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25 June 2021

Transport Emissions
Ministry of Transport
Wellington

By email: transportemissions@transport.govt.nz

Submission on Ministry of Transport's discussion document, *Hīkina te Kohupara – Kia mauri ora ai te iwi – Transport Emissions: Pathways to Net Zero by 2050*

Introduction

1. This is Infrastructure New Zealand's submission on the Ministry of Transport's discussion document, 'Hīkina te Kohupara – Kia mauri ora ai te iwi - Transport Emissions: Pathways to Net Zero by 2050'.

2. Infrastructure New Zealand is New Zealand's peak industry body for the infrastructure sector. We promote best practice in national infrastructure development through research, advocacy and public and private sector collaboration. Our members come from diverse sectors across New Zealand and include infrastructure service providers, investors and operators.

3. Infrastructure New Zealand welcomes this opportunity to make a submission on the consultation document. We note feedback will inform the transport chapter of the government's draft Emissions Reduction Plan.

Discussion

Lead by example

5. The discussion document sets out potential pathways and policies to phase out emissions across the transport system by 1 January 2050, to meet the legislative net zero requirement stipulated in the Climate Change Response Act 2002.

6. It is currently not clear what specific actions central and local government are proposing to undertake for themselves to meet the net zero requirement.

7. Infrastructure New Zealand submits that central and local government should lead by example, e.g. a plan for how central and local government will completely decarbonise their transport fleet, including road vehicles/trains/ships they own and lease.

8. We further submit that a phased approach would be useful, that is, an initial focus on central and local government (including public transport services) and then on businesses and households. A phased approach will help the government understand implementation challenges and provide better directives when rolled out to businesses and households.

General remarks

9. Infrastructure New Zealand notes that the consultation document proposes six well-intentioned principles. We submit these principles need to be supported by measures that are part of an implementation plan.

10. Achieving net zero transport emissions will be expensive for local government, e.g. public transport infrastructure to cater for the increased mode shift and a 100% zero-emission public transport fleet. Councils are already financially stretched and rates are already excessively high. The government needs to adopt a position on what financial assistance it will provide to local government to help achieve the transition to net zero emissions.

11. There is a need to ensure that New Zealand does not experience an energy shortage, e.g. electricity, resulting in price shocks and having serious implications for households as well as the cost of doing business.

12. We are encouraged by the inclusion of aviation emissions in the discussion document, but are disappointed by the absence of discussion on emissions of space-bound rockets. We look forward to discussion on lowering emissions from space-bound rockets being included in the draft Emissions Reduction Plan.

13. Infrastructure New Zealand does not support a road pricing mechanism based on distance-charging given the:
    (i) prerequisite infrastructure and public transport services required to facilitate mode shift are not in place
    (ii) serious inequity issues for New Zealanders who live further away from where they work, who have no viable (adequate and frequent) alternative to private vehicle use and for whom the use of private vehicle has characteristics of inelastic demand.

14. We submit revenue neutral schemes should be just that, i.e. accrued surpluses should be returned to the households and businesses through some mechanism, e.g. tax cuts and/or lower charges. We often see the unintended consequence of surpluses being funnelled towards projects that are not necessarily required, e.g. local beautification projects passed off as placemaking initiatives.

15. There is value in considering the net benefits of offering grants, rebates or other incentives for the replacement of older, fuel inefficient vehicles with electric vehicles.

Urban, transport and land-use planning

16. There is an opportunity to reduce transport emissions by changing the current approach to urban developments.

17. Infrastructure New Zealand is encouraged by discussion on the need for integration between urban, transport and land-use planning. Currently, most greenfield developments are primarily concentrated on the supply of residential dwellings with office, commercial and industrial activities as well as public transport services being an after-thought. As such, there is a dependence on private vehicles from the outset due to limited to no meaningful local employment opportunities. And so, as an example, when bus services eventually do get introduced, they are not as attractive an option because:
    - most residents are no longer able to easily switch to public transport, especially where they are travelling much longer distances and where public transport options would require transfers (and waiting times between those transfers)
    - buses then become caught up in traffic congestion and where passengers require to transfer to another bus or train, they get significantly delayed.

18. There is also the need to ensure prerequisite infrastructure is in place to facilitate mode shift and thereby reduce transport emissions. For instance, not all New Zealanders have access to

adequate and rapid/frequent public transport and/or public transport infrastructure, e.g. at capacity park and ride facilities. As stated earlier, for New Zealanders living further away from work, private vehicle use usually has characteristics of inelastic demand.

19. Similarly, there is a need to understand New Zealanders' travel patterns and what can be done to change travel needs and patterns, e.g. working from home and providing meaningful employment opportunities within local catchments.

20. The Auckland Plan 2050, for instance, identifies five nodes other than the Auckland City Centre that are meant to provide flexibility and choice for business by providing business opportunities and business land in close proximity to deep labour pools with an interconnected transport network. This is supposed to make more jobs and educational opportunities accessible to more people without them having to travel long distances. The challenge is making this a reality.

21. Infrastructure New Zealand therefore submits that the first theme should be expanded to as follows:
    - Theme 1: Changing why and the way we travel.

22. In the absence of addressing the above issues, measures such as the levying of congestion pricing and high emissions-related taxes would only be regarded as punitive taxes.

Conclusion

23. Infrastructure New Zealand thanks the Ministry of Transport for the opportunity to make this submission.

24. We look forward to the release of the government's draft Emissions Reduction Plan later this year.

25 June 2021

Infrastructure
New Zealand

From:	Toa Greening - microCAR
To:	Transport Emissions
Subject:	Transport Emissions Feedback
Date:	Friday, 25 June 2021 12:05:51 pm
Attachments:	Greening Toa-Micro_Mobility_to_Decarbonise_Transport_v2-3-3-Greening-Toa.pdf

Good Afternoon, my name is Toa Greening from microCAR NZ Ltd.

I recently met with Minister Michael Woods to discuss microCAR EVs and a paper I had presented to the Auckland Transportation Group conference on Micro Mobility to Decarbonise Transport and attached for your reference. My paper explored the significant impact that microCAR EVs could have in terms of Decarbonising the Transport sector if they were classified for NZ roads.

I discussed with the Minister that there is currently no vehicle classification for microCAR EVs, even though there is now a range of microCAR EVs available internationally which in many cases could replace the second home vehicle for short, local, single commutes if they were available in NZ. The introduction of a microCAR EV classification would mean that they could go some way towards the 50K EV registrations needed per year to reach the 2035 target of 750K EVs on the NZs roads.

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Regards
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TRANSPORTATION 2021 CONFERENCE
MICRO MOBILITY TO DECARBONISE TRANSPORT: THINK PIECE PAPER
(This paper has been peer reviewed)

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INTRODUCTION

Auckland is New Zealand's largest city and with that title comes the award for the greatest congestion in the country. The challenging geographic layout of Auckland being a narrow isthmus, low population density, unpredictable weather, disaggregated workplaces, amenities, communities and the COVID-19 pandemic makes movement around Auckland City a challenge at the best of times. Any proposal that could reduce both traffic congestion and carbon emissions should be recommended for further research and development.

Micro Mobility (Micromobility, n.d.) is typically a range of small, lightweight vehicles operating at low speeds and are human powered or electric. The key is that the profile is singular/small/narrow and that it makes optimal use of existing road/footpath infrastructure. Motorcycles also make optimal use of road infrastructure and studies (Commuting by Motorcycle, 2011) have shown that if the uptake was >10% on the roads then that would be enough to reduce congestion >40%. Of course, not everyone can ride a scooter, bicycle or motorcycle to work for various practical reasons and with the COVID-19 pandemic many have moved away from public transport and returned to single commuter Internal Combustion Engine (ICE) vehicles.

The narrow profile microCar Electric Vehicle (EV) is an enclosed three or four wheeled vehicle that has the same road profile as a large motorcycle but is fully enclosed like a car. It is proposed that if the uptake was >10% on the roads then that would be enough to reduce congestion >40%. The reduction in greenhouse gases would be two-fold from both the new EV mode of transport and the reduction in traffic congestion.

This paper explores how a microCar EV transportation mode of travel might operate on Auckland motorways and also the entire road network to significantly reduce both Auckland's congestion and its carbon footprint.

"The world as we have created is a process of our thinking. It cannot be changed without changing our thinking." - Albert Einstein

BACKGROUND

It is estimated that over the next 30 years (Auckland's capacity for growth, n.d.) Auckland's population is expected to increase by more than 40% with 62% of new residential dwellings being built within the existing city limits and 38% into new urban and rural Greenfield areas. With most of our transportation networks already at capacity, $60 billion ($60b plan for Auckland transport, 2013) will need to be spent in Auckland on transport infrastructure over the next 30 years.

By using standard transportation models used by transportation authorities for current travel modes, Auckland needs to build more motorways, highways, arterial routes, train tracks, bus lanes, cycle lanes, bridges and tunnels to accommodate the 30-year population growth. While many projects are now underway, often Central Government and Auckland Council are locked in a debate whether enough is being done to plan and fund improvements to the Auckland transport network over the next 30 years. That said, Auckland Council requires significant additional funding to complete those transportation projects for the next 30 years.

This equates to $30,000 per ratepayer, which may be funded by the following:

- Increased Taxes – Personal/Company, GST, Rates, Petrol, Land, Capital Gains
- Increased User Charges - Tolling, Road User Charges, Parking, Fines
- Asset Sales - Ports of Auckland, WaterCare Ltd, Airport Shares, Public Land and Facilities
- Increased Debt – which must be paid for by the previous three sources

We will take a fresh look at the funding challenges facing Auckland's transportation networks and present an innovative solution to the impending funding and transportation crisis.

The Problem

Our motorways are at capacity because there are too many cars on the road at peak hour. Our buses and trains are full at peak times because too many people are trying to use them due to the congested motorways.

Problem Scenario	Solution Challenges
There are not enough roads and motorways to accommodate the current number of vehicles at peak times	Building more roads and motorways requires a huge investment into the road network
The bus and train networks are at capacity because of historical under investment into public transport	Moving people out of cars into public transport requires a huge investment into public transport infrastructure and rolling stock

Both scenarios require significant investment in the transportation network as well as decades to plan and build.

The Risks

The identified $60B transportation network investment costs are only for known projects and will require increased taxes, road user charges, asset sales and debt to fund. This estimated funding does not address what may be required for the congestion of our residential streets from intensification and new motorways/streets required to connect to the new urban Greenfield areas.

Risk Scenario	Solution Challenges
Local Government funding sources are finite and insufficient to cover future transportation network upgrade costs	The resulting debt crisis is passed onto the tax/rate payers

The Solution

The problem is not the number of single occupancy vehicles on the motorways at peak traffic times. It is the width of the single occupancy vehicles on the motorway at peak traffic times. The solution is to optimise the capacity of the motorway by rolling out a fleet of narrow motorcycle width 1-2 person microCar EVs that can be driven two (What is the formation in which you ride called, n.d.) to a standard lane like a motorcycle in staggered formation (Figure 1). The change to a narrow profile electric vehicle will potentially double the capacity of the motorway network.

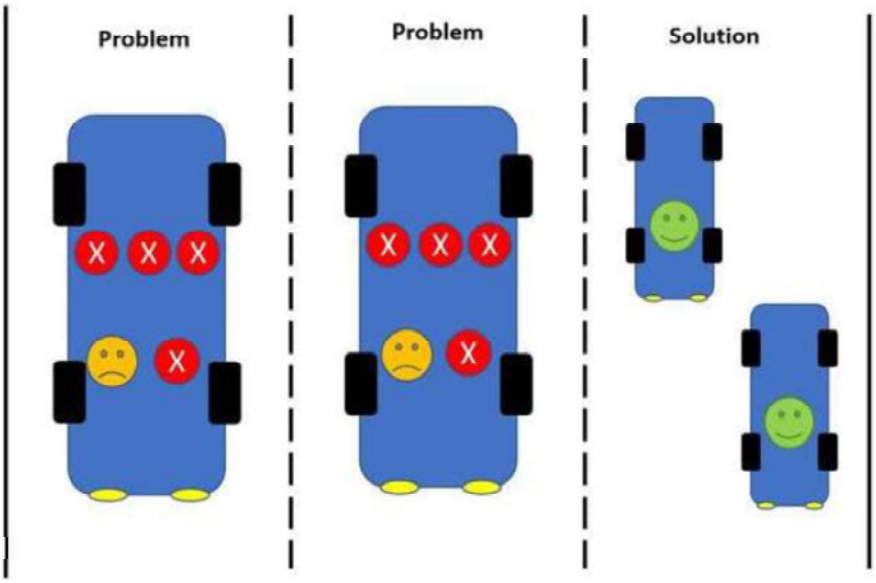

Figure 1 - microCAR EVs in Staggered Formation

TRAFFIC CONGESTION COSTS

Overview

The following report by consulting company Sinclair Knight Mertz (Reaction to the leaking of the CCFAS, 2012) for Auckland Council provided several future traffic scenarios in the event that the Inner-City Rail Loop did not go ahead.

The Sinclair Knight Mertz report (Reaction to the leaking of the CCFAS, 2012) advised that by 2021 most bus networks near and in the city centre will be at capacity or overloaded in terms of what can be provided on existing roads. Private motor vehicle speeds will have halved from 16km/h in the morning peak to 8km/h. The rail network will have reached the maximum number of services possible. And by 2041, the bus network will be significantly over capacity and the average morning peak car speed in the city centre will be 5km/h. Car journey times to the city centre from the west and south will increase by 30 to 50 per cent, adding an extra 30 minutes each way from the South Auckland growth area.

