

Submission on: Moving the light vehicle fleet to low-emissions: discussion paper on a Clean Car Standard and Clean Car Discount

To: Ministry of Transport
cleancars@transport.govt.nz.

Details of Submitter: The Southern District Health Board

Address for Service: Southern District Health Board
Private Bag 1921
DUNEDIN 9054

Contact Person: Andrew Shand
[REDACTED]

Our Reference: 19Jul13

Date: 15 August 2019

Introduction

Southern District Health Board (Southern DHB) presents this submission through its public health service, Public Health South. Southern DHB delivers health services to a population of 335,990 and has responsibility under the New Zealand Public Health and Disability Act 2000 to improve, promote and protect the health of people and communities. It seeks to promote equity and to reduce adverse social and environmental effects on the wellbeing of people and communities.

This submission provides specific commentary on the questions raised in the draft report. This will be followed by general feedback.

Answers to Questions

1) Is the Clean Car Standard appropriate for New Zealand? If not, why?

With 85% of New Zealand's (NZ) electricity power generated from renewable resources,^{1,2} the improvement proposed (20%) could also be implemented by improving all emissions for CO₂ by making all electricity generation from renewable sources (i.e. removal of non-

¹ Ministry of Transport (2019). Moving the light vehicle fleet to low-emissions: discussion paper on a Clean Car Standard and Clean Car Discount. Wellington: Ministry of Transport.

² 82% of renewable energy resources in NZ – Ministry for Business Innovation and Employment Markets Evidence and Insights Energy in NZ 2017

renewable energy sourced power stations).³ Having said this, the current NZ vehicle fleet requires improvement to meet contemporary international emission standards.⁴ The move towards the lower CO₂ emissions produced over a lifetime for an electric vehicle (EV) is often offset against the higher energy use and carbon footprint of battery production (and the mining of rare earth elements – Cobalt, Nickel, and Lithium). In New Zealand the offset of this higher production carbon footprint can be better justified through charging of EV with largely renewable energy sources. While close to 85% of our electricity generation is renewable, we could improve on this to maximise the benefit of switching the fleet to EV.

Recommendation

Focus on improving the percentage of NZ's electricity coming from renewable sources to ensure the growth of EVs has a real impact on our carbon footprint.

2) Is an average emissions target of 105 grams CO₂ per kilometre by 2025 an appropriate target for New Zealand? If not, why?

While the target of 105g CO₂/km average for the fleet by 2025 is a very realistic goal, it needs to be more aspirational. It could be argued that as the Japanese manufactured vehicles from 2014 meet the 105g CO₂/km limit already and they will further improve their emissions to 82g CO₂/km in 2020,⁵ all we would need to do is to keep the vehicle fleet modern (i.e. just limit the age of all types of vehicles, phased in stages). While many countries limit the age of light vehicles on the road, phasing in such a system in NZ would have to be carefully staged to prevent inequities occurring as we have an older fleet than most developed countries. We also note that only 43% of used vehicles that enter the NZ fleet are less than 10 years old. The weighting differential and “feebate” systems for new and near new cars would seem to be complex and perhaps unnecessary when considering the age of vehicles. Updating the emission standards and providing further education, compliance and enforcement may have the same or similar effect. In relation to this, we note that other developed countries have a much younger light vehicle fleet than NZ (e.g. UK - 5.76 years, Germany - 6.87 years and Sweden - 6.71 years).⁶ While the age of a country's light vehicle fleet is largely determined by its economy, a situation where the public are encouraged with incentives to deregister vehicles after 10 years (such as in Singapore) could be considered for New Zealand.⁷

Recommendation

Strengthen New Zealand's emissions target for transport through strategies aimed at modernising the country's vehicle fleet.

3) What effect do you think the Clean Car Standard would have on vehicle supply and prices?

While the affordability of vehicles has been included in the draft proposal, some inequity may apply to those living in rural areas if they are only able to access lower cost EVs as they will have less battery power/lower range. This in turn could mean reduced access to services. Newer vehicles with a higher range will have a premium price (for instance a Toyota RAV4 Hybrid SUV is currently advertised at up to \$50,000 NZ and larger vehicles like a hypothetical Hybrid Toyota Landcruiser may approach \$100,000 NZ (\$80,000 is the cut off for subsidy)). Therefore, the rural sector will also be paying a premium for utility vehicles (utes) where no

³ MBIE Markets Evidence and Insights Energy in NZ 2017

⁴ NZ Land Transport Vehicle Emission Rule 2007, <https://www.nzta.govt.nz/resources/rules/vehicle-exhaust-emissions-2007-index.html>

⁵ Ministry of Transport (2019). Moving the light vehicle fleet to low-emissions: discussion paper on a Clean Car Standard and Clean Car Discount. Wellington: Ministry of Transport.

