.
- d. EV infrastructure needs to be conveniently located, international experience shows that to reduce costs, charging stations are often located where land is cheap. However, these are often inconvenient for users and are sometimes located in areas without sufficient lighting and amenity to ensure safe usage. To future-proof EV infrastructure, consideration should be given to encouraging the use of EV charging infrastructure that allows bi-directional charging. Bi-directional charging means that the charger can both send power to the vehicle but also send power from the car back into the grid. Renewable energy often creates excess energy in the middle of the day and insufficient energy at night. Bi-directional charging allows charging networks to return energy to the grid at night or during energy disruption.

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Thank you for the opportunity to provide feedback and we look forward to future engagement regarding the consultation on EV Charging Infrastructure.

Yours sincerely,

Sandy Anghie RAIA
State President Western Australia
Australian Institute of Architects