Auckland Transport has provided a 30 year plan (Auckland's capacity for growth, n.d.), which is primarily based upon the Auckland Plan 2050 and follows Waka Kotahi NZTA capital works programme but adds the Inner City Rail Loop and a second harbour crossing to the list of critical projects. The combined costs from both AT and Waka Kotahi NZTA is $60B. However, the looming transport issues of intensification and new urban Greenfield areas are ignored meaning that the future costs could be far greater than currently planned.

Auckland Council Debt

By the end of 2020 the Auckland Council treasury (COVID-19 Financial Update, 2020) department reports debt level of nearly $10 billion and liabilities totalling $14 billion.

What does this transportation challenge and looming debt crisis mean?

It means that there is a requirement to come up with innovative ways to solve the city's infrastructure funding and transportation requirements.

MICROCARS

Overview

A microCAR (Microcar, n.d.) is the smallest automobile classification, usually applied to very small cars (smaller than city cars). Below (Figure 2) are eight examples of 3 and 4 wheeled microCARs in development/production with dimensions and top speeds compared to the BMW motorcycle model typically used by the Police.

The majority of these are neighbourhood electric vehicles (Neighborhood Electric Vehicle, n.d.) and more suited to short local commutes on residential streets. The Commuter Cars T600 and Smart Fortwo are motorway capable with the Smart Fortwo also being four-star ANCAP rated (Smart Fortwo, n.d.) in Europe. The NZ Post Paxter is currently allowed on residential roads and footpaths via an exemption to the Land Transport rules (Exemption Letter, 2016).

Finally the NZ Ohmio Hop is an example of autonomous micro EV Public Transportation. This is mentioned in the context of a potential shift to smaller public transportation vehicles to move people around our cities. It is also noteworthy that the Ohmio NZ are in the process of bringing the vehicle assembly to New Zealand (Driver-less shuttles may be built in Christchurch, 2021).

	
Renault Twizzy Dimensions: 2.32m x 1.19m Top Speed: 80km/hr	**Commuter Cars T600** Dimensions: 2.60m x 0.99m Top Speed: 240km/hr
	
Toyota I Road Dimensions: 1.70m x 0.85m Top Speed: 60km/hr	**Microlino** Dimensions: 2.43m x 1.50m Top Speed: 90km/hr
	
SAIC-GM-Wuling Hongguang Mini Dimensions: 2.91m x 1.49m Top Speed: 100km/hr	**Carver** Dimensions: 1.49m x 0.98m Top Speed: 45km/hr

Smart Fortwo
Dimensions: 2.69m x 1.66m
Top Speed: 130km/hr

NZ Post Paxter
Dimensions: 2.29m x 1.18m
Top Speed: 45km/hr

BMW K1200LT
Dimensions: 2.50m x 1.08m
Top Speed: 209km/hr

NZ OHMIO Hop

Figure 2 – microCAR models vs BMW K1200L

Motorcycle congestion studies

A Belgian study (Commuting by Motorcycle, 2011) on the impact that commuting by motorcycles had on traffic congestion determined the following:

- "If 10% of car drivers would give up their car for a motorcycle or a scooter, traffic congestion would be reduced by 40%, according to a study performed in one of Belgium's most congested routes, typical of Europe's densest urban areas."
- "A 25 percent modal shift from cars to motorcycles was found to eliminate congestion entirely."

Therefore, we can conclude that to resolve congestion on the busiest parts of the motorway network, 25% of private vehicles, which experience congestion over the time period of 3 to 4 hours, could be replaced with a microCAR EV that has the same footprint (width very important) as a motorcycle.

Road Capacity Studies

Transport planners and various motorway studies (The costs of congestion reappraised, 2013; Guide to Traffic Management part 3: Transport Study and Analysis Methods, 2020) have concluded that the maximum capacity of the motorway lane is 1,800 cars per hour per lane. The below table on traffic volumes was extracted from Waka Kotahi NZTA (State Highway Traffic Volumes, 2013).

Description	Direction	Equipment	AADT (2008)	AADT (2009)	AADT (2010)	AADT (2011)	AADT (2012)
SH1 Khyber Pass On Ramp to Gillies Ave Off Ramp SB - Virtual	Inc	Virtual	101629	101189	98520	100593	103826
SH1 Khyber Pass Off Ramp to Gillies Ave On Ramp NB - Virtual	Dec	Virtual	98677	99521	96559	95647	97151
TOTAL			11134019	11331259	11353328	12343408	12549867

Table 1 – Kyber Pass Traffic Volumes

The busiest section on the Auckland motorway network is the Khyber Pass junction at approximately 125,000 in each direction for all three lanes per day. We know that congestion starts at >1,800 vehicles/hour so the key point for analysis is the total time of congestion. At present congestion can occur over a 3 to 4 hour period in both the AM and PM peaks.

Calculating the number of microCARs required to relieve congestion

The busiest part of the Auckland Motorway network is the Kyber Pass central junction. The following assumptions are made to calculate the number of microCARs required to relieve congestion. Each total lane count is the average lane count for the congested sections of the motorway.

Total Lanes

- Northern Motorway 3 lanes
- Western Motorway 3 lanes
- Southern Motorway 3 lanes
- Total of 9 congested lanes

Calculation

- Assume that the majority of vehicles in the AM and PM peaks are the same vehicles which are commuting to and from their place of work
- Assume that congestion at AM and PM peaks is a worst case of 4 hours per peak
- 9 congested lanes = 9 x 1,800 cars per hour capacity = 16,200 x 4 hours = 64,800 congested cars at each AM and PM peak
- 25% of peak congested traffic = 0.25 x 64,800 = 16,200 microCARs required to relieve congestion

Therefore, to relieve congestion across the Auckland motorway network a minimum of 16,200 private vehicles will need to be changed to microCARs.

IMPACT ON CARBON FOOTPRINT

Traffic Congestion Carbon Footprint

Referencing Real-World Carbon Dioxide Impacts of Traffic Congestion (Real-World Carbon Dioxide Impacts of Traffic Congestion, 2010) with typical traffic conditions in Southern California as an example, it was found that CO_2 emissions could be reduced by up to almost 20% through three different strategies: congestion mitigation strategies that reduce severe congestion, allowing traffic to flow at better speeds; speed management techniques that reduce excessively high free-flow speeds to more moderate conditions; and shock wave suppression techniques that eliminate the acceleration and deceleration events associated with the stop-and-go traffic that exists during congested conditions.

Scenario 1: Reducing the Carbon Footprint of cars on Auckland's motorway network

A typical passenger Internal Combustion Engine (ICE) vehicle emits about 4.6 metric tonnes (Greenhouse Gas Emissions from a Typical Passenger Vehicle, n.d.) of carbon dioxide per year.

- Carbon Footprint of 16,200 (64,800 x 25%) ICE when compared to microCAR EV is 74,520 tonnes per year (16,200 x 4.6 tonnes).
    - This is the amount of Carbon reduced per year when 25% of total vehicles or 16,200 ICE vehicles are changed to microCAR EVs.

- Carbon Footprint of 48,600 (64,800 x 75%) ICE free flow is 44,712 tonnes per year (48,600 x 4.6 tonnes x 20%).
    - This is the amount of Carbon reduced per year by the remaining 75% of total vehicles or 48,600 ICE vehicles which are free flowing and producing 20% less carbon emissions.

- microCAR EVs provide an additional 60% (44,712 tonnes/74,520 tonnes = 0.6 = 60%) reduction in the total carbon footprint from the effects of free-flowing traffic of ICE vehicles
    - This is 60% additional reduction in carbon emissions due to free-flowing traffic when an ICE vehicle is changed for a microCAR EV

- The total reduction in Carbon Emissions for the motorway network is 119,232 metric Tonnes per year as per Table 2.

Cars Type	Cars Total	Carbon tonnes per year
microCAR EV	16,200	74,520
ICE free flow	48,600	44,712
Total		**119,232**

Table 2 – Auckland Motorway Network Emissions reduction

Scenario 2: Reducing the Carbon Footprint of all cars on Auckland's road network

The following section performs the same calculation for all cars on the entire Auckland road network under a very broad scenario where 25% of all Auckland's ICE vehicles are changed to microCAR EVs to reduce congestion. This makes a very broad assumption that at least 25% of those light passenger cars are driven by single commuters at the AM and PM peaks.

Referencing Waka Kotahi NZTA statistics for light passenger numbers (Fleet Statistics, n.d.) as follows:

1,132,557 Light Passenger Cars in Auckland 2019
3,284 Buses in Auckland 2019

- 25% of peak congested traffic = 0.25 x 1,132,557 = 283,139 microCARs required to relieve congestion across all Auckland road networks
    - Assumes the worst scenario where all Light Passengers Cars being are used at peak times

- Carbon Footprint of 283,139 ICE (1,132,557 x 25%) to microCAR EV is 1,302,439 tonnes per year (283,139 x 4.6 tonnes)
    - This is the amount of Carbon reduced per year when 25% of total vehicles or 283,139 ICE vehicles are changed to microCAR EVs

- Carbon Footprint of 849,418 ICE (1,132,557 x 75%) free flow is 781,464 tonnes per year (849,418 x 4.6 tonnes x 20%)
    - This is the amount of Carbon reduced per year by the remaining 75% of total vehicles or 849,418 ICE vehicles which are free flowing and producing 20% less carbon emissions.

- microCAR EV provides an additional **60%** (781,464/1,302,439) reduction in the total carbon footprint from the effects of free-flowing traffic
    - This is 60% additional reduction in carbon emissions due to free flowing traffic when an ICE vehicle is changed for a microCAR EV

- The total reduction in Carbon Emissions for the Auckland road network is 2,082,903 metric Tonnes per year as per Table 3.

Cars Type	Cars Total	Carbon tonnes per year
microCAR EV	283,139	1,302,439
ICE free flow	849,418	781,464
Total		**2,082,903**

Table 3 – Auckland Road Network Emissions reduction

The Carbon Cost of Congestion

The New Zealand Climate Change Commission released a report (Climate Change Commission 2021 Draft Advice for Consultation, 2021) on 31st of January which provided recommended emissions budget and 2050 targets for New Zealand to meet its Nationally Determined Contributions (NDC) under the Paris agreement.

Referring to Table 4 we are able to use the reports (Climate Change Commission 2021 Draft Advice for Consultation, 2021) data on the range of Carbon prices ($/tonne) determine the offshore mitigation costs from Carbon Credits that a mass microCAR EV deployment in Auckland could save New Zealand per year.

	Price ($/tonne)		
Multiplier for terms of trade	$30	$50	$100
No multiplier	$1.9b	$3.2b	$6.4b
1.8 multiplier for trade	$3.5b	$5.8b	$11.5b

Table 4 - Possible economic costs of offshore mitigation used to meet an enhanced NDC

If we reference the data from Table 3 and assume a worst-case scenario of a 1.8 multiplier for trade (Climate Change Commission 2021 Draft Advice for Consultation, 2021) as our basis for calculation. The below Table 5 provides an indication of the potential future savings that a mass microCAR EV deployment in Auckland could save New Zealand per year under the different Carbon price points and for a motorway or full road network scenarios.

	Price ($/tonne)		
1.8 Multiplier for Trade Price/tonne x 1.8	$54 ($30 x 1.8)	$90 ($50 x 1.8)	$180 ($100 x 1.8)
AKL Motorway Price/tonne x 161,920tn	$8.7M	$14.5M	$29M
AKL Roads Price/tonne x 2,082,903tn	$112.4M	$187.4M	$375M

Table 5 - Possible economic savings for offshore mitigation used to meet an enhanced NDC

Meeting New Zealand's Nationally Determined Contribution for Climate Change

The potential 2 Mt $CO_{2\text{-}e}$ (2,082,903 Tonnes $CO_{2\text{-}e}$ /Year) saved from Auckland's total road network emissions reduction in Table 3 would meet nearly a third of the 6.3 Mt $CO_{2\text{-}e}$ emission (Climate Change Commission 2021 Draft Advice for Consultation, 2021) shortfall for New Zealand to meet its Nationally Determined Contribution.

CONCLUSION

This think piece paper has identified significant capital works required to reduce congestion and presented the microCAR EV Micro Mobility mode of transport as an effective measure to both decarbonise transport and reduce congestion on Auckland's motorway under one scenario and the entire Auckland road network under a second scenario.

A mass deployment of motorcycle sized microCAR EVs reduces the carbon footprint two-fold. Firstly from the modal shift of Internal Combustion Engine Vehicles to Electric Vehicles which removes 4.6 tonnes of $CO_{2\text{-}e}$ emissions per vehicle per year. Secondly from reduced congestion which removes another 60% of $CO_{2\text{-}e}$ emissions in total per year.

Carbon emissions across the Auckland road network would reduce by 2 Mt $CO_{2\text{-}e}$ per year and save as much as $375M in annual overseas Carbon Credit purchases. The reduction of 2 Mt $CO_{2\text{-}e}$ would account for nearly a third of the 6.3 Mt $CO_{2\text{-}e}$ (Climate Change Commission 2021 Draft Advice for Consultation, 2021) emissions shortfall which makes this a significant measure for New Zealand to reach its Nationally Determined Contribution for climate change.

