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Select Committee on Electric Vehicles

I have been interested in electric vehicles for approximately three years and an owner of a Tesla Model X for over a year. In that year of ownership, I have travelled over 42000kms, including a family holiday of over 11600kms from Perth-Sydney-Perth. These are 100% zero tail pipe emission kilometres.

18 months ago, our family returned from five months of overseas travel which included Norway to Spain and the west coast of the USA from San Diego to Seattle and inland to Salt Lake City. We jokingly called it our “Tesla Tour of the World” but what became blatantly clear was the impact all electric vehicles (EVs) were already having. At the time, a mere 18 months ago, Australia was essentially blind to this uptake of EVs with only a small number of EVs available in our country from Nissan, BMW and Tesla and literally no charging infrastructure.

Before our travel, we had placed a reservation in March 2016 for a Tesla Model 3, a model that was expected to be “affordable” but also a 100% electric car we wouldn’t expect to see in Australia until the second half of 2019, three plus years after we placed our reservation. Whilst there are a handful of new affordable EVs coming to market in the next year or so in Australia, none have the range of even Tesla’s standard range vehicles.

So, filled with this first-hand experience of how the rest of the world was accelerating the uptake of EVs and associated infrastructure, we decided to purchase a Tesla Model X, a decidedly “not affordable” electric car at about \$200,000, placing our order in Sydney on the way home to Perth on the same holiday. We are fortunate to be able to afford this state-of-art electric car which is about twice the cost of our last most

expensive car being a Toyota Landcruiser 200 diesel at about \$100,000. The \$200,000 on-the-road cost of our awesome EV includes over \$40,000 of state and federal taxes. The only “subsidy” we received was an increase in the luxury car tax threshold from \$63,000 to \$75,000. The ACT also gives an exemption on stamp duty.

This is clearly out of reach of most families’ budgets and we feel extremely fortunate to be able to put our money where our mouth is. We believe that having these cars on the road expedites interest and uptake by stimulating conversation and highlighting challenges in ownership, namely cost and charging infrastructure.

To highlight the need for plentiful charging facilities our family has just completed an epic 11673km journey from Perth-Sydney-Perth which of course included the Nullarbor, which is arduous in a conventional vehicle, let alone an electric vehicle. You can see our travel log on Twitter @Jays200

A journey that can 2-3 days in an internal combustion engine (ICE) vehicle from Perth to Port Augusta, travelling in daylight hours only, took us four days which included 17 hours of daytime charging going over and 15 hours on our return. The journey also took longer because to optimise our daytime charging time, we needed to travel at about 90kph. This wasn’t because our car couldn’t go faster or didn’t have the range, it was because the difference between travelling at 110kph verses 90kph represents about 30% more energy use and translates into much longer daytime charging time. There is no DC fast charging between Perth and Clare, South Australia, a distance of some 2600kms.

DC fast charging currently results in a charge rate of approximately 200kms of added range per hour (in our Tesla) for a generic 50kW charger useful for almost all EVs, up to over 500kms of added range per hour using 120kW Tesla Superchargers which are for Tesla vehicles only and are free to use for the life of ownership of our Tesla. In contrast, our Nullarbor charging was via AC charging at a maximum of 22kW enabling about 70kms of added range per hour in our car up to about a maximum of 100kms/hour of added range in some models. This is an entirely acceptable rate of charge for overnight charging but is three times longer than the slowest DC fast chargers rated at 50kW. If we had DC fast charging every 200kms or so, our charge time during the day would have been cut by two thirds and our travel speed would have been increased by about 20%. This would have reduced our Nullarbor sector by at least a day and made it on par with ICE vehicles.

In my opinion and first-hand experience, 50kW DC fast charging at about 200km spacing, is essential as a bare minimum now to enable long distance travel in Australia.

DC fast chargers anecdotally cost about the same as upgrading a petrol bowser. Complications in remote areas usually arise because of fossil fuelled, off-grid power generation capacity. Obviously, battery storage and renewable energy generation is a solution for these locations. For all other grid connected locations, DC fast charging is much easier to install than fossil fuel stations that need storage tanks, excavation, environmental assessment and multinational oil company agreements.

In our travels we have mostly come across interest and support with only an isolated incident in Cooma, NSW where a local business owner purposely obstructed our charging bays under the false belief the government was subsidising electric vehicles. Having worked in mining, oil and gas, chemical production and power generation for 25 years, I was happy to explain the subsidies afforded to those industries but my audience wasn't receptive.

We all are now more aware than ever of the financial subsidies, health and social costs associated with coal, liquid fuel and gas mining, refining and liquifying. I need not elaborate, however, as any rational person doesn't need convincing that burning stuff to make power, although important for the last century's technological progression, is quite literally a prehistoric way of contemplating a clean energy future.

I appreciate the opportunity the Select Committee on Electric Vehicles has afforded me to comment. I ask that any recommendations to accelerated the uptake of electric vehicles be implemented expeditiously.

Your sincerely,

Jayson Stanley