From: Martin WINLOW
Sent: Friday, 26 October 2018 12:12 AM
To: Climate Change, Public Mailbox (DPaC) <climatechange@dpac.tas.gov.au>
Subject: Statewide Electric Vehicle Charging Network - Consultation Response

Dear Sir/ Madam,

I live and work on a small island off the west coast of Scotland, UK. I run a small internet based EV charging equipment business but only started this towards the end of my 30 year career as a police officer with London's Metropolitan Police Service. Before that I studied engineering and have both an HND in Mechanical Engineering and a Masters Degree in Agricultural Engineering.

My parents (who moved with me and my younger siblings to WA in 1968 from England) lived in Launceston, Tasmania from about 2002 to 2017 when they returned to Albany, WA (aged ~96) to be closer to family who live in Perth and Esperence.

I got involved in EVs when I DIY-converted a petrol van to electric drive in 2009 (www.evalbum.com/2092) and the experience had something of a pivotal effect on my life. In short, I was hooked.

Over the following years the global EV movement grew quietly and initially the UK government became interested in EVs from the perspective of combating climate change and saw them as going a long way to satisfying the UKs commitment to Kyoto CO2 reductions. In recent years, however, the emphasis has moved towards the somewhat more tangible aim of improving urban air quality - the UK was sued last year by the EU over this issue… and it hasn't improved much since.

So, my views on where you should spend the available funding are very clear and you *absolutely* should not follow the UK governments *total farce* of a plan on how to provide support for a nascent EV market.

For me as, an ardent EV fan and user (I have only ever owned EVs since 2009 and currently own 6), the criteria for government-funded EV charging must be:-

1/ The provision of *rapid* charging facilities *only* at this stage. By rapid I mean 43kW AC or 50kW DC or more charging points. Providing low-power street-side, AC charging points is a complete waste of money. No-one who owns an EV is going to risk leaving home without enough range to get back again unless they are *100%* sure they will be able to charge somewhere Ergo, these charging points are simply never used. Worse, everyone sees them never being used - but still taking up a valuable car-parking space - and it brings the whole idea of EVs into disrepute. Eventually, charging points will become more common than lamp posts but that time is *not* now or even 10 years away!

2/ The siting of rapid charging points at this stage should be in locations that are *primarily* good for long distance driving. So they *must* be sited directly adjacent to major highways in a 'joined-up' way ie providing a though route from population centre to

population centre without the need to divert long distances (or time) to charge. Fortunately, Tasmania's geography lends itself to helping with this very well (unlike the UK).

3/ Rapid charging locations should also allow for use by EV owners who cannot charge at home (or work) ie those who do not have off-street parking as without the facility to charge,potential EV buyers will be put off buying them (obviously!). So, a combination of siting rapid chargers near population centres and directly on primary rotes is essential.

4/ Rapid charging locations should be chosen to provide additional facilities suited to the long-distance traveller and/or local EV owners who cannot charge else where. So, for long distance drivers there must be *24 hour* toilets and food available *nearby* ie no more than a minutes or so's walk. As well, nearby facilities should allow those unable to charge elsewhere to engage in activities that they might well spend at least 30 minutes to an hour doing regularly anyway, eg shopping or being entertained (community centres, shopping centres and leisure centres etc). Tesla have a very good understanding of this and all their Supercharger locations stick to these rules very closely.

5/ Rapid charging sites should be easy to monitor by local businesses for security purposes. It is not a good idea to site them in the middle of nowhere for fear of being damaged by vandals.

6/ Obviously, due to the amounts of power needed, rapid charging sites must be close to significant power supplies as these are usually very expensive to 'bring in'.

7/ Rapid charging parking bays should be set out to allow for the situation where one car parks and plugs in but the EV finishes charging before the owner returns and a second EV can then retrieve the charging plug from the first car and connect and charge. Ie one rapid charging point per 2 bays ideally end to end with the charging point in the middle. Not all EVs will automatically release the plug when charging has finished so this is a moot point.

8/ The method of payment must be carefully planned. In the uK there is a ridiculous plethora of different RFID cards and/or smartphone apps are needed to use the whole network. The simplest system would be a EFTPOS-based system where any credit card can be used - ideally a contactless system.

9/ Pricing is particularly important. Given Tasmania's abundant hydro-electric industry, it might be considered that it would be simplest and cheapest to making charging free. The only downside with that is that there is then no incentive to move one's EV once charging is complete. This was neatly illustrated by the experience of Ecotricity (a green domestic energy supplier - 'Turning electricity bills into windmills') who installed the backbone of the UK's rapid charging infrastructure.

Their rapid chargers were free to use until the Mitsubishi Outlander and BMW i3 plug-in hybrids were launched when suddenly all the rapid chargers were constantly being used by drivers of these vehicles to save a relatively small amount of money charging their small battery packs that would otherwise have to be spent on petrol. In the meantime they were completely blocking the rapid chargers from *real* EV drivers who were entirely dependant on rapid chargers for continuing their journey. Consequently, Ecotricity implemented a £5 fee per use and the problem vanished immediately. If you are an Ecotricity customer, you can still charge for free for up to 1000 miles worth of driving per year.

That's it. I hope you find all this useful and wish you all the best for the future of EV

development in Tasmania - a more suitable place for EVs I can't imagine (apart from my little island, of course, with its 12 miles of single track road and its own 100kW wind turbine).

Regards, Martin Winlow
(Director of EVBitz.uk)