There are a number of other social, health and financial benefits to reducing congestion in Auckland's road network and the mass deployment of microCAR EVs is potentially a significant measure that is recommended for further research and development.

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Firstgas Group

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25 June 2021

Peter Mersi
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Sent via email: transportemissions@transport.govt.nz

Dear Peter

Firstgas Group contribution to Hīkina te Kohupara: Case for a hydrogen and biofuels integrated transport sector

Firstgas Group welcomes the opportunity to comment on the Ministry for Transport's (the Ministry) consultation document *"Hīkina te Kohupara – Kia mauri ora ai te iwi: Transport Emissions – Pathways to Net Zero by 2050"* released in May 2021.

Firstgas Group owns and operates Firstgas and Rockgas. These are consumer brands that supply natural gas and LPG to over 165,000 customers through our gas networks.[1] We are committed to helping New Zealand meet its 2050 emissions reduction targets and have a programme of work underway investigating the potential of transporting zero carbon gases like biogas and green hydrogen through our existing gas infrastructure.[2]

Firstgas Group agrees with the Ministry that there is a close relationship between the energy and transport sectors.[3] We consider that the introduction of zero carbon gases in the energy sector will support and facilitate the decarbonisation of the transport sector. We outline our support for:

- **Widescale hydrogen deployment in the transport sector** and how our existing gas infrastructure can achieve the economies of scale required to enable this transition
- **A comprehensive biofuels mandate** and the benefits of this mechanism for the energy sector.

Our bold future for hydrogen and the benefits to the transport sector

We believe the Ministry should consider hydrogen as a viable zero carbon fuel across the whole transport sector. Hydrogen has long been earmarked as a pathway to decarbonising the sector, and the consultation document notes its potential, especially in the heavy vehicle fleet. We would encourage the Ministry to also support the deployment of hydrogen into the personal vehicle fleet. We see benefits in allowing consumers the choice between different zero emission vehicles, whether it be electric or those powered by zero carbon fuel. Additionally, the wider the uptake of hydrogen vehicles, the greater the decrease in costs to for all participants.

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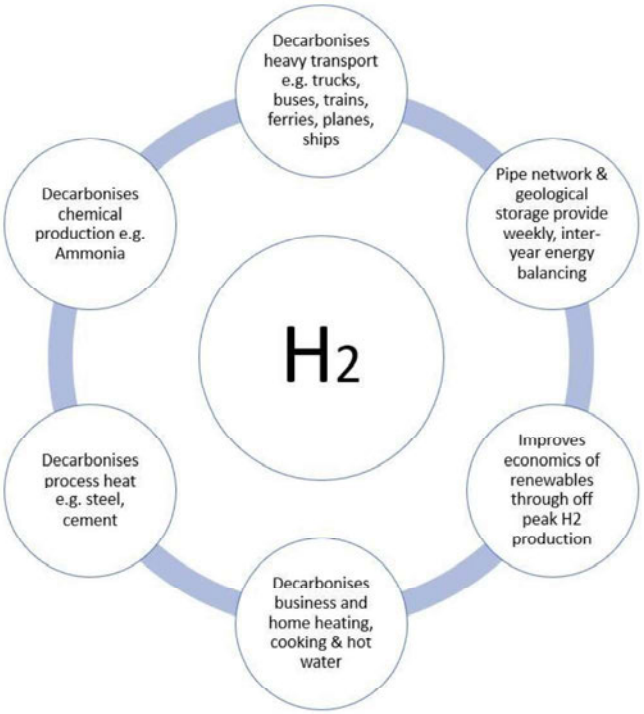
[1] **Attachment 1** provides a full summary of Firstgas Group.
[2] **Attachment 2** provides a full summary of Firstgas Group's work on Biogas and hydrogen.
[3] Page 23, *Hīkina te Kohupara: Transport Emissions - Pathways to Net Zero by 2050,* Ministry of Transport, May 2021.

There is already burgeoning deployment of hydrogen transport in New Zealand. Auckland Transport launched their hydrogen bus earlier this year.[4] Hyundai has their NEXO technology,[5] which demonstrates the potential for hydrogen in the personal vehicle fleet. There are also many other pilot projects underway overseas that seek to strengthen the viability of hydrogen in the transport sector.

We consider that the deployment of hydrogen through our gas infrastructure will play a key role in delivering the significant economies of scale required to be viable transport fuel source. Firstgas Group has a bold vision for hydrogen to decarbonise our gas network. In March 2021, we launched our hydrogen feasibility study. This was the first step in our hydrogen road map, and we hope to begin live trials in the next five years.[6] Figure 1 contains the wide-ranging benefits of hydrogen in New Zealand.

Figure 1 : Green hydrogen's decarbonisation and storage benefits



Our support for a comprehensive biofuels mandate

Firstgas Group believes a well-functioning biofuels mandate can facilitate further decarbonisation of LPG and natural gas. We would encourage the Ministry to develop their biofuels policy with these additional benefits in mind. These zero carbon fuels are:

- **BioLPG**: We consider that bioLPG is the most straight forward way to decarbonising the kiwi barbeque. BioLPG is a by-product of biofuel production. Traditionally, it has a much lower market value compared to biofuels and instead is burnt on site for electricity. We anticipate that there could be a large demand for bioLPG as a zero carbon alternative providing all the benefits New Zealanders currently enjoy from gas household appliances.
- **Biogas**: A well-functioning biofuels mandate could facilitate an emerging biogas market. Production of these two fuels require similar technology, but require the input of different feedstocks to produce the respective fuels. An initial biogas feasibility memo anticipated that

[4]Auckland Transport first hydrogen bus, https://at.govt.nz/about-us/news-events/new-zealand-s-first-hydrogen-fuel-cell-bus-unveiled/
[5] Hyundai hydrogen NEXO technology for cars, NEXO Fuel Cell | Hyundai New Zealand
[6] *Bringing zero carbon gas to Aotearoa: Hydrogen Feasibility Study – Summary Report*, March 2021, Firstgas Group, https://gasischanging.co.nz/assets/uploads/Firstgas-Group_Hydrogen-Feasibility-Study_web_pages_R1204.pdf

New Zealand could produce 17.6 PJs of biogas annually (around 15% of natural gas supplied). The feedstocks predominantly come from existing waste such as livestock manure.[7]

We encourage the Ministry to consider these positive linkages to other sectors when setting their biofuels mandate. We look forward to commenting on this matter further through your consultation on the sustainable biofuel mandate.[8]

Contact details

Firstgas Group would welcome the opportunity to meet with Ministry staff to discuss our work on zero carbon gases. To arrange this meeting or if you have any questions, please contact William Hancock, Regulatory Analyst, on 027 922 5775 or via email at william.hancock@firstgasgroup.co.nz.

Yours sincerely

Karen Collins
Regulatory and Policy Manager

[7] **Attachment 2** Contains further information about our work on biogas

[8] *Increasing the use of biofuels in transport*, 13 June 2021, Ministry of Transport and Ministry of Business, Innovation and Employment, https://www.mbie.govt.nz/dmsdocument/15020-increasing-the-use-of-biofuels-in-transport-consultation-paper-on-the-sustainable-biofuels-mandate-pdf

Attachment 1 About Firstgas Group

Our vision is to lead the delivery of New Zealand's energy in a changing world. Our mission is to safely and reliably deliver energy that's affordable and accessible to Kiwi families and businesses. We're really proud of this and of the important role we play in Kiwis' lives.

Based in New Plymouth, Firstgas Group is an umbrella brand consisting of Rockgas, Firstgas, Flexgas and Gas Services NZ. Firstgas and Rockgas are consumer brands that supply LPG and natural gas to over 165,000 customers through their gas network of over 2,500 kilometres of high-pressure transmission pipeline and 4,800 kilometres of distribution pipeline in the North Island, 36 local LPG suppliers, and over 180 Refill and Save locations across New Zealand.

Flexgas and Gas Services NZ are energy storage, operations and maintenance brands who make sure gas can be delivered safely and continuously. Flexgas operates the Ahuroa gas storage facility in central Taranaki. Gas Services NZ provides operational and maintenance support to all gas infrastructure owners, including the brands within Firstgas Group.[9]

New Zealand's homes have benefited from the choice of energy sources to meet their household needs. Currently there are over 400,000 homes in New Zealand who enjoy natural gas and LPG in their homes. These homes predominantly use gas for cooking, instant hot water, and heating. There are many benefits of having gas in the home. Hot water heating is currently the most energy. affordable way to heat a home and water.[10] Gas boilers heats water so that it is instantly available. It requires no onsite storage in the home.

Firstgas is investigating opportunities for using our assets in ways that help to reduce New Zealand's carbon emissions. Our gas transmission and distribution networks cover much of the North Island and are ideally placed to support the development, transfer, and use of emerging fuels such as hydrogen and/or biogas.

Firstgas rockgas Flexgas gas services nz

[9] For more information about Firstgas Group, visit www.firstgas.co.nz , www.rockgas.co.nz , www.flexgas.co.nz

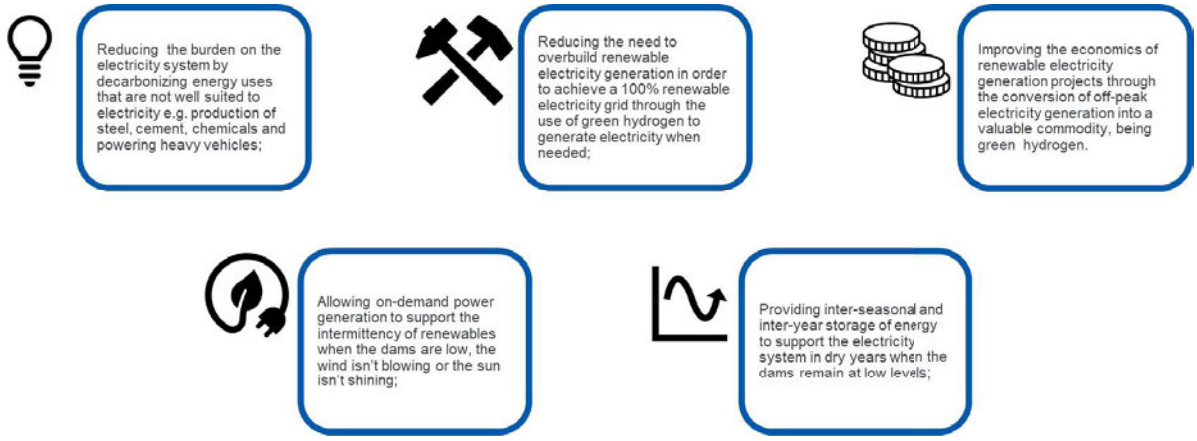
[10] Cost of heating homes - Home heating costs in 2020 - Consumer NZ

Attachment 2 Our work on biogas and hydrogen

Firstgas Group is undertaking a comprehensive programme of work to foster the introduction of promising zero carbon gases like biogas and green hydrogen. Deployment of these fuels can maximise New Zealand's existing gas infrastructure and can often be used in businesses' existing gas plant and appliances.

There is huge potential for zero carbon gases to complement our intermittent renewable energy generation in New Zealand, as outlined in Figures 1 and 2. In addition, for some energy users, zero carbon gas may be their only pathway to decarbonisation, such as high temperature process heat, refining, and the production of fertilizer and steel.[11]

Figure 2 Benefits of a zero carbon gas system



Unlocking the potential for biogas in New Zealand

Firstgas is currently investigating the feasibility of injecting biogas into one of our gas distribution networks. We have partnered with Beca, Fonterra, Lion, and the Energy Efficiency and Conservation Authority (EECA) to assess the potential of biogas to provide a possible substitute for natural gas and to understand what a successful biogas industry for New Zealand would look like.[12] We hope to deliver a report and pathway for biogas this year.

Currently, New Zealand produces 3.6 PJ (petajoules) per annum of biogas. It is burnt at site for heating or electricity generation. An initial summary indicates New Zealand could easily produce an additional 14 PJs of Biogas per year which is equivalent to around 10% of New Zealand's total natural gas consumption per year. However, due to the large amount of nutrient dense waste produced every year, we believe the true number of PJs per year could be much higher. Our intention is to supplement our natural gas pipelines with biogas to give greater network security and assist with New Zealand's decarbonisation of energy.

[11] Decarbonising with hydrogen, hydrogen council Hydrogen-Insights-2021.pdf (hydrogencouncil.com)
[12] Industry leaders collaborate to solve global energy challenges – First Gas, https://firstgas.co.nz/news/industry-leaders-collaborate-to-solve-global-energy-challenges/

Table 1 Potential for biogas in New Zealand[13]

Feedstock source	Existing biogas (PJ/Year)	Additional potential biogas (PJ/Year)
Landfill gas	3	-
Municipal wastewater	0.6	0.3
Industrial waste	-	2
Crop residue	-	1.3
Livestock manure	-	9
Municipal and commercial food waste	-	1.4
Total	**3.6**	**14**

Potential for transport of green hydrogen through existing gas infrastucture

We see green hydrogen as an exciting future fuel to support New Zealand's energy needs. Green hydrogen is produced through electrolysis of water, using electricity from renewable sources. Hydrogen can enable our renewable energy to penetrate deeper into our economy, decarbonising several hard-to-treat sectors, while providing large scale energy storage and energy system balancing.

