

12 November 2018

Sophie Muller
Tasmanian Climate Change Office
Department of Premier and Cabinet
GPO BOX 123
Hobart TAS 7001

Via email: climatechange@dpac.tas.gov.au

Dear Ms Muller,

RE SUPPORTING A STATEWIDE ELECTRIC VEHICLE CHARGING NETWORK

TasNetworks welcomes the opportunity to make a submission to the Tasmanian Climate Change Office (**TCCO**) on the *Supporting a Statewide Electric Vehicle Charging Network* consultation paper.

As the Transmission Network Service Provider (**TNSP**), Distribution Network Service Provider (**DNSP**) and jurisdictional planner in Tasmania, TasNetworks is focused on delivering safe and reliable electricity network services while achieving the lowest sustainable prices for Tasmanian customers. This requires the prudent, safe and efficient management and development of the Tasmanian power system.

A requisite part of this development involves supporting emerging and future energy needs of Tasmanian customers. The EmPOWERing You and Bruny Island Battery Trials are but two examples of TasNetworks commitment to improving customer outcomes in this regard. However, a third example, and one specific to Electric Vehicles (**EVs**), is TasNetworks' Fast Charger Support Scheme (**FCSS**). This scheme aims to incentivise the installation of Direct Current (**DC**) fast chargers via the provision of technical advice from TasNetworks' experts along with cost rebates of up to 50% of TasNetworks' charges for upgrading power supply at EV charging sites.

TasNetworks is appreciative of TCCO's efforts to similarly support the development of an EV charging network in Tasmania with funding complementary to TasNetworks' FCSS. TasNetworks is confident that with both schemes working in tandem, significant impetus can be provided to the development of a practical and efficient 'whole of state' charging network.

The key points in this submission are:

- TasNetworks considers that TCCO funding should be allocated in a way that maximises the total charging network 'bang for buck'. That is, finding the optimal number and location of chargers that will meet EV user reliability and availability expectations.

- TasNetworks suggests that focusing on DC fast chargers in those areas which are unlikely to be served well by commercial operators would be of greater benefit to EV users.
- In order to build user trust and acceptance, TasNetworks considers it vital that multiple, reliable and redundant charging options are available at each charging site. Ideally, this should be coupled with amenities that make for a convenient and user friendly charging experience.
- A simple payment mechanism and readily available information on charging sites, charger types and availability are more likely to promote a positive customer experience.
- The provision of public information on charging site patronage, electricity consumption and typical charging times would be useful for evaluating future development options.
- TasNetworks considers that fees should be charged on a commercial basis from the outset. This is less likely to distort market development by providing a level playing field for competitors as well as avoid any adverse consequences stemming from the withdrawal of operating subsidies once the charging network has matured.

TasNetworks responses to individual questions are provided below and we would welcome the opportunity to discuss this submission further with you. Should you have any questions, please contact Tim Astley, Team Leader NEM Strategy and Compliance.

Yours sincerely,

A handwritten signature in blue ink, appearing to read 'W. Tucker', with a stylized flourish at the end.

Wayne Tucker

General Manager, Regulation, Policy and Strategic Asset Management

(Q1) Should the Tasmanian Government support the installation of both destination (slower charge) and Inter-regional DC fast chargers?

TasNetworks considers that, although the Tasmanian Government should support the installation of both types of chargers, funding should be primarily directed toward inter-regional DC fast chargers. There are currently 78 chargers listed in Tasmania on the PlugShare website but only one of these is a fast charger. Given their greater expense, DC fast chargers are less likely to be installed by private enterprise in areas where there are lower populations or less frequent EV usage due to the lower return on investment. Combined, these factors would suggest that focusing on fast chargers in those areas which are unlikely to be served well by commercial operators would be of relatively greater benefit to EV users in developing a practical and efficient 'whole of state' charging network.

(Q2) What factors should be considered in determining what type of charger should be installed where?

As highlighted in the consultation paper, destination chargers are better suited to those sites where users may spend more time, e.g. tourist destinations, parking garages and shopping malls. DC fast chargers are better utilised in transit locations such as petrol stations and highway conveniences. Other relevant factors for consideration might reasonably include:

- distance to other chargers including overlap with other private charging initiatives i.e. Tesla and Chargefox charging networks;
- consistency with current and projected future routes and destinations of travel;
- existing and future network infrastructure, network strength and constraint considerations;
- future proofing, e.g. range increases that may make some sites redundant and the ability for sites to be upgraded;
- the ability to leverage or be incorporated within new developments, e.g. new commercial or subdivision developments along with community renewable energy initiatives;
- projected population growth/decline;
- proximity to amenities, lighting, signage and security considerations; and
- site specific characteristics that may affect operation and maintenance over time, e.g. cold, corrosion and heat.

(Q3) Which locations (for example high-population areas or less-populated regional areas) should the Tasmanian Government consider as the highest priority for installing electric vehicle charging stations?

