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PUBLIC EV CHARGING INFRASTRUCTURE IN THE ACT

POSITION PAPER ISSUED BY THE ACT BRANCH OF THE AUSTRALIAN ELECTRIC VEHICLE ASSOCIATION (AEVA ACT)

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INTRODUCTION

During the past two years, AEVA ACT undertook a number of activities aimed at improving charging infrastructure for EV drivers in Canberra. In particular, we:

- developed a proposal[1] on the charging requirements for new apartment buildings, and discussed this proposal with ACT Government officials;
- wrote to the NRMA to challenge the impression that the ACT is well provided with public charging infrastructure; and
- responded to a July 2020 consultation paper on charging infrastructure issued by Evenergi on behalf of the ACT Government.

Following the 2020 ACT election, ACT Labor and the ACT Greens concluded a parliamentary agreement[2] which includes a proposal to provide 50 new public EV charging stations. We assume that the intention is to roll out this additional infrastructure during the current term of Government, ie by October 2024. In the light of this proposal we now wish to clarify the requirements of EV drivers for those charging stations.

This Position Paper sets out these requirements, as affirmed at a Workshop held on 30 November 2020. We hope that these requirements will be studied by the ACT Government and its consultants to inform their planning.

This paper reflects the current situation and potential demand increases in the next year or two. However, we recognise that charging needs may change quite rapidly.

COMMENTS ON THE ACT GOVERNMENT PROPOSAL

The Labor-Green Parliamentary Agreement states: “Build at least 50 electric vehicle recharging stations across Canberra and the region, holding a reverse auction for their construction in 2021-22. This will include working with service station providers to explore broader public charging infrastructure.”

It is unlikely that the authors of this proposal envisaged any particular mix of cheaper,

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[1] AEVA ACT. Recommendations on EV charging facilities in new strata developments. January 2019. https://www.aeva.asn.au/recommendations-on-ev-charging-facilities-in-new-strata-developments/

[2] Parliamentary and Governing Agreement: 10th Legislative Assembly, Australian Capital Territory. October 2020. https://www.cmtedd.act.gov.au/__data/assets/pdf_file/0003/1654077/Parliamentary-Agreement-for-the-10th-Legislative-Assembly.pdf

slower AC charging outlets and more expensive, faster DC chargers. This position paper will seek to inform this issue.

We also note that service stations might not be able to house EV charging facilities due to standards designed to maintain separation between high powered electrical equipment and explosive fuel vapour.

COMMENTS ON GOVERNMENT INVESTMENT AND PRICING

Investment by the ACT Government would be welcome as a means of stimulating the expansion of local charging infrastructure. This may encourage the take-up of EVs by Canberra apartment dwellers and encourage tourist travel to Canberra by EV drivers. It should be noted, however, that for rapid chargers (eg greater than 20 kW DC chargers) there are significant costs involved in leasing, site preparation and installation of equipment. Private investors must price the use of these chargers to recover those set-up costs in addition to their recurrent costs.

EV drivers are more concerned about the availability of such chargers than they are about prices. If the price of rapid charging were to be subsidised, it could discourage other commercial providers from entering the market. Our view is that any government investment must be accompanied by arrangements to ensure that prices are set at true market levels, and any assistance to charging providers must be on a "level playing field" basis, available to any operator that enters this market.

The imperative to avoid subsidies does not apply to chargers with lower set-up costs, such as 7 kW AC chargers at hotels and shopping centres. These are often provided free of charge in order to attract more business.

RECOMMENDATIONS: GENERAL PRINCIPLES

Our recommendations are set out below, commencing with general principles for charging infrastructure.

Location, availability and accessibility of chargers

[1] Ensure that charging infrastructure is easily accessible 24 hours a day

[2] Ensure that publicly available chargers are well signposted

[3] Locate charging points near easily accessible amenities, such as toilets, food outlets and locations suitable for outdoor dining

[4] Consider the installation of temporary charging sites convenient to major events in Canberra

[5] Avoid sharing of spaces for the purpose of disabled parking and EV charging, while recognising the need for charging infrastructure at disabled parking spots.

[6] Consider establishing, at some locations, a shelter for a group of (say) four chargers, with a roof covered by solar panels.

Charging for a range of EVs

[7] Ensure that charging sites cater for a wide range of EVs, including cars, motorbikes and bicycles, whether personally-owned or hired.

