



8 June 2018

NZ Productivity Commission
PO Box 8036, The Terrace
Wellington 6143

RE: SUBMISSION - LOW-EMISSIONS ECONOMY DRAFT REPORT 2018

Introduction

1. This submission is made by Drive Electric Incorporated (DE). DE represents a member base comprising new car OEMs, used car importers and distributors, infrastructure organisations (electricity generators, distributors and retailers, electric vehicle service equipment suppliers) and electric vehicle users, and is an advocacy organisation for the uptake and mainstreaming of electric vehicles (EVs) in New Zealand, as well as seeing NZ become more energy independent.
2. In general DE supports the New Zealand Productivity Commission in developing the Low-emissions Economy Report, and the inclusive process it has undertaken to create this Report.
3. DE has brought together feedback from our board members who represent all aspects of the converging EV industry, to inform our submission to the Commission. This also enables us to give feedback on wider sections of the report such as Investment.
4. DE considers that there is a strong opportunity linked to decreased environmental costs in the next decade, through the uptake and mainstreaming of electric vehicles in NZ. In addition to the obvious wider economic benefits (WEBs) in the areas of air quality and health, NZ also stands to benefit from decreased oil imports and increased energy independence.
5. DE's members recognize that the adoption of EVs (in its widest sense so both PHEVs and BEVs) represents the greatest opportunity to reduce transport emissions.

Electric Vehicles

6. DE would like to acknowledge that there are already several positive government interventions to support EV uptake such as exemption of road user charges, procurement of EVs for government, supporting the roll out of charging infrastructure and a contestable fund of \$6 million per annum to encourage uptake and innovation. As DE member organisations have previously stated, these policies should continue, but linked to some clear and measurable targets/KPIs. However, at some point EV users, as well as all road users (consider cyclists also) will need to pay their share of road infrastructure costs, and this transition will need to be well managed and signalled early, so that consumers can make informed choices, knowing future cost impacts.
7. DE would like to see more done in the area of education where both 'range anxiety', and 'total cost of ownership' myths persist, despite the hugely improved performance of recent EV models and the significant increases in the available charging infrastructure. (NB DE has produced whitepapers on total cost of ownership using actual Meridian Energy data)
8. The Commission has convincingly argued that fast uptake will be critical to achieve a low-emissions economy and that for the bulk of light vehicles to be electric by 2050, nearly all vehicles entering the fleet would need to be EVs by the early-2030s. Under all scenarios modelled by the Commission, uptake of light EVs must occur rapidly, reaching between 40

percent and almost 80 percent of the light vehicle fleet by 2050. Therefore, DE member organisations support the additional measures proposed by the Commission, namely:

- a. Vehicle emissions standards - New Zealand is one of the few developed countries without vehicle emissions standards. Introducing standards is warranted, and will reduce the risk of New Zealand becoming a dumping ground of high-emitting vehicles from overseas.
 - b. A price feebate scheme - through which importers would either pay a fee or receive a rebate, depending on the emissions intensity of the vehicle. A feebate should be technology neutral and, apart from administrative costs, fiscally neutral for the Crown.
9. These measures would need to be carefully designed and to the extent possible any regressive impacts on low income households would need to be avoided or mitigated. In particular, the price of EVs and their uptake by different household types will need to be monitored for any negative impacts on the mobility of low income households. This will especially be the case if cheap fossil-fuelled transport ceases to be available.
10. DE recommends the Commission investigate the opportunity to use such an initiative to address the age of the NZ light vehicle fleet, as it is one of the oldest in the world. This might require higher incentives for those driving such vehicles, should they switch to a low emission and/or electric vehicle. A 'cash for clunkers' programme with a low emission twist. This would also have a positive side benefit in also removing unsafe vehicles from the NZ fleet (1 and 2 star vehicles).
11. DE attaches an addendum document to this submission, that consists of two charts. One supplied by the NZMIA, based on what local OEMs have communicated to the NZ marketplace; the other from an international source. The second chart (international summary) depicts many, many more electric variants, across a wider variety of market segments/categories. Whilst not all of these vehicles may be available in RHO, it does reflect many, many more opportunities for NZ car importers to be encouraged to increase the percentage of EV imports over time- perhaps with penalties if they don't?
12. NZ could adopt a fast follower approach, staged for the new and used car sectors i.e. new car sector to adopt new models within 1-2 years of availability; and used car imports within 2-4 years of availability.
13. While some of our Members would not be opposed to an explicit goal to phase out the importation of fossil-fuel vehicles, we as an organisation consider getting the price incentives right, to be far more important, and that with the right incentives, businesses and the public will transition along the most efficient path and avoid the potential shock that reaching a hard deadline might create.
14. DE members suggest that the Report would benefit from the consideration of foreign policy on EV availability and importation. While focusing on the barriers of international vendors 'dumping' high emission vehicles into our country (due to our lack of vehicle emission regulations) we should also be examining how we can incentivise more EV availability from right-hand drive (AHO) vehicle countries. If these countries also lift their focus on EV uptake, we could see a shortage of vehicles being made available for our shores and therefore driving prices up and undoing any emission feebate advantage.
15. DE encourages the Commission to consider closely linking our EV development to the UK and Japan. NZ is a technology taker and no OEM produces light vehicles solely for the NZ market- we are too small. So, as a technology taker, we will receive products primarily based on those sold in the UK and Japan- the major RHO markets of the world.