We released our hydrogen report on 29 March 2021. Our report concluded that hydrogen is viable in a zero carbon energy system. We also confirmed the feasibility of converting Firstgas pipelines to hydrogen — initially as a blend, and then to 100% in the future. [14] The next phase of our work is to begin live trials of hydrogen. Our work programme will cover three key elements:

- **Confirming network characteristics**: While we know a lot about our gas networks, we do not know everything about the pipelines, equipment and appliances connected to all the gas networks in New Zealand. We need to catalogue all the equipment and pipes on the networks to understand our infrastructures readiness for hydrogen.
- **Building experiences with hydrogen**: The second focus area will build experience dealing with hydrogen on our network. We know from overseas that trials of hydrogen blends on distribution networks can be deployed rapidly. These trials and demonstration projects act to build confidence in hydrogen, build demand for hydrogen and serve as a practical example for regulations and safety assessments. We want to select a distribution network in the North Island that is blend ready (or nearly blend ready) to start building that experience. We intend to start with a small amount of hydrogen (1% by volume) and build to 20% by volume over the trial. We aim to kick design off in Q3 2021.
- **Building the hydrogen value chain**: Through our work we have discovered that storage is critical for leveraging the benefits of hydrogen in our energy system. Different types of storage suit different applications – large scale geological storage can help with inter-seasonal.

We hope to complete a live trial of hydrogen in the next five years, with the goal of beginning transport of blended green hydrogen-biogas-natural gas in our network by 2031.

For further information about our work on decarbonising the gas grid we encourage the Ministry to go to our website: www.gasischanging.co.nz

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[13] Biogas Technical Memo, Attachment 1 of Firstgas Group's submission on the Climate Change Commission's draft advice, March 2021 Firstgas-Group_CCC-submission-March-2020.pdf

[14] *Bringing Zero Carbon Gas to Aotearoa: Hydrogen Feasibility Study – Summary Report*, Firstgas Group, 29 March 2021, https://gasischanging.co.nz/our-path-to-zero-carbon-gas/hydrogen-trial-results/

CANTERBURY
Mayoral Forum

A strong regional economy with resilient, connected communities and a better quality of life, for all.

Transport Emissions
Ministry of Transport
PO Box 3175
Wellington 6140

by email: transportemissions@transport.govt.nz

Canterbury Regional Transport Committee and Canterbury Mayoral Forum joint submission on *Hīkina te Kohupara*

1. The Canterbury Regional Transport Committee (RTC) and the Canterbury Mayoral Forum (CMF) thank the Ministry of Transport for the opportunity to make a joint submission on *Hīkina te Kohupara – Kia mauri ora ai te iwi – Transport Emissions: Pathways to Net Zero by 2050*.

2. In this submission the RTC and CMF provide comment on the key issues for Canterbury in the consultation document.

Summary of key points

- Overall support for the avoid, shift, improve approach taken to identify emissions reduction opportunities.
- Support for both pathways one and four as the most impactful and cost-effective, noting that the pace and scale of change required is challenging under all scenarios.
- Note that success under any pathway requires strong, consistent direction from central government, backed by the mechanisms, funding and resourcing to deliver.
- While we support initiatives that disincentivise private vehicle use and encourage mode shift, we need to first invest significantly in increasing accessibility and travel choice to enable this mode shift.
- Support in principle for much greater use of pricing mechanisms, provided their use and application is considered spatially and accounts for local inequities in access.
- Improving public transport requires an additional source of PT funding.
- Consider that long-distance public transport could have a greater role in a low-emissions transport system serving and linking smaller rural communities.

- Support further investigation into:
    - the use of biofuels in heavy vehicles,
    - urban consolidation centres, and
    - electrification of short-haul freight tasks.
- Support for greater investment in rail.

Background and context

Canterbury Regional Transport Committee

3. The Canterbury Regional Transport Committee (RTC) is comprised of one representative from each of the Road Controlling Authorities (RCAs) in the Canterbury Region plus two regional councillors and Waka Kotahi. The committee was established pursuant to s106 of the Land Transport Management Act 2003 (LTMA). The principal responsibilities of the RTC are to:
    - develop a Regional Land Transport Plan for the Canterbury Region
    - ensure coordination of transport activities across road controlling authorities, and
    - represent and advocate for the transport interests of the Canterbury Region

4. The Canterbury Regional Council is also the secretariat for the South Island Regional Transport Committee Chairs group.

Canterbury Mayoral Forum

5. The CMF comprises the Mayors of the ten territorial local authorities in Canterbury and the Chair of the Canterbury Regional Council (Environment Canterbury), supported by our Chief Executives. The purpose of the Forum is to promote collaboration across the region and increase the effectiveness of local government in meeting the needs of Canterbury's communities.

6. All Canterbury councils actively participate in the Forum: the Kaikōura, Hurunui, Waimakariri, Selwyn, Ashburton, Timaru, Mackenzie, Waimate and Waitaki District Councils, the Christchurch City Council and the Canterbury Regional Council (Environment Canterbury).

7. The CMF published the *Mayoral Forum's Plan for Canterbury* in September 2020[1], which sets out the CMF's five key priorities in this local government term:
    - **Sustainable environmental management of our habitats** (land, air, water and ecosystems), focusing on land use and freshwater management.
    - **Shared economic prosperity –** through sustainable, value-added primary production, high-value manufacturing, high-value tourism, growing attracting and retaining a skilled workforce and attracting new businesses.
    - **Better freight transport options –** mode shift to optimise movement of long-distance freight by rail and coastal shipping to improve road safety, decrease carbon emissions and reduce wear and tear on the region's roads.

[1] The Plan for Canterbury is available here: https://canterburymayors.org.nz/forums/plan-for-canterbury/

- **Climate change mitigation and adaptation –** reducing our carbon footprint, building community resilience and making our infrastructure as strong as it can be.
- **Three Waters services –** securing safe drinking-water supplies, and ensuring that infrastructure, institutional arrangements and regulation enable the sustainable management of drinking water, wastewater and stormwater in Canterbury.

Our context

8. Canterbury is the largest region in New Zealand by land area, extending from north of the Clarence River to south of the Waitaki, and from the main divide of the Southern Alps to the South Pacific Ocean. We comprise some of the largest and fastest-growing urban areas in New Zealand. Greater Christchurch is New Zealand's second most populous urban area and the decentralisation of people and jobs away from Christchurch's central city post-earthquakes has had a substantial impact on our transport networks.

9. However, outside of these main urban areas, Canterbury is sparsely populated, and our rural communities often need to travel significant distances to access even basic services. This is particularly the case in our least populated districts; Kaikoura, Hurunui and Mackenzie, which represent three of the five least populated districts in the country. There is effectively no transport choice in these areas other than private vehicle, which makes these parts of the region almost entirely dependent on improvements in our vehicle fleet to reduce transport sector emissions.

10. Moving forward, we recognise the need to transition to a low-emissions future. This is about more than just transport. Our recently adopted Regional Land Transport Plan 2021-31 (RLTP) begins to set the foundations for change, proposing an investment of over $330m of capital investment in public transport, walking and cycling, including stage two of a significant expansion of public transport in Greater Christchurch. We have also been trialling an on-demand public transport service in Timaru which has shown promising results for our smaller urban areas.

11. The headline targets in our RLTP seek a 30% reduction in transport emissions and a 100% increase in rail freight tonnage in Canterbury by 2030. Achieving these targets will require a transformation of our existing transport planning and investment system. We applaud our colleagues in the Ministry in putting forward this discussion paper and look forward to working more closely with central government in transitioning the transport system to a low-emissions future.

Our role in Aotearoa's transport planning system

12. We support the avoid-shift-improve approach taken to identifying opportunities to reduce transport emissions. We note that local government has control of, or at least some influence over, several of these interventions, including those related to accelerating mode shift, reallocating road space, reprioritising investment away from additional roading capacity, and shaping urban form.

13. These interventions almost exclusively sit within the 'avoid' and 'shift' space which the Ministry considers to be the most impactful and cost effective in reducing overall transport sector

emissions. However, our ability to successfully implement these interventions is often constrained by:

- availability of funding
- slow decision-making processes
- committed investments that do not support reducing emissions
- need to balance emissions reduction against other outcomes (such as road to zero)

14. These levers also often have a long lag time between policy intervention and their impact on emissions. Given the raft of levers available and the urgency and potential impact of climate change the best response will be to enable as many levers as possible, rather than a select few.

15. While we support initiatives that disincentivise private vehicle travel, such as making greater use of pricing mechanisms, we also need to correspondingly invest significantly in increasing accessibility and travel choice by modes other than private vehicle, particularly in established urban areas.

16. We also support the level of attention in the draft discussion document afforded to equity. The transition to a low-emissions transport system for Aotearoa, and particularly the greater use and application of pricing mechanisms, has the potential to exacerbate existing inequities in access in many of our communities.

17. Bringing a spatial lens over transport decision making that carefully considers the locations and groups in our community with the least access to opportunities and who experience the greatest marginalisation, will enable a more just transition.

Theme 1

Urban Form

18. NZ cannot meet its targets without transport and transport cannot meet its targets without a corresponding change to land use. Influencing urban form and travel demand is critical, particularly in the medium to long-term. We need better travel options, swift changes to reallocate existing road space toward alternative modes, and tactical use of tools such as parking management and demand management/pricing tools.

19. Spatial planning and the development of spatial plans are a key tool to enable greater integration of land use and transport, which will in turn reduce emissions. However, spatial planning in and of itself does not create good outcomes without the mechanisms to deliver. We are most interested in new mechanisms to deliver on spatial plans.

20. Spatial plans take time to develop and consult on and there are many functions of local and central government that sit outside of spatial planning. There will continue to be a need to make investment decisions outside of spatial planning processes, and these decisions can still contribute toward reductions in transport emissions. While we support in principle investment conditional on spatial planning, we note that this is a blunt instrument and careful consideration would be needed as to how and where it is applied, as well as the limited resource available in local and central government to input into spatial plan development.

21. Of greater concern to us is the conflict between reducing transport emissions and the operation of competitive land markets. The NPS UD includes climate change as both an objective and a policy, yet it also requires councils to enable growth in greenfield areas and be responsive to out of sequence plan changes. This undermines the ability of local government to focus limited growth into locations that would support reducing transport sector emissions.

22. Delivering a quality, compact urban form is broadly consistent with the current policy direction in the Canterbury Regional Policy Statement. But it also requires upfront investment in infrastructure and addressing infrastructure funding and financing. Firstly, our ability to appropriately levy beneficiaries (primarily landowners) for the full cost of infrastructure, and secondly the balance sheet capacity of councils to carry the increased holding costs of greater investment in infrastructure.

23. Currently, to levy development contributions local councils need to have projects identified, costed, and included for funding in 10-year budgets. This is a significant constraint on our ability to respond to emerging needs and the pace and scale of change required. We need new mechanisms and support from central government to begin levying contributions on infrastructure 30 years in advance, and on projects where there is lesser certainty as to how, where and when the project will proceed.

24. Accordingly, we support the provision and deployment of new tools for councils, Kiwirail and Waka Kotahi to facilitate urban development outcomes that support transport-oriented development. In particular, land aggregation and assembly, plus infrastructure funding and financing mechanisms.

25. We support fast-tracked processes and new mechanisms to reallocate existing road space but note that this should be within environmental limits, and would require strong guidance on parking, specifically addressing how the removal of parking aligns with and delivers on higher-level outcomes. Reallocating road space and removing parking are very contentious interventions for our communities because they remove some options for people.

26. We support requiring transport emissions impact assessments in consenting/activity approval processes for high trip-generating activities. We note that this could be considered as part of resource management reform.

27. We strongly support an increased Funding Assistance Rate for walking and cycling improvements, road re-prioritisation and public transport improvements, however, note that this would require additional funding to the NLTF and/or new/additional funding sources.

28. We seek to work more closely with government on guidance and implementation of a ‘build back better’ approach to maintenance and renewals. We note that Tasman District Council have been taking a different approach to renewals that is promising, essentially reducing the width of sealed roads by removing shoulders, margins, berms and on-street parking when undertaking renewals. While this has little to no short-term cost saving, they claim it reduces future maintenance costs and it may have additional emissions benefits also. Maintaining and renewing our existing road networks forms the vast majority of our RLTP expenditure and we need to consider new approaches.

29. We note that urban form takes a long time to change, and the pace of change set out in pathways one and four are unlikely to be able to be achieved within the current regulatory framework. The resource management reforms may enable a faster pace of change.

Better travel options

30. We support further investment in public transport infrastructure, walking and cycling. We do not consider that there are significant regulatory barriers to increased uptake of walking and cycling, rather, a lack of incentives to reduce private vehicle use. The GPS on land transport is already strong in relation to supporting low emissions public transport, walking and cycling. The key issues are availability of funding and the onerous processes required to unlock that funding.

31. We suggest that Waka Kotahi should look at its existing business case tools and models and consider whether these remain fit for purpose in transitioning our transport system toward lower emissions. Currently these processes are largely based on historic measures and inputs in terms of journey time improvements, service elasticity and price elasticity etc. These may need reviewing and updating to ensure the right mix of projects are receiving funding.