⁶ <https://www.eea.europa.eu/data-and-maps/indicators/average-age-of-the-vehicle-fleet/average-age-of-the-vehicle-8>

⁷ <https://www.valuechampion.sg/average-age-cars>

low emission alternative is available.⁸ In addition to this EVs are unlikely to be a practical choice for the rural sector as they require higher towing capacity and load weights in order to carry out daily operational tasks. About 14% of NZ's population lives in a rural area.⁹ The median travel distances to and from services are considerably higher in rural areas, and there is limited access to public transportation options. As such, access to essential health and social services for rural residents is limited and there will be worse outcomes for Maori and people with disabilities in those communities. Larger vehicle fleets that have to travel longer distances (including District Health Boards) may be penalised by having to purchase/lease higher cost vehicles with sufficient distance/range that meet the new emissions standards). The health sector alone is estimated to be responsible for between three to eight percent of carbon emissions in NZ, so this penalty will be significant.¹⁰

We also note that the proposed scheme would disproportionately impact low-income families, who primarily purchase second hand vehicles (approximately 70% of vehicles sold in NZ are second hand) and would not benefit from the scheme. Even with the discount, the upfront cost of newer (less than 3 years old) EVs would still be prohibitive for many low-income families. As the scheme plans to reintroduce road user charges after the EV discount expires in approximately two years, the cost-savings of switching to an EV may not be sufficient for low-income families. This is another reason to make the subsidy for clean vehicles more pronounced. The proposal benefits those that import, sell and purchase older EV and low emission vehicles. While the Clean Car rebate will apply to new or near new vehicles, older battery electric vehicles would also benefit from higher demand and less 'penalty'.

We would also urge those contemplating the current scheme to consider the actual costs of ownership for older EV and hybrid (including plug-in hybrid) vehicles to include battery replacement and end of use issues from an environmental perspective. The proliferation of EV and Hybrid batteries towards end of life (average life of an EV battery can be 8 – 10 years)¹¹ may produce environmental issues in the immediate future. The options of refurbishment, repurposing and recycling needs to be looked at, at an early stage, and we would urge that infrastructure to manage this is developed sooner rather than later. An industry 'buy back' scheme should be part of any EV or hybrid sold to avoid end of life battery contamination of landfills and to reflect the 'true' cost of ownership. In addition, the technology for batteries is moving along so quickly that older EV/Hybrid vehicles will become significantly less popular (unless they are being used only for urban running). Older vehicles may not be suitable for use with faster charging devices due to battery design and heating issues in some instances.¹² Selecting vehicles based on the discounts proposed assumes that buyers will be purchasing newer (near new) vehicles. Many people in NZ will not be in this financial position, however, the promotion of cleaner vehicles on the second hand market should make the change to a cleaner vehicle more affordable over time.

Recommendation

Consider the impacts of EV incentives in the context of lower socio-economic groups and those living in rural communities. Implement infrastructure to manage end of life processes for batteries.

⁸ Ministry of Transport (2019). Moving the light vehicle fleet to low-emissions: discussion paper on a Clean Car Standard and Clean Car Discount. Wellington: Ministry of Transport.

⁹ Rural Health: Challenges of Distance, Opportunities for Innovation (2010). National Advisory Committee on Health and Disability

¹⁰ New Guide for Greening the Health Sector, Honorable Julie Anne Genter, Media Statement 30 July 2019

¹¹ Electric Vehicle Battery Life for the New Zealand EECA April 2017

¹² https://www.greencarreports.com/news/1116139_2018-nissan-leaf-electric-car-is-there-a-fast-charging-problem

- 4) **Do you support phasing in the 105 grams CO₂ per kilometre emissions target by: adopting multiple targets that progressively lower to 105 grams? OR using the increasing percentage of fleet approach?**

We have no opinion as to whether to stage the emission standards for groups of imported vehicles to meet emission targets or to phase the system in for the percentage of all imported vehicles that comply based on vehicle weight approach. Either way is likely to promote an improvement in vehicle emissions.

Recommendation

We have no preference for either approach for phasing in the emissions target.