16. DE advocates the idea of implementing Project 'Switch', a programme expounded to Ministers and Government which encourages the government to offer companies Fringe Benefit Tax relief on new EVs for a period to accelerate EV uptake in corporate fleets (and potentially GST for individuals). Put simply, the incoming fleet EV should pay the FBT based on the new car value of the fossil fuel vehicle exiting the fleet- currently EVs are significantly more expensive than their fossil fuel equivalent vehicle size etc e.g. Toyota Corolla and Renault Zoe EV.

Charging Infrastructure

17. Currently, the 29 lines companies allocate the costs of running, maintaining and expanding their networks to customers in a range of different ways but the dominant methodology is to allocate network costs on a variable, per kilowatt hour basis. Variable charging like this is poorly aligned with the true drivers of network costs (largely based on peak demand and fixed costs) and is not providing realistic or efficient cost signals to customers, particularly the adopters of new technology like EVs. This means the pace of electric vehicle uptake is reduced, with significant costs to the country and potentially 37 percent higher emissions from the light vehicle fleet by 2050 (see Concept Consulting Driving change (2018)).
18. DE would like to emphasize the importance of ensuring sufficient provision of charging infrastructure - the Report states (page 303) "NZTA expects that by July 2018, 88% of New Zealand's state highways will be within charging coverage (within 75 km of a rapid charger)". There is a risk with such a statement is that it will lead NZ to rest on its laurels. The reality could be that the quantity of charging infrastructure turns out to be woefully inadequate if the penetration of EVs continues on its current growth trajectory, for example, 10 or even 20 vehicles turn up at the same time to use one or two rapid chargers.
19. DE therefore suggests that we need both the increase in the number of charging facilities available as well as a lift in the charge capacity "a nationally recommended standard"- it is already known that 150kW plus will become the standard for a "fast or rapid charger" from 2019.
20. It is easy to assume that private organisations are taking care of this and to some extent they are. Rapid charging stations have been deployed across NZ, so a backbone exists. But further options exist. For example, DE has suggested that organisations such as KiwiRail and NZTA could consider logical EV charging points along their land corridors. In addition to this, local councils and RCA 's could allow for such infrastructure in the LTP's, enabling the private sector further augment.
21. DE also believes a closer look at regulation for charging installations is needed. Newer EVs with longer ranges coming, a trickle charge from home powerpoints, will take 4 days to charge such a vehicle. This would be unacceptable to most owners so they will want to create a faster charging solution in their home and/or place of work, or both. Having a fuel station in ones home could generate perverse outcomes if charger standards, certifications and installations go unchecked. Worksafe NZ should be approving such infrastructure for home, and it should be smart charging that can be managed from afar, and controlled if necessary, like a hot water cylinder for example. This way we futureproof housing stock and ensure consumers aren't duped with cheap rubbish out of China.
22. DE suggests that rebates for charger installations should be considered for commercial application and the consideration of GST exemption or similar for domestic installation.
23. A road map is required so that some clarity can be given to EV owners as the future roll out of EV's and related charging infrastructure. This would ensure standards are adopted, and a charging network is developed that will meet the expectations of EV owners.