TasNetworks notes that the stated aim of the funding is to stimulate the market to install charging stations. It would therefore be of little use if Government funded chargers were installed in those locations most likely to appeal to commercial interests. This would effectively crowd out private investment and decrease the public good benefit. Instead, and as noted above, focusing on chargers in those areas which are unlikely to be served well by commercial operators would be of relatively greater benefit to EV users in developing an efficient 'whole of state' charging network.

(Q4) Which amenities are important to have nearby electric vehicle charging stations to facilitate a positive and convenient user-experience?

TasNetworks considers that this will likely differ by charger type. For example, the longer dwell time associated with destination chargers is likely to require more numerous and higher quality amenities to underwrite a positive and convenient user experience. In this regard, the examples in the consultation paper seem appropriate but might be supplemented with proximity/access to other services such as Wi-Fi.

(Q5) What type of operation and maintenance issues should be considered to ensure a positive and convenient user experience?

Long wait times for chargers and chargers that do not work reliably or safely will be unlikely to facilitate the desired use and growth of EVs in Tasmania. TasNetworks therefore considers that providing an adequate number of reliable chargers for users, and to provide redundancy in the event of asset failure will be the first, critical elements in underpinning a positive and convenient user experience. To facilitate this, regular inspection, testing and maintenance of charging infrastructure, and incentives for operators to maintain minimum reliability and availability standards, might reasonably be considered.

(Q6) What is the preferred payment mechanism(s) for electric vehicle charging station from a user perspective and an operator perspective?

TasNetworks considers that a simple and consistent cash-less payment mechanism is likely to be preferred by both users and operators. For example, EFTPOS, credit cards and possibly a smart phone app.

(Q7) Should charging stations offer an online booking system?

TasNetworks contends that a booking system is unlikely to underpin a positive user experience. Aside from the hassle of having to plan and make a booking, travel delays and any operational issues could result in a degraded customer experience from having to wait for booked chargers to be made available. The alternative, to cut charging off at the allotted finish time, would be even worse as it could mean insufficient power to travel to the next destination. Instead, enhanced information on charging locations and types, their typical peak usage times and charger status (in-use, free etc.), whether provided online or in an app, would seem to better support a positive customer charging experience. Relatedly, publically available information on the performance of charging stations including their electricity consumption and patronage would be beneficial for those assessing charging network opportunities.

(Q8) What are the expectations of users with regards to reliability and availability of installed charging stations and how could these expectations be met?

TasNetworks considers that any charging experience that is substantially worse than the current petrol refilling experience is unlikely to promote EV vehicle uptake. As such, and as noted above, having an appropriate number of reliable chargers available at each site is critical for building user trust and acceptance. TasNetworks acknowledges that determining the 'right' number of chargers at each site will vary depending on factors such as proximity to other charging stations and site usage patterns. Beyond this, mandating the applicability and use of battery storage to further support reliability standards might be considered.

(Q9) How important is providing multiple chargers at each site to cover for availability and possible equipment failure?

As above, TasNetworks considers it vital that multiple, reliable chargers are provided at each site to ensure the best EV charging outcomes.

(Q10) What funding delivery model would work best to stimulate potential suppliers to install electric vehicle charging infrastructure in Tasmania and why?

As noted in the consultation paper, there are a number of potential funding delivery models. Regardless of the specific model chosen, TasNetworks considers that funding will need to be applied for and provided in a fair, open and transparent manner that is consistent with the stated aims of the scheme. In this respect, those that can meet minimum reliability and availability thresholds in charging locations outside of main centres should be the main recipients of funding.

(Q11) What level of funding (eg a percentage contribution to upfront costs) would be reasonable for potential partner organisations/businesses to make towards the installation of electric vehicle charging infrastructure and why?

TasNetworks considers that this is likely to vary both by the type of potential partner organisation and its goals, as well as by site characteristics. For example, a community initiated, not for profit single charging station in a less populated or well-travelled location is likely to require different levels of funding support than a commercially operated, high use, multiple charging site in an urban area. As a result, funding should be allocated in a way that maximises the total charging network 'bang for buck'. That is, finding the optimal number and location of chargers that will meet EV user reliability and availability expectations.

(Q12) Who should be responsible for ongoing costs and maintenance?

This will depend on the type of funding model. For instance, this could form part of the incentive for operators. Alternatively, this could wholly rest with operators with funding only provided for initial setup costs.

(Q13) Should fees for charging at a station be based on commercial pricing or be subsidised to some extent?

TasNetworks considers that fees should be charged on a commercial basis from the outset. This is less likely to distort market development given new entrants would be able to compete on a level playing field. This would also avoid any adverse consequences stemming from the withdrawal of operating subsidies once the charging network had matured. For example, the closure of sites that were not viable without a subsidy.

(Q14) What should the Tasmanian Government consider in raising community awareness of the statewide electric vehicle charging network?

TasNetworks notes that the FCSS requires chargers to be registered on the PlugShare website. A similar requirement would seem appropriate for raising awareness of a Tasmanian charging network. The publication of network charging information online and available physically in locations such as tourist offices, Service Tasmania and car dealerships would also seem germane. Beyond this, the provision of public information on charging site patronage, electricity consumption and typical charging times would be useful in evaluating future development options.