Office of Hon Phil Twyford

MP for Te Atatu

Minister of Housing and Urban Development

Minister of Transport

30 APR 2018

Rt Hon Simon Upton
Parliamentary Commissioner for the Environment
PO Box 10 241
WELLINGTON 6143

Dear Simon

Thank you for your letter dated 28 March 2018 regarding actions the Ministry of Transport (the Ministry) is undertaking in response to climate change issues highlighted in the *Our atmosphere and climate 2017* report. In response to your questions, the following answers include information on the policies and work programme the Ministry is focused on to reduce greenhouse gas emissions from transport.

1. What modelling has the Ministry done to estimate emissions of greenhouse gases from the transport sector under Business as Usual (BAU)?

The *Transport Outlook: Future State* report modelled road vehicle emissions under a Base Case scenario, compared to four other scenarios. Under the Base Case, emissions are projected to increase initially before falling by 31 percent from 2015/16 to 2039/40, despite an increase in the size of the vehicle fleet and distance travelled. This is mainly due to an increased uptake of electric vehicles (EVs) and improved fuel efficiency of conventional vehicles. The full report is available online at https://www.transport.govt.nz/research/new-zealand-transport-outlook/.

The Excel model results are also available for download from https://www.transport.govt.nz/research/new-zealand-transport-outlook/transport-outlook-future-state-model-results/.

2. What targets or goals, if any, has the Ministry set for reducing greenhouse gas emissions from the transport sector?

Under the 2016 Paris Agreement, New Zealand has committed to a reduction in greenhouse gas emissions to 30 percent below 2005 levels by 2030. There is no specific target for reducing greenhouse gas emissions from the transport sector. However, if the equivalent level of reduction were sought from road transport, then New Zealand would not meet this 30 percent reduction target by 2030 under any of the scenarios examined in the Transport Outlook: Future State report.

By 2030, under current policy settings, road emissions will be over 50 percent above the equivalent of the 2030 Paris target, and 7 percent above the equivalent of the target by 2040. Additional actions beyond the anticipated increased uptake of EVs would be required for New Zealand to achieve a 30 percent reduction below 2005 levels in road transport emissions by 2030.

+64 4 817 8704 Private Bag 18041, Parliament Buildings, Wellington 6160, New Zealand p.twyford@ministers.govt.nz beehive.govt.nz

3. What policies are recommended by the Ministry to achieve any targets or goals?

The Ministry is focusing on how to reduce the carbon intensity of the light vehicle fleet, as light vehicles are responsible for the majority of transport emissions. As well, within the light fleet sit the two greatest opportunities to reduce transport emissions – increasing the uptake of EVs and improving the fuel efficiency of all other light vehicles. The Ministry will investigate the options for improving the heavy vehicle fleet following implementation of the initiatives for the light vehicle fleet.

The options being considered for light vehicles entering the fleet are:
- legislating that, by 2035, all vehicles entering the country must be able to be driven without fossil fuels
- regulating a vehicle fuel efficiency standard
- introducing a vehicle purchase feebate scheme.

The options being considered for the light vehicles already in the fleet are:
- carbon-based annual vehicle license fees
- establishing a vehicle scrappage scheme in Auckland
- investigating harmful emissions testing as part of the regular warrant of fitness and certificate of fitness checks.

The Ministry is also responsible for leading the EV Programme and the EV Leadership Group. The Group's initial focus was purely on greater uptake of EVs. Its remit has recently expanded to consider e-bikes and other electric modes of transport. An e-bike representative has been appointed to the Group.

4. What work has the Ministry done to consider how to address barriers to reducing greenhouse gas emissions from the road transport sector?

In identifying the key opportunities to reduce emissions from road transport, the Ministry considered how to address the barriers to doing so. The main barriers are:
- New Zealand lags behind other developed countries in benefitting from vehicle technology to reduce emissions
- consumers have been increasingly buying larger vehicles
- our existing policies do not provide strong encouragement to support a high uptake of EVs.

The proposed options outlined in the answer to question 3 have been designed to overcome these challenges and move the light vehicles entering New Zealand to be low, and ultimately zero, emissions.

5. What work has the Ministry done to consider how to address barriers to reducing greenhouse gas emissions from the broader transport sector?

The Ministry is focusing on reducing emissions from road transport as it contributes 90 percent of transport emissions. Work on addressing barriers to reducing emissions from the broader transport sector is yet to be undertaken but will be investigated in the future.

6. What quantification has the Ministry made of the extent to which these policies would reduce emissions from the transport sector relative to BAU?

Provisional cost-benefit analyses of the proposed vehicle fuel efficiency standard and vehicle purchase feebate scheme have been completed. Estimates for the other options are yet to be done. The Ministry's provisional analysis estimates that a

vehicle fuel efficiency standard with a fleet average target of 105 grams CO_2 per kilometre by 2025, phased in from 2020, would save six million tonnes CO_2 and have a benefit-cost ratio of 1.2. The provisional analysis of a feebate scheme introduced in 2020 estimates that it would save 2 million tonnes CO_2 and have a benefit-cost ratio of 2.75.

