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Dear Tasmanian Climate Change Office  
Email: [climatechange@dpac.tas.gov.au](mailto:climatechange@dpac.tas.gov.au)

## **RE: Supporting a statewide electric vehicle charging network**

### **Introduction**

The City of Launceston has recently installed and commissioned a Tritium Veefil 50kW DC fast charger in the council owned Paterson Street car park. The charger is the first DC fast charger in the state. The charger is available for public use and will be free to use until the 1<sup>st</sup> July 2019 when charges will be levied on users.

The aim of installing the charger was to both support current and future electric vehicles on the road and to promote the technology and the possibilities of electric vehicles to the broader community.

The council went through a detailed assessment of the types of chargers that would be best installed to achieve the project's aims. Other key criteria that were assessed during the council's investigation work was the location of the charger, access and traffic levels, visibility, signage, surrounding businesses and available power supply. The responses to the questions in the consultation paper are based on information gathered by council during this process.

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

The City of Launceston has installed a number of slow chargers around the city for public use. The council is currently installing two 22kW AC chargers in the new CH Smith car park. Slow chargers are relatively cheap and easy to install. Typically, they can cost as little as \$250 (15A power point) up to \$3000 to buy and install. Given the relative ease of installation and low price point these charges can be installed in many locations both public and private. It is considered these chargers will be installed around the state as required and there are no barriers to their eventual widespread distribution.

Fast DC chargers are much more expensive and complicated to install. Few potential installers of such equipment would be able to fund this equipment when there is little likelihood of financial return whilst electric vehicle numbers are low in the state. Any support from the Tasmanian Government therefore would be much better directed at the installation of DC fast charging stations.

With the cost of electric vehicles coming down mainly through battery cost reductions, one remaining obstacle preventing more people taking up electric vehicles is the lack of available fast DC public charging. Well planned, publically accessible fast charging infrastructure with good coverage will address this issue. The roll out of fast charging infrastructure in Tasmania

presents a chicken and egg situation: without more electric vehicles there is little justification to roll out public charging stations; the lack of charging stations inhibits the uptake of electric vehicles. However, there is general consensus around the world and many case studies show when suitable fast charging infrastructure is available to the public then electric vehicles sales will follow.

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

The initial electric vehicles charging network should aim to space DC fast chargers no further apart than 150km. Most new and upcoming electric vehicles models will be able to travel this distance before requiring recharging. Some older electric vehicles with limited range will still need to use AC destination charging on long distance trips. It is inevitable that the vast majority of electric vehicles that will be on the roads over the next few years will have the capacity of covering at least 150km and it is these vehicles that the charging network should be designed for.

The trend with newer electric vehicles is to have the capacity to accept faster charges. In Europe the next generation charges being installed are 350kW capacity. However, there is little reason to install such capacity in Tasmania as the emphasis should be the support the majority of current electric vehicles and those that will be imported into Australia in the near future.

There are some DC fast chargers with a modular and future proofed system that can be upgraded to a higher capacity instead of replacing the entire unit. This provides versatility and secures the requirements of today and minimises the cost of ownership over the life of the equipment. In addition, some of the larger capacity chargers can charge two vehicles at the same time (although at half the kW rate) providing more capacity to each site.

An important factor to consider when determining charging locations is the capacity of the site to accommodate more chargers and possibly great capacity chargers in the future if the demand is realised. Such changes should be planned for when selecting potential sites to ensure they are large enough for additional bays and transformer capacity is available for future upgrades.

***(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?***

The initial focus of the charging network should be to install chargers along the major highways and locate them in high population or high traffic locations. A good example would be Campbell Town which is a high traffic location (not necessarily high population) where a charger would be potentially well used. The charging network in regional areas will develop as demand grows.

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

At a minimum normal facilities including toilets, shelter and food are required near chargers as described in the consultation paper.

Probably more important are the opportunities for electric vehicles owners to be able to be able to walk around to see local attractions, visit local businesses, buy products, and mix with the local community. This two-way interaction will develop a commercial opportunity for business owners and improve the experience by the electric vehicles owner.

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

The manufacturer of the fast chargers should have an office in Australia and be able to provide service and spare parts and have a 24-hour support hotline. In addition, it would be beneficial to have Tasmanian electricians trained and available to service and maintain charge units and carry spares. Chargers should have a minimum warranty of 3 years and the option for extending the warranty period.

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

There should be a consistent payment method throughout the state and it should be listed on the plugshare website so users are aware of what is needed to use the charger equipment.

The City of Launceston chose an app which is managed by Chargefox, the largest open electric vehicle network payment method in Australia. Once the app is downloaded and the user is registered they simply have to activate the app to start and stop the charging session. This system is considered better than credit card as it is secure and simpler. The Chargefox app also provides information about charger location, directions and availability. Not all chargers have the facility for using credit cards and if this system was required it would limit the range of chargers to be considered for a network

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

Online booking will add complexity and likely lead to blocking out potential users who have arrived at a charger without booking and find it unavailable. Visitors to the state will find it difficult to book in advance when driving times are unknown and variable around the state. Waiting is inevitably going to be a consequence when there are only a few chargers to choose from and electric vehicles users will accept this to a certain degree. The best solution will be to eventually increase the number of chargers to satisfy the demand.

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

Users will expect that fast chargers will operate to the designed output and reliability and that there is a system in place to quickly rectify any problem with the equipment. The owner/manager of the charger equipment must have the means to monitor the performance and to quickly deal with any issues encountered. The charger should have a 24-hour hotline phone number to call if they encounter a problem.

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

Multiple chargers at each site is not essential and the focus for the initial charger network should be to cover as much geographical area as possible. As demand grows then multiple chargers will be installed at sites. The site selection is critical to ensure that sites have the physical size to accept additional chargers in the future.

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

Funding for individuals, businesses and other organisations is one way to develop a fast charge network but may not be the best solution. It will possibly mean the chargers are rolled out over a longer time frame and may introduce variability in the equipment installed and the way the sites are setup.

If the state government were to install the network, then it could be rolled out in a more organised, controlled and consistent framework. Using a central coordinator or service provider to manage the installation and management of the equipment is considered the most practical and efficient method.

***(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?***

See Q10

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

If a central coordinator were used, then operation and maintenance should fall to this group.

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

Fees should be set at a commercial rate from day one. At a minimum the cost of electricity and fixed costs should be recouped. As electric vehicles become more popular then well located chargers could operate with a profit though this is considered to be a few years away.

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

The Tasmanian Government should start the conversation now regarding the future charging network to encourage the uptake of electric vehicles. This will educate the community about the benefits of electric vehicles and will serve to dispel myths. Once the network is established the increased use of electric vehicles on the roads will in themselves raise community awareness.

Yours sincerely

**Jim Taylor**  
**Sustainability Officer**

