LEGISLATIVE ASSEMBLY
FOR THE AUSTRALIAN CAPITAL TERRITORY

STANDING COMMITTEE ON PLANNING, TRANSPORT, AND CITY SERVICES
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Mr Mark Parton MLA

Submission Cover Sheet

Inquiry into EV Vehicle Adoption in the ACT

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Standing Committee on Planning, Transport and City Services
LEGISLATIVE ASSEMBLY for the Australian Capital Territory

Suzanne Orr MLA (Deputy Chair), Mark Parton MLA
Enclosure:

Dear Standing Committee Members,

Thank you for this opportunity to comment upon such an important issue. I first learned about this Inquiry's existence after coming across a post on the Riot-Act website (https://the-riotact.com/). While most of the roughly 900 comments there mentioned the upfront costs and the charging infrastructure as challenges, I think that these issues are widely known.

I am certainly no expert on electric vehicles, but I would like to comment in regards to points (a), (b), (c), (d) and (f) as mentioned in the Terms of Reference.

Before doing so, however, I would like to talk about a broader historical context. I presume that when internal combustion vehicles first arrived in Australia, that there was very much a "chicken-and-egg" scenario going on. According to this academic article (https://www.jstor.org/stable/20638566), the first "service stations" as we know them were actually blacksmiths' shops with a bowser out the front. And while Canberra was the national capital, beyond government circles, I wonder how many years it took for there to be enough petrol stations to drive to Sydney and back with confidence? Talking to the NRMA or RACA (https://www.raca.com.au/) about the timelines here could be useful to the Inquiry.

There is usually a distinct lag between the introduction of a new technology and mass market penetration of said product. The product adoption curve invented by Everett Rogers in 1962 is nothing new (https://www.stratechi.com/adoption-curves/). However, while this theory explains things well for smaller appliances, vehicles are likely to be the second-largest purchases many people will make behind housing. More than that, the vehicle choices made have an impact not simply upon one part of life (such as buying a digital radio for better listening), but will impact upon day-to-day decisions, current and future spending patterns, employment and housing choices as well.

I think the real issue here lies less with financial cost per se, as with the amount of cognitive bandwidth required to make such a large choice. Over time, the up-front price of EVs will fall, but that will not necessarily lead to mass market adoption by itself.

The "Diffusing An Idea" section in this article (https://medium.com/the-political-informer/the-rogers-adoption-curve-how-you-spread-new-ideas-throughout-culture-d848462fcd24) is also potentially fruitful, because it goes beyond looking at merely what happens, and considers the steps people go through before adopting a technological change.

The early adopters and innovators have the money, skill set, and mindset required to be pioneers in this field. They are willing to put time and effort into finding personal solutions related to finding EV charge points, etc.

But for the rest of the population, given the choice between an EV or a conventional vehicle, they do not have the

confidence yet to choose the EV, and part of it is simply the mental effort required. While most people would like to be more “environmentally friendly”, they are not going to make the change until EVs offer an overall experience as frictionless as ICE cars do.

As such, I think that the EV experience is likely to stall at several points as follows:

- While it is technically possible to charge existing EVs overnight, current spikes in power prices are making this look a dicey proposition. After all, who wants to have to wait for off-peak electricity prices in order to plug their EV into the wall – and what happens if the “off-peak” hours shift as more EV owners try to do the same thing? While smart meters and the like do exist, that’s another layer of complexity that is far harder than simply driving into a petrol station and filling up.

- By the same token, while there are many apartment dwellers who earn enough to both buy and run an electric car, who wants to argue with a strata organisation (and their neighbours) that including electric car charging points are worth including in a new building, or worth the effort, mess and inconvenience that retrofitting existing apartments with such chargers is worthwhile?

  And given that the likely response of this potential EV buyer pool is simply to move to those buildings that DO offer charge points, where is the impetus for change? This is likely to drive a particularly sharp wedge between the “haves” and the “have-nots” in our society as the value of apartments that don’t offer the technology will plummet.

- Following on from that, while there are much faster charge points available, they are more expensive to install and to potentially use. While the NRMA is rolling out a network of such fast chargers (https://www.mynrma.com.au/cars-and-driving/electric-vehicles/charging-network), this is really only useful for people doing long-distance journeys. And anecdotal evidence (https://www.theguardian.com/environment/2022/feb/19/leading-the-charge-road-testing-australias-ev-stations-on-a-2800km-round-trip) is pointing to queues starting to develop at these locations, especially on weekends and public holidays.

  If the reality is that you wait 3-4 hours for your turn to charge your EV behind a bunch of other enthusiasts, then their appeal falls off a cliff. Even worse is the fact that the rest of the motoring public can see that this situation unfolding in real time, and likely shake their heads and mutter "thank goodness I still have an ICE that takes under 5 minutes to fill up". Long queues at charging stations are the worst possible marketing for the EV revolution.