Travel Demand Management and Pricing Mechanisms

32. We agree that pricing is a powerful tool to influence behaviour, and that we need more tools and better tools. However, the use and deployment of these tools needs to respond to local context to achieve its intended outcomes and avoid unintended consequences. We also think that behaviour change programmes have a significant role to play.

33. We note that pricing tools have the potential to support a range of transport outcomes, including enabling a shift to a more user-pays approach to funding road maintenance. Applying new pricing tools could allow a fairer allocation of costs, particularly for low volume, high value roads such as those used by forestry and quarrying operations.

34. We particularly support the greater use of pricing mechanisms in locations that are already well served by alternative transport modes, or in combination with investment in making alternative transport choices more attractive. Their use and application need to be considered spatially and account for local inequities in access.

35. We strongly support distance-based road pricing, particularly where this funding is directed into maintaining networks in lieu of reduced NLTF income as our vehicle fleet transitions to electric. This forms part of addressing the maintenance and renewals issue raised earlier in our submission.

36. We support in principle low emission zones in urban areas however note that this may result in behaviour counter to intended aims, by essentially incentivising development on the periphery and decentralisation of employment in established urban areas, particularly city centres.

37. We question the efficacy of congestion pricing, noting that if we are reliant on using congestion pricing as a tool to reduce transport emissions then we have essentially failed to effectively utilise other interventions. We note that Canterbury and Greater Christchurch does

not experience congestion levels akin to those experienced by Auckland and Wellington, and may not ever experience this if we can transition our transport system quickly enough.

38. We support the removal of maximum parking requirements to support compact urban development and the introduction of parking minimums, but only where their use and application is determined by local councils.

Theme 2

Improving our passenger vehicle fleet

39. Given the slow turnover of the vehicle fleet in Aotearoa, urgent action to accelerate the transition to light electric vehicles needs to happen immediately. Hīkina te Kohupara rightly focuses on addressing the primary barriers to electric vehicle uptake: purchase price and then supply. Pairing these with complementary interventions that increase the awareness of electric vehicles and their convenience (i.e. public fast chargers) can potentially support a swifter uptake.

40. We strongly support the introduction of a fuel efficiency standard to drive the supply of low emissions vehicle imports. We also support further investigation of a rolling age limit for used vehicles where it is accompanied with appropriate financial support mechanisms for lower income households, particularly in remote or rural areas.

41. We support the proposed feebate scheme as a short to medium term measure to plug the (albeit narrowing) price differential between fully electric and ICE vehicles. We would prefer a feebate scheme as opposed to a subsidy. We also support investigating a feebate or microloan scheme to support the take-up of electric bikes, particularly for the transport disadvantaged.

42. We are concerned about stewardship of used vehicles and the proportion of used vehicle materials that are recycled and/or reused. NZ needs to ensure that in making the transition to electric our used ICE vehicles are not simply exported overseas for use in less developed countries with poorer regulation and enforcement. In short, our ICE vehicles cannot become someone else's problem. We support a regulatory approach to this issue that focuses on the engine, not the vehicle.

43. We support government incentives and action to support the standardisation and further roll out of electric vehicle charging infrastructure. We look forward to working more closely with central government and other stakeholders in progressing this.

44. Canterbury has some of the highest rates of private vehicle use in Aotearoa. Many people in our rural districts are required to travel large distances to access employment and even basic services. We emphasise the importance of the shift to low emissions and electric vehicles for our rural communities, who are most reliant on private vehicle use for their livelihoods. Their needs need to be front-of-mind in making this shift because they have no other choice.

45. As an expansive rural farming and rural production area, suitable alternative fuelled vehicle options for our core rural industries (including agricultural machinery) are simply not available,

or likely to be available in the near future. Therefore, while the 2050 target is admirable, further work is required to make this target achievable.

46. We note that maintaining/retaining core services (such as banks) in our rural communities may have significant emissions benefits in terms of reduced vehicle kilometres travelled.

Public Transport fleet

47. We support the extension of the current Road User Charges (RUC) exemption for electric buses. We also consider that this should be expanded to include all zero-emission public transport (PT) vehicles, not just electric, e.g., hydrogen. We note that Environment Canterbury has already made significant commitments to transition its diesel bus fleet.

48. We strongly support further investment in rail. Over half of submitters on the Canterbury Regional Land Transport Plan expressed support for greater use of rail, for both passengers and freight, and we have recently extended an invitation to KiwiRail to appoint a representative to the Canterbury RTC.

49. We note an error in the report on page 75, Christchurch (unlike Auckland and Wellington) does not currently have an electrified metro passenger rail network, or any passenger rail network.

50. We note that the lack of an additional source of PT funding (other than the NLTF) is currently the biggest barrier to expanding the frequency and coverage of our public transport networks. Were additional sources of funding available we could consider significant improvements to our services in this area. We are currently trading off service improvements to invest in a zero emissions fleet.

51. We also consider that an enhanced national bus network that operates across regions and facilitates inter and intra-regional public transport, linking our smaller rural communities, is a critical part of a low emissions transport network. Inter-regional public transport services are currently treated as exempt under the LTMA, and the law may need to be changed to clarify this. Many contracted services would also require a heavy subsidy to operate, at least initially, which would necessitate the need for an additional funding source outside of what is currently available through the NLTF. However, we consider the existing public transport contracting, governance and operations framework/legislation is well-positioned for regions to collaborate on shared PT services. We understand the PTOM review may soon consider the issue of inter-regional services and whether they should remain exempt.

Theme 3

Freight

52. We support further use and deployment of intelligent transport systems. We think there is real value to be gained in transport planning from data generated by the freight network. Given the competitive nature of the road freight industry, we consider that a government-backed approach to enabling greater data collection, information sharing, and collaboration may be warranted.

53. In particular, we would like to see investigation of urban consolidation centres for first and last mile delivery. We also think further investigation into electrification of short-haul freight tasks is needed, particularly within major urban areas.

54. We recognise the need to invest in developing and rolling out greater use of biofuels given the slow turnover of our heavy vehicle fleet. Low carbon fuels will also have air quality benefits in our ports and urban areas. Heavy vehicles have a greater contribution to air pollutants than light vehicles. This would significantly reduce the emissions of nitrogen oxides, sulphur oxides and particulate matter which have known health impacts. The proposed response/pathway put forward for freight potentially positions the freight sector well to turn toward other energy sources (such as hydrogen) if these turn out to be a better alternative.

55. Stronger national guidance and direction is needed to regulate the location and mode of high trip-generating activities, for example quarrying, mining and extraction activities generating high volumes of heavy vehicle trips.

Conclusion

56. In summary, the RTC and CMF support pathways one and four. We consider these to be the most impactful and cost-effective. However, these two pathways will require a transformation of the existing transport planning and investment system. We need to effectively utilise a multitude of the available levers to shift our transport system at the pace and scale required. We would like to see commitments to some of the avoid and shift initiatives in governments' first emissions budget.

57. The pace and scale of change required is so great that alignment and integration becomes a significant issue, as is our capacity to deliver. We are already seeing examples of a lack of alignment across central government, even within individual policy statements (e.g. the NPS UD) and within ministries (e.g. the conflict between supporting competitive land markets and expressly providing for urban expansion in NPS UD versus the need to retain and protect elite and prime soils for food production in the proposed NPS HPL).

58. Success under any pathway requires strong, consistent direction from central government, backed by the mechanisms, funding and resourcing to deliver. Reforms across local government, resource management, housing and urban development need to be aligned and support collaboration across ministries. We will continue to work with the Ministry and with our colleagues in central government to ensure strong alignment and coordination through this transition.

59. Thank you once again for the opportunity to make a submission on this draft strategy.

60. The RTC and CMF secretariats are available to provide any further information or answer any questions the Ministry may have about this joint submission. Contact details are: Luke Carey, Senior Advisor – Transport, Environment Canterbury luke.carey@ecan.govt.nz 027 280 6318 or Maree McNeilly, Canterbury Mayoral Forum Secretariat, secretariat@canterburymayors.org.nz , 027 381 8924.

Ngā mihi

[redacted]

[redacted]

Peter Scott
Councillor Environment Canterbury
Chair, Canterbury Regional Transport Committee

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NGĀTI WHĀTUA ŌRĀKEI

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Tēnā koutou

Hīkina te Kohupara – Kia mauri ora ai te iwi

Transport Emissions: Pathways to Net Zero by 2050

Green Paper – Responses of Ngāti Whātua Ōrākei

25 June 2021

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1. Ngāti Whātua Ōrākei commends Government for its appreciation of the need for decisive action to address the climate change emergency, and we welcome the opportunity to provide feedback on the Transport Emissions Green Paper.
2. This commentary has been provided by the kaimahi of Ngāti Whātua Ōrākei, and has not at this stage been formally endorsed by the Trust.
3. We provide our responses based on the context of Tāmaki Makaurau (Auckland), this being our rohe, where we hold ahi kaa and mana whenua, and are the rightful Treaty partners of the Crown. Other iwi and hāpu will no doubt provide comment on their own rohe – we speak for ours.
4. In the context of the Green Paper, we have a particular concern regarding equitable outcomes. The Green Paper acknowledges that the transition to zero-carbon will carry considerable cost – we are most concerned to ensure that this cost burden does not fall disproportionately on the least advantaged sectors of society.
5. At the outset, it should be emphasised that Ngāti Whātua Ōrākei fully supports urgent action to address climate change – we consider this to be the clarion call of our times. It is clear that radical change is required in the way we organise our lives, economies and society. Meaningful change, however, will require radical action - we have concerns that the direction of the Green Paper *Hīkina te Kohupara – Kia mauri ora ai te iwi* is overly focussed on short-medium terms "quick wins" (particularly with respect to private car transport) whilst shying away from more difficult structural socio-economic questions which lie at the core of the issue.
6. Some of the commentary which follows may appear critical, but this is intended to be constructive – we stand willing and able to work with the Crown to safeguard te taiao, our

environment and te Ao, our world. We would welcome the opportunity to hui with the Ministry should this be agreeable.

7. Our commentary is not based explicitly on the actual questions posed in *Hīkina te Kohupara – Kia mauri ora ai te iwi* - we choose instead to address key points which do not fit readily in the framework of questions posed.

Guiding Principles

8. We can appreciate the need for "quick wins" in reducing national carbon emissions, but are concerned that the approach of the Green Paper (and government in general) is overly focused on the immediate need to do something tangible, without much evidence of thought regarding the wider context. Whilst subject of the Green Paper is transport, we take a holistic view of the world, and think that more needs to be done in consideration of the root causes which drive the demand for transport. There is some consideration of land-use in the Green Paper, but little else - the drivers underlying the *causes* and *need* for transport lack analysis.

9. As a society, we need to be addressing some deep-seated questions if meaningful change in the face of climate change is to be achieved: to wit; why do people live at distance from their primary centres of activity? Is this through choice, or is it forced? If the latter, what are the real drivers? Why do we rely on extended supply chains? Is this tenable in the long term? Where is our domestic capacity and resilience?; Can we justify a major tourism sector based in transcontinental aviation?. These are but a few examples of the kind of matters that need to be addressed.

10. Hard questions, the answers to which lie in the root of our socio-economic model. Yet for meaningful change they *must* be addressed. Tinkering with business-as-usual is futile - we see a very real danger that all that will be achieved are marginal interventions which fail to address the problem, whilst at the same time just making life generally more difficult - *especially for the poorest sectors of society*.

11. It is generally recognised that addressing climate change requires a reduction in per-capita carbon emissions to the order of 1 -1.5 tonnes per annum – around a 90% reduction. It is worth pausing to consider the actual implications of this! Government needs to be open in setting out the scale of the issue and the level of change required.

12. Against this context, our observations on the 7 guiding principles sets out in the Green Paper are as follows:

    Principle 1. The transport sector will play a lead role in meeting our 2050 net zero carbon target

    Transport is a significant sector in national carbon emissions, but to say *the transport sector will play a lead role* misses the point – it suggests that all that is required is an improvement to business-as-usual. Better to say *reducing our transport impact is a key priority in reducing national carbon emissions.* This is much broader in scope and admits consideration of the fundamentals.

Principle 2. We need to focus on moving to a zero carbon transport system, rather than offsetting emissions

We agree that offsetting is a "soft-option", which allows apparent action without actually addressing the root causes of the problem. It may also be deceptive in that benefits may be overstated whilst secondary adverse effects may be ignored – especially if system boundaries are not carefully defined. However, the focus needs to be on the *drivers* for transport, not just the operational impacts of the system.

Principle 3. We need to take a strategic approach to reducing transport emissions

Clearly a "strategic approach" is required – it is however, important to get the strategy right!

We have concern that a focus which " capitalises on short-term opportunities" risks a rush for the low hanging fruit without proper consideration of wider implications and structural inequities.

Principle 4. Co-ordinated action is required across the transport system to avoid and reduce emissions

This is clearly true, but the follow through is not apparent in the Green Paper. There is a strong focus on the personal transport (the "light vehicle fleet"), but aviation and freight remain lodged in the "too hard basket" – there is some talk of the "improve" element of the "A-S-I" framework in this context, but the Paper is notable silent on "Avoid" and "Shift" (otherwise identified as priorities). We consider that government needs to be bolder in contemplating fundamental structural shifts in these sectors (the lack of international obligation is not an excuse).