- 5) **Do you support the timeframe for the phase in period? If not, why?**

As per our answer to Question 2, the phase in period as proposed should give plenty of time for importers to comply with the goal standard. It could be argued that this goal is conservative. The benefits would be a younger vehicle fleet while still allowing for trade/sale for current vehicle stock and a more noticeable improvement in the emission contribution to global warming from the light vehicle fleet. We are also aware that improvements to the commercial vehicle fleet is going to be a much more difficult issue to tackle in the future, however, we understand that this is out of scope of this consultation.

Recommendation

It is our view that the goal is too conservative and needs to be more aspirational.

- 6) **Do you support adopting a weight-adjusted Clean Car Standard? If not, why?**

The penalties for higher weight, lower performing vehicles seem to be modest when looking at the current emissions and we would argue that the penalty for the larger vehicle should be more pronounced with the offset going to the EV and lighter/mid weight vehicles. This is more likely to result in the upgrading of the fleet at an earlier stage. It could also create the ability to place further subsidy on other forms of low emission active transport - such as electric bikes. While the proposed system is geared towards lower emission vehicles and in particular EV vehicles, changes in technology over time may mean that alternatives may be on offer within the life of the current plan. As it stands most technology will still be captured by the current rebate and incentive scheme (e.g. hydrogen Fuel Cell Vehicles FCV). Larger weight vehicles may be penalised by the proposal, however, with more efficient combustion technology large vehicles could be produced with smaller engines and less emissions.

Recommendation

We support a more pronounced penalty for larger vehicles.

7. **Do you support amending the Fuel Consumption Information Rule so that only vehicles tested to the internationally recognised test procedures meet requirements for entry certification? If not, why?**

Moving towards prohibiting the import of Japanese vehicles pre-2007 due to the testing carried out in Japan under older emission rules, would be a very positive move from an environmental perspective, but may limit choice for those on lower incomes (people who are normally purchasing vehicles 14+ years old). The move towards more up-to-date emission testing is therefore supported.

Recommendation

We support the move towards more up-to-date emissions testing that will effectively prohibit the importation of older second-hand vehicles.

General Comments

Vehicle Emission Comparisons by Country

We note the comparison table produced in Appendix One which compares best performing variants of new vehicles in NZ with the UK and suggest that this may be an unfair comparison. Comparing any combustion powered vehicle in NZ with a Hybrid or EV in the UK will naturally show a marked improvement in CO² emissions. There are a couple of obvious examples of this with a NZ Toyota RAV diesel and a UK RAV4 Hybrid being used as a comparison. Another obvious example would be a Mitsubishi Outlander petrol with a UK Outlander in a PHEV (Plug in Hybrid Electric Vehicle) version (we are certainly not “comparing apples with apples”).

Infrastructure for Charging/Fuels

It is recognized that there is insufficient infrastructure in NZ at the moment for charging EVs. The proposed scheme needs to include a robust plan to increase the number of EV chargers in the country and to add policies to support this.¹³ There are issues with charging times and queues for chargers using EV in NZ at the moment (compare times with refuelling an ICEV or Hydrogen fuel vehicle¹⁴). Although those times are reducing with high rate chargers not all older EV vehicles can use this as there are recognised issues with battery design and heating. The other issue is that the proposal is based around efficiencies in combustion engine design and a move towards EV, Hybrid or PHEV. While electric technology is supporting manufacturing and importing these cleaner vehicles, we should not ignore the need for some infrastructure development that will be required to support increasing numbers of FCV that will become an increasing part of the market over the next few decades. Hydrogen has a distinct advantage over EV in that refuelling can be completed in a very short timeframe). There may be a shift to this technology especially if the current demand for EV drives up queuing times for charging. Keeping options open for fuel manufacture and distribution networks for hydrogen would seem a prudent move.¹⁵

Finally, thank you for the opportunity to submit on this discussion document. Public Health South, Southern District Health Board is largely supportive of this proposal as it will reduce greenhouse gases and contribute to NZ meeting climate change goals in the near future. Please feel free to contact the author should you require any further information.

Andrew Shand on behalf of Southern DHB

¹³ Rapid Chargers for battery electric vehicles in New Zealand – current use , access and location preferences, Henrik Moller, David Myall and Dima Invanov, Flip the Fleet Report No 3 May 2018

¹⁴ Concept, Hydrogen in NZ Report No 3 – Research vers 04 29/1/2019

¹⁵ Concept, Hydrogen in NZ Report No 3 – Research vers 04 29/1/2019