- Even when the fast charger network rollouts are finished, they will need to either be as ubiquitous as petrol stations are today (which will eliminate most of the queuing), or for the average charge time to fall dramatically. Over time, both of these things will occur, but it is likely to happen in the areas with the highest density of EVs first. And private firms are not going to invest in more chargers unless it is clear that the demand for them is there.

- Can I therefore suggest that the ACT Government looks to nations like Norway to see how this issue was overcome?

> Secondly, I think it would be very useful to work together with local governments in inner Sydney and Melbourne to see if this trend is underway. It may be possible to run joint trials, or at the very least, to avoid mistakes made elsewhere.

I think that improved charging speeds and access will expand EV ownership and use to around 20% of the A.C.T population (the “early adopters”); those with the cash will no longer need to wait, removing their main objection to doing so.

Expanding this to the rest of the low-density A.C.T is going to be much harder. Until charging times come down to something equivalent to petrol stations, then our current infrastructure would not be able to cope with queues kilometres long waiting for a daily plug-in. As a result, maybe the next easiest target population could be locations with plenty of parking space. This could include sporting clubs, churches, shopping centres etc. If A.C.T Government policy not only provided a subsidy to put the infrastructure in place, but also a way that would allow such organizations to make a return from offering the service, then I believe that this could be the next step.

If the A.C.T Government was to roll out a local charging network in order to move faster on these issues, I think it would be sensible to work with the LGA’s around us (Palerang, Yass Valley, Goulburn-Mulwaree, Snowy-Monaro, Eurobodalla, etc.). While the A.C.T is relatively well off, given how many of our workforce commute in daily from these other areas, we should look to share the cost of rolling out such a network, as doing so will prove prohibitively expensive for any individual LGA.

Home owners provide an interesting quandary for policy. From a consumer perspective, there's no longer any need to go and fill up. However, there are likely risks around insurance with the possibility of fire from lithium-ion batteries (https://renew.org.au/renew-magazine/sustainable-tech/lithium-battery-fires-and-safety/). If the A.C.T Government had a lot of trouble and cost dealing with the Mr. Fluffy houses, imagine the potential issues posed by ongoing EV house fires…..

Likewise, this will also exacerbate the divide between the haves and have-nots, or put another way, lead to "private wealth and public squalor". Private homeowners will be able to potentially use their EVs as back-up batteries, and enjoy the cost savings of it. By the same token, they will be motivated to upgrade the systems over time to take advantage of more efficient technologies.

By contrast, any publicly-owned charging system will likely become obsolete fairly quickly. Rolling such a network out across the A.C.T would potentially assist with boosting EV ownership percentages, but if the charging technologies shifted (similar to the Apple "Lightning" cord situation occurring - https://www.abc.net.au/news/science/2022-06-14/apple-iphone-lightning-charger-could-be-unplugged-for-good/101147936), then the A.C.T network could face costly upgrades, or risk becoming obsolete. If many A.C.T citizens depended upon such a network precisely because they could not charge their EVs at home, and then found that their expensive EV's could not be charged, the politics (and the cost) of fixing the issue could be diabolical.

The biggest remaining group of potential EV buyers would be those like myself stuck in apartment buildings. It is hard to see

what the A.C.T can do to encourage the rollout of fit-for-purpose chargers to existing apartment buildings. Broadly speaking, the people living there do so because it is what they can afford to buy and/or rent. Those who have bought many of the poorly designed and planned apartments do not generally have the spare money to retrofit them with slow EV chargers, let alone fast EV chargers.

This ugly situation does, however, provide the A.C.T with some potential silver linings. If legislation is passed to encourage fast charging stations in new residential developments, and IF developers are forced to make this infrastructure open to the broader public, then less redundant infrastructure will potentially be built.

Doing so may also radically change the design of new apartment buildings; providing wider access approaches may allow for related business such as mechanics, car washes, etc. to be co-located within the same development. Having cars pass through all day could also provide a return to developers if they co-operate with service providers. But the residential sections of such developments will need to be across the other side of the complex so as not to have ongoing noise and pollution affecting them.

The biggest silver lining is that it is highly likely many of Canberra's existing apartment buildings will plunge in value. That could potentially provide rent relief for people who really need it, although this will likely be balanced by the extra transport costs of running ICE vehicles. More than this, however, the opportunity here is perhaps to encourage the wholesale demolition of such poorly designed buildings, to be replaced by far better-quality buildings (such as townhouses) that actually face north and which use space effectively for the

benefit of tenants, not the greed of developers.

The A.C.T Government can assist in this transition by providing incentives for the redevelopment of such buildings. Using the EV issue as a “stalking horse” for wholesale redevelopment could lead to better housing options overall.

In summary, I believe that the A.C.T Government should look to lead on this issue. If this does not happen, Canberra will find that the market moves on without us finding solutions that are fit for purpose, and may well lock us into ongoing paths of dependence that exacerbate existing social and economic challenges.

I hope that some of these ideas prove to be useful, and I would be happy to be part of the A.C.T Government team making this transition happen.

Yours sincerely,

Scott Lang