Principle 5. To ensure a Just Transition we need to manage the impacts and maximise the opportunities brought about by changes to the transport system

We consider this to be a key Principle. Again, whilst the Green Paper makes some acknowledgement of the issues, there is not much sign of a follow through. Equity need to be a very visible foundation for all recommendations. We see a very real risk that crude economic measures will be deployed which hit the least advantaged the hardest.

Principle 6. We need to forge a path to zero transport emissions by 2050, while recognising that there is not one way to get there

We are concerned that the 2050 date appears somewhat arbitrary (notwithstanding its whakapapa through higher order strategies and commitments), there is no clear rationale for this particular date and the attainment strategy appears to be something of a backfill job. It would be better to see a robust assessment of what is realistically attainable come first and lead the definition of the target date for zero-carbon. If climate change is to be truly addressed than an honest conversation needs to begin on exactly what required – this will take some time for people to assimilate and accept. Otherwise there is a danger of tokenism.

Principle 7. Innovation and technologies will play an important role in reducing emissions, but people are the key to our future

The appropriate role for government here is to *enable* the uptake of new technologies rather than *mandating* specific technologies. For example, it will be more appropriate to regulate for a reducing CO2 emissions cap on new vehicles rather than specifying the technology to achieve the reductions. To do otherwise risks stifling innovation and locking in obsoletion.

Missing Principles

13. We consider that there are 4 key principles missing – these are:

Principle A. Measures to achieve carbon reduction must be underpinned by robust life-cycle analysis

14. It is crucial to ensure that a cost-benefit analysis honestly captures the true carbon emissions - it is too easy to simply define a narrow target without accounting for the wider implications. Life-cycle analysis requires full consideration of the impacts of product or service, including CO^2, through the full supply chain (including end-of-life). It reveals the full costs of an activity in terms of real-world impacts.

15. For example, one thrust of the Green Paper is a rapid transition of public transport to electric buses. The question then arises; what happens to the old buses? When we posed this question to Auckland Transport, they said, "we will sell them". So the old buses are still in use, and still emitting carbon (possibly in New Zealand, possibly overseas). At the same time new buses appear, each of which, whilst notionally "zero carbon", carries a significant embedded carbon footprint. The net, or true, impact on carbon emissions is therefore hidden, actual "benefit" may even be negative - but the headline target, a "zero emissions bus fleet" may be touted as being met.

16. From a life-cycle-analysis it can be determined just what are the true costs and benefits of a proposal – this is vital if measures to reduce carbon are to be meaningful rather than tokenistic "do-something" gestures.

Principle B. Measures to achieve carbon reduction must take a whole-of-system view

17. A much greater degree of sophistication is required in considering the interactions of systems and the kinds of intervention that may be required.

18. The Green Paper acknowledges, for example, that land-use will have a significant role in reducing the need to travel. Thus, there is considerable coverage of the "compact urban form", "placemaking", and "liveable streets" (all of which comes of the "Smart-Growth" of "New-urbanism" development paradigm).

19. The aims of the compact city are laudable, but their realisation requires more than just land-use intervention. Physical changes in the urban structure are a long-term game (as noted in the Green Paper itself), and in any event only a partial solution.. Of more immediate concern is the structural inertia, to say nothing of inequity, created by current patterns of housing economics and tenure. Many people would no doubt love to live close to their

workplace -the harsh reality is that many simply cannot afford to do so. As the Green Paper itself notes:

> *Low-income households are more likely to face transport disadvantages and transport poverty than others in the population because they often live in car-dependent areas (e.g. on the edges of cities and in rural/remote areas), and face higher daily travel costs. Housing costs are usually cheaper in these areas relative to places with many jobs and amenities, but daily travel costs are often higher due to the need to travel long distances, usually by private car. This can perpetuate cycles of inequality, where low-income people living in areas with limited access to jobs, education, health care, and social services face high transport/living costs to participate in society.*

20. This is a useful summary of the issue, but the Green Paper does not provide any meaningful follow-through. Any strategy to reduce travel demand through land-use *must* address issues of mobility in the housing sector. Our economy is based on two key tenets – free movement of capital and free movement of people. The first works reasonably well, the second is completely hidebound by structural deficiencies in our housing supply and tenure models.

Principle C. Government must be willing to contemplate radical change where necessary, and to think creatively as to how a fusion of the principles of Te Ao Māori and Te Ao Pākehā may provide unique solutions

21. Transitioning to a zero-carbon economy (including transport) is a major whole-of-system undertaking. The issues we face are unprecedented - so must be the response. To date, notwithstanding the "principles" and "partnership" at the heart of Te Tiriti o Waitangi, our whole system is built around one paradigm of western thought – market economics. The time is ripe for Te Ao Māori to play a much more fundamental role – the solutions to our current problems can, and should, be forged from the marriage of the world-views.

22. Following the previous example, Government needs to be radical about housing solutions to enable workforce mobility – the current situation of increasingly implausible home-ownership, coupled to a rampant rental market cannot be part of many meaningful notion of "sustainable" development, and is entirely alien in te Ao Māori. It needs to be acknowledged that change is likely to imply nothing less than a major paradigm shift in housing supply, likely to be state-led, and looking at such models as rent-to-buy and shared equity, and drawing insights from the papakainga model. A novel ideal would be to provide a housing option as a "service" rather than a fixed asset- i.e. paying a mobile "lease" for accommodation service with flexibility in location). What is clear is that the current emphasis on open market housing is divisive and regressive. We can no longer afford to treat the housing market as sacrosanct – with a society polarised between the haves and the have-nots – the ramifications of this lie at the core of many of today's problems, not least transport.

23. This leads to a need to examine closely some of the foundations of our current way of living, and in particular, how the values of Te Ao Māori can inform our approaches.

Principle D. Promotion rather than coercion

24. There is now a high level of public acceptance that climate change is a major issue and requires action. We think it important that government should capitalise on this "good-will" factor as much as possible by employing encouragements for behaviour-change rather than penalties.

25. This is especially true in the use of economic tools. In an open economy, there is a natural tendency to use price mechanisms rather than regulation to drive change, but this needs to be carefully managed. For example, a blanket fuel-tax escalator would have obvious appeal as a means to reduce use – it is simple in application and has a direct effect on demand. It would, however, be extremely regressive – those who could afford such a tax would be able to carry on with existing behaviours – those who could not may be pushed to the edge (and we note in passing that New Zealand already has one of the worst mental health and depression rates in the developed world – adding financial pressure to fundamental life necessities is unlikely to help).

26. There is also a wider danger of political kick-back if coercive pressure becomes more than people will bear (this phenomenon has already been evident in other parts of the world). This could jeopardise the entire project. Better to work constructively with the existing grounding of positive public perception, rather than risk a reversal.

27. We therefore favour greater use of incentives rather than penalties – e.g. investing in attractive infrastructure for public transport and active travel (both of which are inherently more viable and attractive in the urban context); tax incentives for purchase of new (or imported) low emission vehicles (using emissions specifications not technology prescription); end-of-life scrappage schemes, etc.

28. Sweeping instruments such as universal fuel tax should be avoided, as these will punish the very people who are already trapped -people who are not making lifestyle "choices", but who are forced to live and work where they can. This is the essence of the "Just Transition".

29. It is possible that technology in the form of personal carbon accounting may provide a solution – the capacity now exists to capture personalise data according to individual circumstances.

Auckland

30. As a hāpu, Ngāti Whātua Ōrākei is unusual in that our entire rohe is now subsumed in the urban development of Auckland. We therefore have a particular interest in the form and functioning of the urban environment.

31. There are two major factors of significance as regards transport in Auckland. One is that the overheated nature of our housing market, dominated by private ownership and rental, has forced the least advantaged people to the periphery of the City (discussed above).

32. The second is that Auckland is has a polycentric urban form. The CBD, whist significant, does not have the sole force of attraction- there are numerous "local" centres, themselves of regional significance.

33. Together, these factors result in a more dispersed travel pattern, with circumferential, or centre-to centre journeys at least as significant as edge-to-centre travel. People may, for example live in West Auckland and commute to work in the South or North without traversing the City-centre. This makes public transport more complicated, as the traditional edge-centre hub model can only serve part of the need.

34. This also means, at least in the short-medium term, that a relatively high level of personal transport is required. Again, the least advantaged, driven to the City edge by housing costs, will tend to be the most car-dependent.

35. This is a complex problem, which will require a sophisticated approach – simple "one-size-fits-all" measures, such as a general fuel tax, will be regressive in their application. Policy needs to focus more on enabling measures rather than coercion (especially cost-based coercion).

36. Clearly, more investment is required in creating the infrastructure networks to enable public and active transport modes. Much good work is already being undertaken here, but more is needed.

37. As an aside, a particular aspect that is currently underdeveloped is the interaction between public transport (trains and buses) with active transport (walking, cycling and micro). Trains and buses only function where sufficient demand exists, this is generally on arterial routes and over longer distances. Active and micro transport offers freedom of individual movement at the local level. There needs to be more consideration as to how the two work together – this could be a simple as making provision for bicycles on trains or locating on-demand hire-bike/scooter parks at stations and bus interchanges.

38. The urban form inherently lends itself to public and active transport, but more imagination is required in making this the most attractive mode.

39. As noted above, however, we see the biggest barrier to change as being the inertia in housing mobility. People need to be able to afford to live in accordance with the proximity principle – we cannot address transport problems just by making transport more difficult, we need to address the root causes of travel demand, and one on the main ones is the displacement of people that occurs when housing is treated as just another free-market commodity.

40. In the short-medium term, therefore, we consider that change and in particular the transition to low emission vehicles needs to be explicitly underpinned by considerations of equitable outcomes. Government is correct to focus on new and imported vehicles as the first target, but needs to resist the temptation to push (penalise) those obliged to rely on the second hand fleet for what remains a basic life need. It may be that the transition to a lower emission fleet takes longer than government would like, but it is vital that carbon neutrality does not become another driver of regressive privilege.

41. In the longer term, the focus needs to be on the fundamental drivers which underly travel demand, and this will require going beyond transport to looks at the socio-economic inequalities in the wider system.

Freight and air transport

42. We suspect that most of the mooted supply chain proposals will already be being done to large extent (driven by business efficiency) and that limited gains could be realised here.

43. Government needs focus instead on enabling rail / inshore shipping. But again, a fundamental whole-system query is required. Put simply, we need to question our patterns of consumption and reliance on extended global supply chains. This is a significant structural risk in its own right, regardless of carbon considerations - supply chains are more fragile than generally recognised (as evidenced, for example, by the recent blockage of the Suez Canal and knock-on supply shocks). As a foundation of sustainable development, government needs to examine how we can promote a shift to local self-sufficiency together with reduced consumption.

44. The Green Paper appears based on an assumption of business as usual for freight and aviation, with some possible tinkering at the edges of technology and efficiency gains. Again, we need to take a harder and more honest look at the fundamentals: can New Zealand justify an extended international tourism sector? Can we justify reliance on global supply chains? These are clearly hard questions with long-term solutions, but they do ned to be addressed head-on in an honest an open manner. It is questions of this nature which lie at the heart of our ability to achieve meaningful change.

Conclusions

45. The Green Paper identifies the "light vehicle fleet", largely comprising personal transport, as the most amenable area for action in the short-medium term. This much is true - but let that not be mistaken for a robust strategy to address carbon emissions. It will at best remain a treatment of symptoms rather than underlying causes. The discussion in the green paper relies heavily in a technological fix (electrification), whilst leaving the fundamental systematic issue largely untouched – it remains very much based on the business as usual scenario.

46. Freight and aviation emissions are largely deferred, or even excused on the basis that they lie outside the framework of international commitments (the Paris agreement).

47. Real solutions to climate change will require a much more fundamental look at the way we structure our lives and society. There is a need for honest conversation about what is required – and this conversation needs to start now. Until then we will simply be applying sticking plasters and not addressing the malady.

48. That said, it is clearly necessary to take what action we can in the short term. The important thing is to be realistic (and honest) about what they are going to achieve – and to ensure that the burden of change does not fall disproportionately on the "easy targets", specifically the less advantaged sectors of society who have much less ability to make "lifestyle choices" regarding how they live, work and travel.

Recommendations

49. We have recommended 4 additional founding principles for addressing transport emissions to give greater rigour and justness. These should be adopted moving forward.

50. Government needs to commence an honest discussion about how as a society we can address the fundamental challenges exposed by climate change – in particular how we can draw on our unique advantage of the dual-world view and partnership of cultures envisioned, but not yet realised, in Te Tiriti.

51. Turning to the immediate focus of the Green Paper, in terms of short term actions aimed at the light vehicle fleet, we think it vital that government fully acknowledges the limitation of what is essentially a "sticking-plaster" approach, and is particularly careful that this does not result in a punitive quick hit on the least advantaged.

52. We agree that it is appropriate to place regulatory carbon emissions limits on new and imported vehicles, but resist universal fuel taxes as being fundamentally regressive.

53. Behaviour change should be based on making alternatives attractive, rather than by penalising existing travel patterns, which are often based on necessity rather than choice. It also needs to be recognised that public transport is primarily an urban solution, whilst walking and cycling will only ever cater for particular parts of society (generally speaking the young and active).

54. The issues we face offer opportunity as well as challenge – particularly in thinking about how Māori and western world views may combine in the search for solutions. Ngāti Whātua Ōrākei would welcome further discussion with the Ministry in this regard.