Investment

24. The statement: "the NZVIF Venture Capital Fund invests in privately managed venture-capital funds, which then invest into New Zealand-originated technology companies; and" is currently inaccurate, as NZVIF's mandate changed last year; it is no longer is a fund-of-funds, and instead invests directly in companies.
25. DE member organisations would like to highlight that the importance of NZ's venture capital markets cannot be understated, as they are a critical investment link between small-scale start-ups and larger commercial operations with the ability to 'shift the needle' on delivering low carbon.

Technology & Innovation

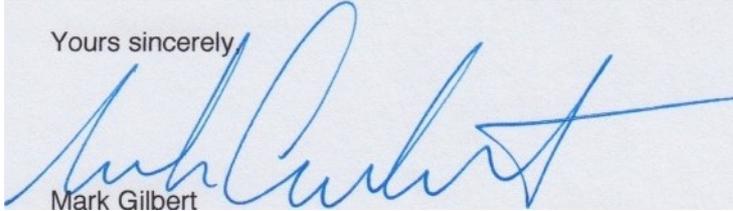
26. DE member organisations believe an opportunity exists to form an innovative scheme for low, or no, emission commercial hauling transport, aviation and port-to-port freight movements . For example, we currently haul freight from Port Taranaki to Port of Tauranga by truck for overseas export as it's cheaper than by ship, however if you paired emissions penalties on GHG emitting hauling and provided electric port movements we could potentially see this becoming an interesting corridor for the economy.
27. New technology will be critical to reducing New Zealand's emissions and the country must remain flexible to take advantage of them as they emerge. Advances in E-Buses, E-Ferries, E-Heavy Transport and Light Rail are continual, however, there needs to be a mechanism to make sure those making the decisions are fully aware of developments. A screening process is necessary to ensure that as evolutions in public transport are taking place, they are being considered and incorporated in the public transport infrastructure. There is some scepticism still on KiwiRails decision to retire electrification of the main trunk line between Palmerston North and Hamilton, for freight movements.
28. Many of these solutions need to be evaluated in terms of life cycle cost to ensure that the public is receiving value for money. An example of this is the rapid advancement in E-bus technologies; previously where we have may have seen light rail be the go to solution for rapid transport solutions where the requirement is to move bulk quantities of people, we now see 'flash charging' E-buses competing in this space due to them being significantly less expensive, easier to deploy (less disruption to existing roads) and with much shorter time frames to construct, yet moving the same amount of people in a more environmentally friendly and versatile manner.
29. One of the base enablers for a modern public transport infrastructure is the co-operation and organisation between infrastructure providers. Due to the type of modern technologies being rolled out, the stakeholder pool of engagement has grown considerably. This can be seen readily when we consider high power charging for EVs and E-Buses. The impact on the local electrical grid is considerable and therefore consultation and support of the local Electrical Distribution Business (EDS) is essential. Whereas in the past EDBs played a semi passive role in the roll out of public transport by the movement of services to enable the rollout, they now play a critical part in providing a stable electrical infrastructure to drive the incorporation of environmentally friendly public transport. A mechanism for appropriate dialogue to take place is essential, so that proposed rollouts are not delayed. In addition the introduction of new technologies needs to be considered in conjunction with those infrastructure providers that are directly affected by its introduction on the public

Summary

30. DE's members recognize that the adoption of EVs represents the greatest opportunity to reduce transport emissions in NZ, and ties to our reason for being.
31. With it EV infrastructure is rapidly becoming part of the New Zealand's critical infrastructure **DNA**.
32. DE welcomes the opportunity to help educate and facilitate this change, particularly with New Zealand's corporate fleet transition.

I, and members of our Board, would be very happy to to discuss any of these points in further detail if this would be of benefit to the project.

Yours sincerely



Mark Gilbert
Chairman

DRIVE ELECTRIC INCORPORATED