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## **PUBLIC EV CHARGING INFRASTRUCTURE IN THE ACT**

### **KEY REQUIREMENTS OF THE ACT BRANCH OF THE AUSTRALIAN ELECTRIC VEHICLE ASSOCIATION (AEVA ACT)**

**9 FEBRUARY 2022**

#### **INTRODUCTION**

This requirements statement is a revised version of a statement issued by AEVA ACT on 18 January 2021. The present statement is made in the context of the Request for Expressions of Interest entitled “Funding for 50 Electric Vehicle Chargers” released by the ACT Government on 13 December 2021.

#### **KEY REQUIREMENTS**

[1] There should be a mix of DC fast charging (50kW+) and slower AC charging (typically around 7kW). Intermediate speeds such as 22kW could be considered.

Some locations would be most appropriate for a smaller number of more expensive, fast DC chargers while other locations would favour a much larger number of cheaper, slower AC chargers.

[2] Charging infrastructure should be available for use 7 days per week, 24 hours a day.

[3] Charging points should be located near amenities such as toilets and food outlets.

[4] Each of the seven Canberra towns (North Canberra, South Canberra, Woden, Belconnen, Weston Creek/Molonglo, Tuggeranong and Gungahlin) should have at least one, and preferably two, DC fast chargers.

[5] DC fast chargers should support both CCS2 and CHAdeMO standards.

[6] Some AC charging should be placed alongside any DC fast charger(s).

In case of an outage, there is a backup, albeit slower.

A person who plans to be away from their car for a while could be encouraged to leave the DC fast charger unoccupied by a lower per kWh fee at the AC EVSE (Electric Vehicle Supply Equipment) charging outlet.

[7] Charging sites should cater for a wide range of EVs: not just cars, but also vehicles such as motorbikes and electrically-assisted pedal bicycles.

A few standard powerpoints alongside car charging outlets would meet the needs of electric bike users. They would also be a back up of last resort for electric cars in case of charger outages because they could be used with a driver's portable EVSE charge cord.

[8] There should be at least one public fast DC charger and multiple AC EVSE charging outlets in the zone bounded by the National Library, the National Gallery, and Parliament House.

Visitors to the public institutions and workers in this area are likely to be away from their vehicles for periods of several hours so the provision should be biased toward a larger number of slower chargers.

[9] AC EVSE outlets should be provided at major shopping centres (such as Group Centres) and popular entertainment and restaurant zones.

[10] 'Park and Ride' and other long-stay car parks are also ideal locations for large banks of AC EVSE outlets. Slower charging does not matter if a vehicle is parked for many hours; it is better to have plenty of charging outlets.

A limited available supply capacity at a site (say 300kW) would not preclude installing (say) a hundred 7kW AC outlets. EVSE outlets can be networked to share the available power. With every charger in use, each would provide 3kW but each vehicle would get 7kW when only 40 of 100 are in use.

Slow charging through the day would provide a steady load for local roof-top solar exports. It would be even better if the carpark includes solar PV shading.

[11] Major Canberra hotels should provide parking spaces that support overnight charging, preferably via AC EVSE outlets but even trickle charging on ordinary power points using a car owner's portable EVSE charge cord is sufficient.

This will reduce demand on public charging. 7kW wall-mounted EVSEs are enough to ensure almost any car's battery can be charged to 100% overnight. Even the ordinary 10A power point (2.3kW) is enough to add almost 200km of range overnight.

[12] DC fast chargers should be installed at "weekend excursion" locations and major routes into Canberra. Bungendore and Braidwood lack charging facilities and should be prioritised. Murrumbateman, Yass, Goulburn and Cooma all have at least one fast DC charger. The ACT Government should provide financial support to the Queanbeyan Palerang Regional Council to instal one or more DC chargers at Braidwood, to serve the needs of Canberra EV drivers.

A driver travelling to Canberra in an EV of modest range may need a charge between the coast and Canberra. A driver with a longer range vehicle might prefer travel on to Braidwood if the chargers in Batemans Bay are occupied or it is not yet a convenient time to take a break.

[13] It should be possible for drivers to pay for charging using a credit card: a specialised app or RFID card should not be the only payment mechanisms.

[14] Charging point providers should be preferred if they can demonstrate maintainance capabilities to ensure high availability and prompt response to outages.

[15] The pricing model should discourage charging for longer than 30 minutes at DC chargers.

Some providers charge both per minute and per kWh rates while others have a penalty for idle time after charging has ceased.

Consideration could be given to a model like that adopted by Jolt, in which they provide the first 7kWh for free (20 minutes at 22kW) but subsequent charging is billed at a higher rate.

[16] AC chargers could use tethered cables with type 2 plugs or require “bring your own” cables, perhaps dependent on the location.

The former are more convenient for the majority of cars but the plug and cable are possibly more susceptible to damage or vandalism.

A minority of cars have type 1 inlets but they can use a type 2 plug via an adapter that they could keep in their car.

Car owners would generally carry a BYO cable with the appropriate type 1 or type 2 plug for their vehicle so the inconvenience would not be great if providers prefer to install outlets requiring a BYO cable. Cars generally have an option to remain locked onto the plug when charging ceases, which prevents theft of the cable.

## **CONTACT DETAILS**

This list of requirements was prepared by the ACT Branch of the Australian Electric Vehicle Association (AEVA ACT).

It is available from our website at <https://www.aeva.asn.au/ACT/>

Please address any responses or questions to:

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