7. What work has the Ministry done to consider the opportunities and barriers to the uptake of alternative transport fuel types, including, inter alia, *electricity, hydrogen and biofuels?*

The Ministry has done internal analysis of the opportunities and barriers to the uptake of electricity, biofuels, and hydrogen. Officials have identified EVs as the greatest opportunity to reduce emissions from road transport. The main barriers to the uptake of EVs are cost, limited choice, availability of public charging stations, range anxiety, and transition time. The EV Programme and the continued efforts across government, business, and community groups are making a positive difference in reducing these barriers. The Ministry is investigating options to enhance the EV Programme, including actions targeting heavy vehicles and promoting e-bikes.

Previous work considered the barriers and opportunities to the uptake of biofuels. The main challenges identified are:

- the use of conventional biofuels is limited in the current vehicle fleet
- biofuels need to be competitive with fossil fuels but their costs are generally higher
- the investment risks make it difficult for developers of advanced biofuels to raise capital, and "drop-in" biofuels are not commercially available in New Zealand
- biofuels have to be sustainable and this is leading to policy and consumer caution
- transport policy is inconsistent in its support of low carbon alternatives, offering an advantage to bioethanol and EVs but not to biodiesel, even though all three contribute to emission reductions.

The Ministry concluded that this is an opportunity in the medium term if there are sustainable volumes of supply available.

Hydrogen is assessed as currently not being a key mitigation opportunity. This is because the uptake of hydrogen vehicles would require substantial investment in hydrogen storage, distribution, and fuelling infrastructure. Given our small population and large geographic area, it is unlikely that the investment in another fuelling infrastructure would be justified in addition to the infrastructure costs associated with supporting the electric and conventional fleets.

8. What is the Ministry's strategic approach to dealing with the risks that climate change poses to New Zealand's transport infrastructure? Is any work being done to estimate the costs of these risks?

The Ministry is developing a transport resilience strategy, the purpose of which is to improve the resilience of the transport system to disruptions, which will include some of the impacts of climate change on the transport system. It is looking to commence a work programme from mid-2018.

While the Ministry has not undertaken any work in estimating the costs of the risks that climate change poses to New Zealand's transport infrastructure, officials are keeping abreast of research and analysis in this area. This includes that done by crown research institutes and academic institutions, and will ensure this is properly consolidated into the work.

9. What work has the Ministry done or is planning to do with other government agencies to address issues where greenhouse gas reductions require co-ordinated actions from multiple stakeholders?

The Ministry is part of the cross-government Low Emissions Economy Transition Hub led by the Ministry for the Environment. This group is preparing economic analysis to investigate and explain potential transition pathways, and opportunities and challenges, associated with the definitions under consideration for a new 2050 emissions reduction target.

Reducing emissions in transport and making the system resilient to climate change involves a number of the Ministry's teams, the New Zealand Transport Agency, and other agencies such as the Energy Efficiency and Conservation Authority. The Ministry has also consulted with the Vehicle Importers Association and the Motor Industry Association in the development of options to reduce emissions from transport.

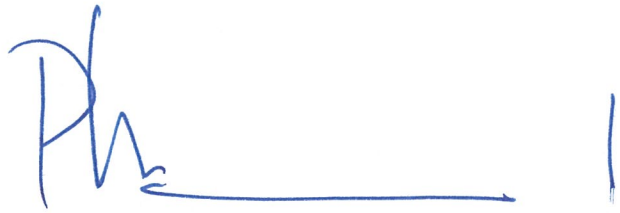
10. What work has the Ministry done or is planning to do with other government agencies to address issues where adapting our transport systems to the impacts of climate change impact requires co-ordinated actions from multiple stakeholders?

As mentioned in the response to question 8, the Ministry is developing a transport resilience strategy. One of the guiding principles of this work is that we acknowledge the role of other government agencies, as well as other stakeholders, in the development of our work. Officials have been working closely with the transport agencies (transport crown entities and state-owned enterprises) in the development of the strategy. Officials have also been engaging with other agencies including the Ministry for the Environment to seek feedback on our work, and to ensure it is aligned with their respective work programmes. The Ministry is also involved in the Climate Change Adaptation Technical Working Group, working with other agencies on their projects.

The Ministry is looking to extend the list of agencies they are engaging with so it can bring together broader views on, and appropriate actions to address, the resilience of infrastructure in New Zealand. It will be important to include both central and local government in these discussions, as well as private sector stakeholders.

I would be interested to meet with you to hear your views about this response. Please liaise with my office to arrange a meeting. Emma Kean, my Senior Private Secretary, can be contacted at emma.kean@parliament.govt.nz.

Yours sincerely



Hon Phil Twyford
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