Submission lodged by

Andrew Brown

Mātanga kaiwhakamāhere rautaki (Strategic RMA Advisor)

On behalf of

Ngāti Whātua Ōrākei

Submission to

Ministry of Transport

Te Manatū Waka

Transport Emissions: Pathways to Net Zero by 2050 – Green Paper

June 2021

Objective ID: A12609673

Introduction

1. Tauranga City Council ("TCC") welcomes the opportunity to submit to the Transport Emissions: Pathway to Net Zero by 2050 Green Paper ("the Green Paper").

2. We are happy to discuss our submission further with you or provide additional information and evidence that would be of assistance. Enquires should be directed to:

Alistair Talbot, Team Leader: Transport Strategy & Planning

027 457 1017

alistair.talbot@tauranga.govt.nz

Overview

3. In general, TCC considers the Green Paper to be a comprehensive document that sets out, at a high level, the complex issues of transport emissions.

4. In considering the issues raised, the key issue for TCC (and for New Zealand) is that a one-size-fits-all pathway approach is not appropriate. Any approach needs to reflect the complexity and diversity of a community, a place, or a region, and then to target responses that are appropriate in that context.

5. For Tauranga, any targeted pathway would clearly need to reflect the fact that the city is a growth city as recognised by TCC being classed as a 'tier 1 local authority' as that term is used in the National Policy Statement on Urban Development, meaning that it is an area undertaking significant urban development in the coming years aligned to the Urban Form and Transport Initiative[1] (UFTI) 'Connected Centre's' concept.

6. The Green Paper should recognise and acknowledge existing Central, Regional and Local Government and Tangata Whenua partnerships, such as UFTI, and how they provide a strategic 'place-based' approach to manage matters like emissions, urban form and development and transport in an integrated way. Partnerships such as UFTI provide an established and robust framework to assess the particular issues and characteristics of an area (e.g. Tauranga has the second highest population density based on local authority area) and agree an integrated partnership based response.

7. To achieve a targeted and contextual response require an evidence-based approach at the appropriate local level. This will enable robust debate and testing and will ensure informed trade-off decisions are made on what is and is not the right set of interventions and their priorities.

8. We welcome ongoing dialogue with the Ministry and other government partners to establish the appropriate mix of targets and interventions for Tauranga and the wider western Bay of Plenty sub-region.

9. In our response to the Green Paper we have focussed our attention on the matters most relevant to Tauranga and other growth councils.

Consultation question 1: principles

10. TCC broadly agrees with the Commission's proposed principles.

11. TCC believes there is an opportunity for a further principle related to evidence-based decision-making. Currently evidence-based decision-making is referenced within Principle 6 as follows:

[1] https://ufti.org.nz

'We base our advice on evidence as much as possible. However, we also need to recognise that we will never have all the evidence we need about the future, and that future modelling is often based on experience.' (page 11)

12. While the above is true, in an area of policy making that is likely to be contentious in coming years, a principle that actively and strongly supports evidence-based decision-making is critical. We do not believe the above words fulfil this requirement.

13. With regard to *'Principle 2: We need to focus on moving to a zero carbon transport system, rather than offsetting emissions' (page 10)*, TCC submits that this might be unachievable by 2050 in some circumstances. This is an example of the need to find responses that reflect complex local scenarios, as identified in the Overview section above.

14. Emissions modelling prepared for the Western Bay of Plenty Transport System Plan[2] suggests that moving to a zero carbon transport system is unachievable in a 2050 timescale. Because of this, a plan for offsetting transport emissions will also need to be developed. Below is a graph from the Western Bay of Plenty Transport System Plan emissions report showing 2048 projections.

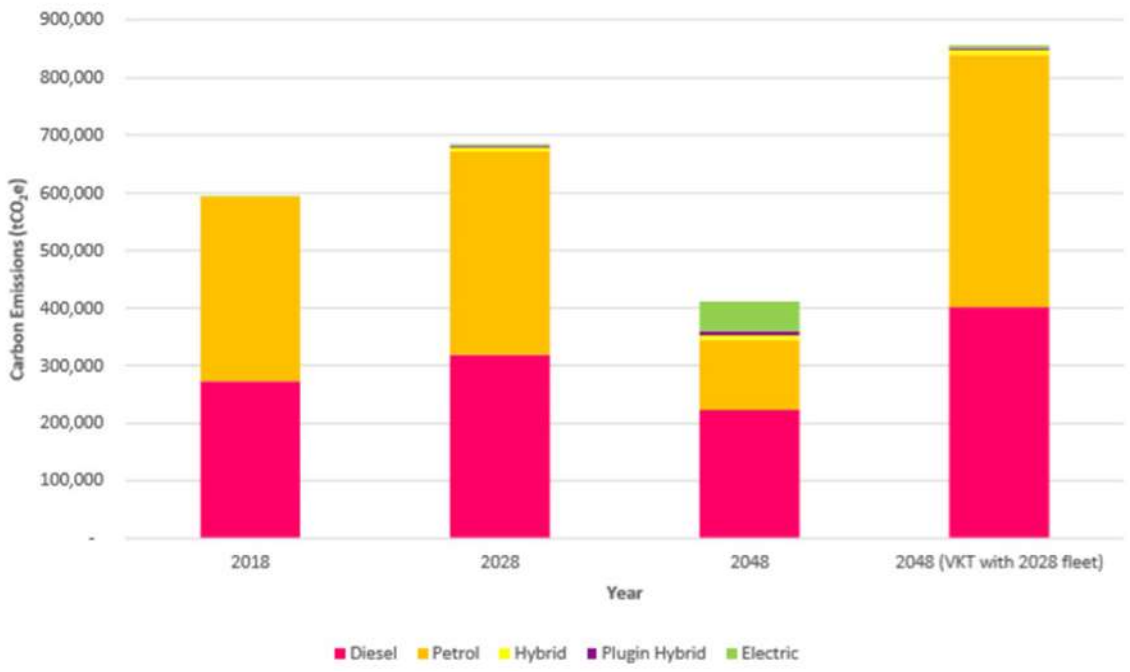

Figure 5. Total carbon emission projections with a breakdown per vehicle fuel type for 2018, 2028, 2048, and for the year 2048 based on 2048 VKT with 2028 fleet vehicle composition.

Consultation question 2: Government's role and levers available

15. TCC is supportive of the levers identified to reduce transport emissions but notes that they are generic levers that could arguably be applied to any public policy decision-making process. What will be important to all stakeholders is to understand the relative weight that government applies to each of these levers.

16. TCC strongly supports the following statements in the Green Paper:

[2] https://www.tauranga.govt.nz/council/council-documents/strategies-plans-and-reports/strategies/transport-plan

> *'Achieving emissions reduction targets will require a combined effort from all New Zealanders including central and local government, iwi, communities and businesses.' (page 20)*
>
> *'Stronger collaboration between central and local government will be important to ensure there is a joined up systems approach to mitigating transport emissions. This should include clear signals from Government regarding how Aotearoa will be stepping towards the net zero goal.' (page 22)*

17. Understanding the approach that central government intends to take towards collaborating with local government will have a strong influence on the ability of local government to contribute to the nation-wide approach to emissions reduction.

18. TCC also strongly supports the following 'key point' in the Green Paper:

> *'Central government has a particularly important role to play, given its influence in the transport system. Leadership will be required for the significant changes necessary to shift our transport system onto a zero emissions pathway.'*

19. As a high growth City that has, through UFTI, adopted a Connected Centres concept to urban development quality, frequent and reliable public transport is central to achieve connectivity in a low carbon way. Government should support this approach with improved financial support as well as enabling an easier, more streamlined process to business case, planning and implementing these treatments.

20. Leadership on national issues such as the decarbonisation of the vehicle fleets will be critical to our success to achieving the zero emissions target.

Consultation question 3: Government support for innovation

21. TCC supports central government's role in promoting and supporting innovation that will lead to reduced transport emissions.

22. TCC recommends further central government support for community-led initiatives and trials, not just trials led by local government or the private sector. Supporting community-led innovative initiatives that can be scaled up or down depending on local circumstances is likely to deliver good, sustainable outcomes.

23. Government could support such initiatives through, for instance, subsidies, education drives, or by identifying and removing regulatory barriers.

Consultation question 4: Integration of transport, land use and urban development

24. TCC acknowledges that the list of possible key actions in the Green Paper is comprehensive and reflects what is already considered to be good practice. Many of these actions are embedded in strategic growth management approaches such as SmartGrowth here in the western Bay of Plenty sub-region.

25. The key issue for many stakeholders, including TCC, is the provision of consistent government direction in respect to transport and transport funding. The current approach utilising short-term, three-year government policy statements does not provide this certainty.

26. Development of a long-term infrastructure strategy with cross-party political support will help enable true progress on land use and infrastructure projects which sometimes have lead-times stretching into decades.

27. Similarly, there is a strong need for government policy making across a number of areas to be aligned in order to meet shared objectives. Tauranga has experience of multiple instances of

key government policy direction in the area of transport, land use and urban development that are at best unaligned and at worse contradictory. Examples include, but re not limited to, carbon zero targets, the National Policy Statement – Urban Development, the National Policy Statement – Freshwater Management, and the Government Policy Statement on Land Transport.

28. With regard to possible key actions under the heading *'Placemaking and inclusive street design' (page 44)* consideration should be given to initiatives that allow local authorities greater ability to progress emission-reducing projects at pace. This may include reducing consultation requirements, reducing the lengthy business case process to secure funding, or by the removal or amendment of other regulatory requirements.

29. TCC also supports the concept of setting higher Funding Assistance Rates where there is agreement that the primary objective (or one of the primary objectives) of the project is to reduce emissions.

Consultation question 5: Other travel options

30. TCC considers that the travel options noted in the possible key actions section of the Green Paper (pages 54-56) are appropriate.

31. The key issue in implementing these options will be funding, including funding to support the initiatives where there is community uncertainty, particularly as it affects the community's own willingness to fund the change.

32. The need for evidence-based decision-making noted earlier in this submission is also relevant here as it will support the type of trade-off discussions across different outcomes that communities will need to undertake. At a local level it is recognised that while emissions reduction is important, so too are a number of other environmental outcomes that support and enhance liveability. Evidence-based discussions across these outcomes will ultimately enable better decision-making.

Consultation question 6: Role of pricing in demand management

33. TCC strongly supports further investigation into the issue of pricing. Economic levers have a track record of success in influencing behaviours and achieving outcomes and may be used to achieve broader urban form and transport system outcomes beyond just emissions reductions. Pricing mechanisms are considered to have high potential to achieve significant and rapid outcomes in places like Tauranga and we encourage Government to undertake further investigation of these as a priority.

34. As noted in the Green Paper (pages 62-63), there are a number of different pricing mechanisms; it is important that in each scenario the right mechanism is used to generate the desired outcome.

35. It should be noted that from a public policy perspective, it is easier to implement a new pricing regime if the proceeds from the pricing are hypothecated to develop appropriate solutions. This approach would be similar to, for example, the Auckland regional fuel tax and London's congestion charge.

36. TCC also notes that pricing 'solutions' should not be implemented alone. They should only be implemented once it is understood how they will complement other interventions in a broader package that supports the overall achievement of outcomes. Implemented alone, the risk of pricing initiatives creating unintended consequences is significant.

Please do not hesitate to contact us if you would like to discuss the matters raised in this submission further.

Neste submission to Ministry of Transport on Hīkina te Kohupara.

Thank you for the opportunity to submit to the consultation on Hīkina te Kohupara.

Neste is the world's leading producer of renewable diesel and sustainable aviation fuel. Neste MY Renewable Diesel, made from 100% renewable raw materials, can reduce net emissions by up to 90% when compared to fossil diesel. Our product can be used as a "drop-in" fuel, or a complete replacement for fossil diesel, that, unlike first generation biofuels, has the same chemical composition as fossil diesel. Neste MY Renewable Diesel is fully compatible with all diesel engines and the diesel fuel distribution infrastructure – from the refinery to service stations and end users. (more information about the difference between renewable diesel and biodiesel can be found here)

Neste MY Sustainable Aviation Fuel is made from sustainably sourced, renewable waste and residue raw materials. Neste MY Sustainable Aviation Fuel, in its neat form, reduces lifecycle greenhouse gas emissions by up to 80% compared to fossil jet fuel use (calculated with established life cycle assessment {LCA} methodologies, among which EU RED and CORSIA). Neste MY Sustainable Aviation Fuel can be used as a drop-in fuel as it is compatible with existing aircraft engines and airport infrastructure, requiring no extra investment into these.

As our expertise is in renewable fuels, we will limit our comments to questions relating to them.

Consultation question 1: Do you support the principles in Hīkina te Kohupara? Are there any other considerations that should be reflected in the principles?

Neste supports the principles outlined in Hikina te Kohupara and supports a holistic approach to tackle GHG and CO2 emissions from the transport sector will support New Zealand achieve its climate change objectives.

We support the Government's recognition that the achievement of zero transport emissions will require multiple pathways and recommend that actions can start immediately with low-emission solutions like renewable diesel and sustainable aviation fuels. Continued innovation and new developments in these areas as well as others will all support meeting the New Zealand Government's ambitions.

Consultation question 2: Is the government's role in reducing transport emissions clear? Are there other levers the government could use to reduce transport emissions?