Logistics and payments

[8] Allow drivers to pay for charging using a credit card, rather than making an app or an RFID card the only possible payment mechanism

[9] Consider using a pricing model to discourage charging for longer than 30 minutes at DC rapid chargers

[10] Consider the integration of protocols and fees for parking and charging, noting that EVs may need longer parking times. As far as possible, ensure a consistent approach to these fees across the ACT

[11] Ensure easy reporting of faults and prompt and reliable servicing of charging points

[12] Implement feedback processes to assess usability, report issues and inform future policies and decisions in relation to charging infrastructure.

Promotion and advertising

[13] Use public charging locations to promote ACT Government achievements and goals in energy, transport and climate policies.

Comments

The experience of our members is that some chargers are not accessible outside of business hours, or after a certain time in the evening. Chargers located in large or multilevel carparks can sometimes be difficult to find. Some chargers lack any signage to indicate how to use them. In addition, signage could indicate where other nearby chargers are located.

Our members have reported instances (in Bathurst, for example) where chargers were moved from a central location to one that was an inconvenient distance from amenities.

We note that many temporary events in Canberra are set up for access to electric power, in which EV charging could be incorporated.

Charging cables can create a hazard at disabled parking spaces.

Our members have sometimes experienced significant inconvenience when EV drivers leave their cars plugged in for lengthy periods at EV rapid chargers. Recommendation [9] does not specify any level of time based charging that could apply after 30 minutes. Some of our members believe that time-based fees should apply only after a vehicle is fully charged.

The Parkmobile app has been introduced for use at ACT Government sites, which may provide a mechanism for integrated payment for EV charging and parking.

It should be noted that AEVA ACT intends to produce a number of Canberra-specific EV charging fact sheets, flowing from its Community Zero Emissions grant.

Notices at charging locations could also refer to other ACT electric transport initiatives such as electric buses and light rail.

RECOMMENDATIONS: FUTURE OF THE ACTEWAGL CHARGING NETWORK

We consider that the existing charging infrastructure in the ACT falls short of the requirements of its users, who include visitors to Canberra, and Canberra residents who live in apartments without their own charging facilities. Our recommendations are as follows.

[14] That ActewAGL transform its two CCS1/CHAdeMO rapid chargers into CCS2/CHAdeMO chargers

[15] That ActewAGL undertake more frequent maintenance of its rapid chargers and its 7kW AC chargers

[16] That ActewAGL replace its dedicated RFID card payment model with an app or credit card model that would better suit the needs of visitors to Canberra

[17] That ActewAGL clarify its intentions concerning the provision of EV charging infrastructure over the long term.

Comments

Two of the three existing ActewAGL rapid chargers use the CCS1 rather than the CCS2 standard, which limits their usefulness.

The only ActewAGL CCS2 rapid charger (at London Circuit) has been out of service on a number of occasions. In addition, chargers are taking too long to be fixed when they break down (Reed St Tuggeranong is a recent example).

To recover the costs of Recommendations [14] to [16], ActewAGL could raise the prices for use of its EV chargers.

To use the ActewAGL chargers, a visitor to the ACT needs to have ordered and received a dedicated RFID card and signed up to a charging plan. This is an unsatisfactory situation.

There has been no increase in the ActewAGL EV charging network for several years. We consider it important that ActewAGL communicate its strategy for the future of its EV charging network. ActewAGL may consider that its seed network has served its purpose of having some rather than no charging over the past several years and that now is a good time to sell it off to a commercial provider, who would commit to expanding it.

We note that ActewAGL recently announced "We're currently working to join our chargers to a national network. While we work on this migration, we've put a temporary halt on accepting new members. Please check back with this page for exciting updates in the near future." We hope that this will address the limitations identified above.

We have not made any specific recommendation about the use of "bring your own cable" AC chargers. Our members have a range of views on this issue. Some find BYO cables difficult to use, while others think that tethered cables can be less reliable. It may be useful if a mix of BYO and tethered AC chargers were provided.

RECOMMENDATIONS TO EXTEND CHARGING INFRASTRUCTURE IN CANBERRA

We envisage that the ACT Government's program of 50 new public charging stations should take account of the needs of EV drivers who cannot charge at home (many apartment dwellers are in this category) and of visitors to Canberra.

It is difficult to forecast the level of charging infrastructure required in Canberra in 2024, because improved charging infrastructure will stimulate the uptake of EVs by apartment dwellers, which in turn will increase demand – there is a positive feedback loop. In combination with global factors, this could result in a rapid "tipping point" – infrastructure that seemed ample one year could be woefully inadequate a year later.

We note that the number of battery EVs registered in the ACT has approximately doubled during the year 2020. There is clear potential for rapid increases from the current low base.

We envisage a mix of new DC and AC chargers. Our recommendations are as follows:

[18] That the ACT Government's program for public EV charging stations ensure that each of the seven Canberra towns (North Canberra, South Canberra, Woden, Belconnen, Weston Creek/Molonglo, Tuggeranong and Gungahlin) has at least one, and preferably two, rapid DC chargers

[19] That the ACT Government liaise with the Federal Government and the major national cultural institutions to encourage the installation of at least one public rapid charger and multiple 7kW AC chargers in the zone bounded by the National Library, the National Gallery, and Parliament House

[20] That major Canberra hotels each provide several parking spaces to support overnight trickle charging or 7kW AC charging

[21] That tourism records be used to develop a plan for provision of charging infrastructure at hotel accommodation

[22] That the program for public EV charging stations include 7kW AC chargers at major shopping centres and popular entertainment and restaurant zones

[23] That slow charging infrastructure be added to Park and Ride locations in Canberra, to meet the needs of electric car and electric bike users.

Comments

Current provision of DC rapid chargers in Canberra is inadequate. There is one 50kW charger in Civic, one 22 kW charger in Fyshwick, and two rapid chargers elsewhere with inconvenient plug standards. Apartment dwellers and visitors to Canberra would benefit from a larger number of conveniently located rapid chargers. Two rapid chargers in each town would be ideal.

Day visitors to Canberra who have travelled by road to visit the major cultural institutions or to attend business meetings at Parliament House would benefit from nearby rapid chargers to prepare for their outward journey.

Hotels could provide EV charging infrastructure without any Government support, and could recover this investment through surcharges and/or increased patronage.

In terms of charging at hotels, international research has shown that 90% of EV drivers will seek out destinations that have charging points over those that don't. Thus, having a charging point should provide an additional draw for hotels as the EV market continues to develop. The experience and behaviour of AEVA members is consistent with this observation.

EV drivers who are attending movies or sporting events or dining out would like the opportunity to charge their EVs while undertaking these activities, but they do not want or need to charge too rapidly.

For local businesses, the ACT Government could adopt an approach similar to that used by Tesla, namely: provide an AC charger on condition that the business instal the required infrastructure.

RECOMMENDATIONS RELATING TO THE REGION AROUND THE ACT

[24] That rapid chargers be installed at "weekend excursion" locations such as Bungendore and Murrumbateman

[25] That the ACT Government provide financial support to the Queanbeyan Palerang Regional Council to instal one or more highway rapid chargers at Braidwood

[26] That the ACT Government's program for public EV charging stations include at least one rapid charger close to the Monaro Highway (eg the Airport or Calwell Shops).

Comments

EV drivers of modest range vehicles (such as first-generation Nissan Leafs) would benefit greatly from the installation of rapid chargers at weekend excursion locations.

Canberra EV drivers make frequent trips to the south coast using the Kings Highway. A rapid charger at Braidwood, and preferably two chargers there, would greatly assist Canberra EV drivers.

EV drivers travelling from the Sydney region to the snowfields would benefit greatly from a highway rapid charger on the Monaro Highway near Canberra. The rapid charger at Tuggeranong Town Centre is not sufficiently close to the Monaro Highway. This would also provide value to local businesses providing services to snowfields traffic.

Evie Networks already has plans for a rapid charger at Marulan. The trip from Canberra to Sydney would also be supported by a highway rapid charger at Sutton Forest, but it is likely that one of the commercial providers will respond to this need. However, if these chargers do not materialise by 2022, the ACT Government may wish to provide an incentive, possibly through a reverse auction process, to expedite their development.

The trip to Melbourne is already well serviced with rapid chargers.

CONTACT DETAILS

This Position Paper was prepared collaboratively by the members of the ACT Branch of the Australian Electric Vehicle Association (AEVA ACT).

It will also be available from our website at https://www.aeva.asn.au/ACT/

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