It may be worth explicitly noting that government has significant influence as an owner and funder of vehicles.

The government owns KiwiRail, it funds public transport (buses, trains, ferries), and it has large fleets of vehicles owned by its agencies (notably, the Defence Force owns aircraft, ships, and vehicles).

Switching vehicles in these fleets to biofuels would be a simple and direct way of reducing emissions. This would also help drive private sector uptake by deepening the supply chain in New Zealand and providing leadership.

The levers outlined, including fiscal incentives and disincentives could be spelled out in a little more detail. For example, the government has introduced a range of policies to mitigate emissions from the transport sector. This includes road user charge exemptions for the light and heavy fleet to increase the uptake of low-emission vehicles. The government could consider lowering or removing road user charges for vehicles running on biofuels - for example renewable diesel - as these should be considered low-emission vehicles.

Consultation question 3: What more should Government do to encourage and support transport innovation that supports emissions reductions?

The New Zealand Government can foster demand for innovative transport products, such as renewable diesel, to encourage more investments in such technologies both domestically and internationally. It can do this through policies such as a biofuels mandate, adopting biofuels in public transport, and removing road user charges for vehicles using biofuels. In isolation, New Zealand's demand is small but, added to the similar policies in other countries, it contributes to a global market signal for companies to expand their investment in biofuels R&D and production capacity.

Consultation question 4: Do you think we have listed the most important actions the government could take to better integrate transport, land use and urban development to reduce transport emissions? Which of these possible actions do you think should be prioritised?

Neste has no comment to make on this consultation question

Consultation question 5: Are there other travel options that should be considered to encourage people to use alternative modes of transport? If so, what?

Neste has no comment to make on this consultation question.

Consultation question 6: Pricing is sometimes viewed as being controversial. However, international literature and experiences demonstrate it can play a role in changing behaviour. Do you have any views on the role demand management, and more specifically pricing, could play to help Aotearoa reach net zero by 2050?

Neste has no comment to make on this consultation question

Consultation question 7: Improving our fleet and moving towards electric vehicles and the use of sustainable alternative fuels will be important for our transition. Are there other possible actions that could help Aotearoa transition its light and heavy fleets more quickly, and which actions should be prioritised?

Biofuel presents an immediate opportunity for decarbonising the vehicles that are already in the fleet. Biofuels can be used immediately in most vehicles that are fossil fuel powered and produce significantly less emissions than fossil fuels.

A biofuels mandate and use of biofuels, particularly renewable diesel, in the public transport fleet are important actions the government could take to accelerate transition. Just focusing on the adoption of new motor types, such as EVs, overlooks that ICE vehicles will be part of the fleet for decades to come. Today, around 97% of vehicles entering the fleet are ICE vehicles and most of them will be in the fleet well into the 2030s or 2040s, contributing large amounts of emissions, unless action is taken to decarbonise them through the use of biofuels. Renewable diesel is particularly useful in this regard because it is a drop-in fuel that can replace fossil diesel entirely and reduces net emissions by 70-90%. The opportunity for higher levels of biofuel use are shown by the EU's Renewable Energy Directive II, which targets 14% renewable energy use in transport.

Consultation question 8: Do you support these possible actions to decarbonise the public transport fleet? Do you think we should consider any other actions?

We would suggest greater emphasis on the use of sustainable biofuels derived from waste and residue material such as sustainable synthetic diesel (to use the term used in the consultation document for drop-in products like Neste MY Renewable Diesel) from 2025 or earlier as a way to decrease the emissions from the legacy diesel-engined bus fleet.

The average age of a bus in the New Zealand fleet is 16 years. If this is maintained in the future, then by 2040, over half of buses in the fleet will have been purchased before the 2025 requirement for zero tail-pipe emission vehicles comes in. Albeit, this statistic is for all buses in New Zealand and public transport buses tend to be somewhat newer. Nonetheless, the large majority of the fleet is likely to be diesel-engined for the 2025-35 period. An opportunity exists to decarbonise these vehicles earlier by phasing in a requirement that they use a rising synthetic diesel component from 2025 to 2035, from which point (2035) they will have to be solely using synthetic diesel to operate.

This could align with, or build upon, the biofuels mandate.

Consultation question 9: Do you support the possible actions to reduce domestic aviation emissions? Do you think there are other actions we should consider?

Neste supports the key actions for Sustainable Aviation Fuel (SAF). It is clear that aviation will continue to depend on liquid fuels for the foreseeable future and SAF provides the only route to decarbonise aircraft using these fuels.

New Zealand can reduce emissions from domestic aviation through a variety of interventions including interventions like SAF that are a drop-in solution that can be implemented immediately. Other technologies that could substantially reduce emissions in aviation are still in the early phases of development, for example, electric powered large commercial passenger planes, while SAF is available now as a solution.

So, Neste would disagree with the comment that fuels for aviation are less developed. Neste MY Sustainable Aviation Fuel™ is a renewable aviation fuel that is made entirely from waste and residual flows and is available now and it is currently in use by numerous airlines including KLM, Lufthansa, ANA and American Airlines and being supplied to airports such as San Francisco, London Heathrow, Amsterdam Airport Schiphol and Frankfurt. This is part of a growing international market for SAF.

Neste SAF in its neat form and over the lifecycle reduces greenhouse gas emissions by up to 80% compared to fossil jet fuel (calculated with established life cycle assessment LCA methodologies, among which EU RED and CORSIA). Due to its chemical composition, Sustainable Aviation Fuels also provide additional non-CO2 benefits. SAF burns clean and its use reduces local emissions as it does not contain sulphur or aromatic components. Additional climate benefits can also be achieved through reduced particulate emissions that lead to reduced formation of contrail cirrus. According to the European Union Aviation Safety Agency (EASA), the total climate impact of aviation could be three times higher than what can be attributed to CO_2 alone, and contrail cirrus is estimated to be the largest driver of aviation's total climate impact. SAF provides climate benefits both through lifecycle greenhouse gas emission reduction and reduction in contrail cirrus, compared to use of fossil jet fuel. Sustainable Aviation Fuels fulfil the same quality and performance requirements as conventional jet fuel. SAF can currently already be blended with fossil jet fuel up to a maximum level of 50%.

Neste is expanding the production of our drop-in SAF. Neste's current SAF production capacity amounts to 100,000 tons annually. Through the on-going Singapore refinery expansion and the on-going modifications to Neste's Rotterdam refinery, Neste will have the capacity to produce 1.5 million tons of sustainable aviation fuel annually by the end of 2023.

The paper acknowledges that SAF has the most potential to reduce aviation emissions in the short to medium term and it is our recommendation that the government consider a biofuels mandate that is separate for aviation than road transport. Otherwise, it is a risk that the emission reductions in aviation will not be achieved. In order to genuinely make NZ aviation contribute to the climate goals, a mandate should cover all flights departing from NZ airports, not just domestic flights, as this could lead to competitive distortion. This approach would be aligned to the decisions already taken by Norway and Sweden on the implementation of their SAF mandates in 2020 and 2021, respectively. The obligated party under the Norwegian and Swedish policy frameworks is the fuel supplier, rather than the airline, and it would be

also practically challenging to define a fuel supplier mandate on the basis of airlines' flight destinations.

Consultation question 10: The freight supply chain is important to our domestic and international trade. Do you have any views on the feasibility of the possible actions in Aotearoa and which should be prioritised?

With freight transport across Aotearoa being critical for the economy to keep supply chains running and as there is a high degree of uncertainty around the timeframe in which zero emission freight vehicles will be commercially available, drop in biofuel options like Neste MY Renewable Diesel, which are immediate solutions, could accelerate decarbonisation of this sub-sector.

Sustainable biofuels, such as the paraffinic HVO (Renewable diesel) Neste produces, remain the most achievable and cost-efficient means to reduce GHG emissions in road transport, especially in the most challenging areas, such as fuelling heavy duty vehicles like trucks and buses. It also has applications in the diesel-electric locomotives operated by Kiwirail that carry the bulk of rail freight in New Zealand.

Consultation question 11: Decarbonising our freight modes and fuels will be essential for our net zero future. Are there any actions you consider we have not included in the key actions for freight modes and fuels?

We largely agree with the key actions laid out in this section, but want to make a few comments:

Phase out the registration of diesel heavy vehicles beyond a certain date, e.g. from 2035 or banning diesel trucks in certain cities or zones

2035 is likely to be a very ambitious date for such a ban, considering alternatives are nearly non-existent at present and the constraints on supplying batteries for both light and heavy vehicle electrification.

Implement a biofuels mandate

We strongly support an ambitious biofuels mandate that brings New Zealand up to the European benchmark. The suggested mandate in the draft biofuels mandate consultation are too low to make a meaningful difference and can easily be exceeded, especially with the use of drop-in renewable fuels. We will be elaborating further on this question in our submission on the biofuels mandate consultation.

Investigate the use of biofuels for rail.

We see great potential for the use of biofuels on the rail system. There will be a continued need for diesel-electric locomotives in New Zealand's rail system, even if the current level of electrification were to be expanded on the main trunk line, most of the network would remain unelectrified. Both the existing diesel-electric fleet and the ferries have long service lives ahead of them that could be decarbonised through the use of drop-in renewable diesel.

Consider implementing a carbon intensity standard for all transport fuels.

Neste supports a carbon intensity standard (GHG emission based or energy based) as part of a biofuels mandate.

It is preferable to a volumetric mandate as it recognises that different biofuels have different levels of net emissions. We prefer that the intensity standard apply across fuels types and does not require 'every drop' to have the reduced intensity.

This means that suppliers can choose to offer higher blends or even neat drop-in renewable fuels to customers that want this choice as a way of meeting the standard. It also means that the most cost-efficient way of improving carbon intensity across fuel types can be utilised.

This approach could also simplify supply chains for biofuels by allowing them to only be distributed to limited locations.

However, Neste recommends separating and having different mandates for the different transport sectors. International experience has shown that when mandates are set for liquid fuel users as a whole, fulfilment is achieved by skewing towards the lowest quality fuel users, such as the marine sector. This frustrates the objective of pushing biofuel adoption across the whole transport sector. This can be resolved by setting separate mandates for different sectors, like aviation, marine, road, and non-road.

Incentivise and/or provide financial support to expedite the uptake of renewable fuels.

Renewable fuels are, largely, more expensive than fossil fuels, but this could be reduced through incentives (on top of the ETS advantages).

Investigate and implement renewable fuel targets

Neste would support the introduction of a renewable fuel target that goes beyond biofuels to include other kinds of fuel (eg hydrogen). It is important that such a target does not comprise of sub-targets for each renewable fuel but sets a target across all renewable fuel types and is based on carbon savings. This allows the least-cost carbon reductions to prevail, rather than artificially protecting more expensive alternatives. Neste does recommend setting separate targets for different transport sectors.

Consultation question 12: A Just Transition for all of Aotearoa will be important as we transition to net zero. Are there other impacts that we have not identified?

Neste has no comment to make on this consultation question

Consultation question 13:Given the four potential pathways identified in Hīkina te Kohupara, each of which require many levers and policies to be achieved, which pathway to you think Aotearoa should follow to reduce transport emissions?

We agree that the transition to sustainable transport will require a mix of biofuels, electrification, mode shift, efficiency improvements, and other changes. We are not in a position to advise which combination is optimal for New Zealand. However, we do recommend that biofuels be seen as a quick win that does not need new infrastructure or new vehicles and can be readily slotted into the existing fuel supply chain.

Consultation question 14: Do you have any views on the policies that we propose should be considered for the first emissions budget?

Government could investigate increasing rates of fuel excise duty and implementing a transport fuels only carbon tax.

Increases to fuel excise duty for the purpose of incentivising decarbonisation or a transport fuels only carbon tax should not apply to biofuels, as this would undermine decarbonisation. We recommend investigating an exception to road user charges for vehicles using biofuels.

Implement a biofuel mandate to help address emissions from existing vehicle fleet.

Support as per other responses. We recommend that this mandate is more ambitious than the levels suggested in the biofuels mandate and align with the levels in Europe, targeting 14% of renewable energy used in transport by 2030.

Engage with the sector to identify what support is required to accelerate the decarbonisation of the bus and ferry fleet.

We support this approach.

Sustainable aviation fuel has the most potential to reduce aviation emissions in the short to medium term. The Government should keep working with the aviation industry to investigate its potential in New Zealand.

We agree and strongly support this view

Implement a biofuel mandate to help address emissions from aviation.

Support a separate and specific mandate for aviation.

Government should investigate the best opportunities for decarbonising trucks (building on the Ministry's Green Freight strategic working paper), including:

- *introducing CO2 standards for trucks*
- *increasing funding available to accelerate the uptake of zero and low emission trucks.*

Support.

Implement a biofuels mandate to help reduce emissions from trucks (in addition to light vehicles).

Support.

Consider subsidies to support domestic biofuel production.

Neste does not support subsidies for domestic biofuel production. Neste supports greater domestic production of biofuels in New Zealand, but this should sit alongside imports, which will be crucial to New Zealand achieving a significant increase in biofuel use.

Neste's Singapore refinery alone has a production capacity today that is ten times New Zealand's estimated demand by 2035. It does not matter to the climate whether a biofuel is produced in New Zealand or abroad and it may be that internationally produced biofuels have lower net emissions and other environmental benefits over New Zealand production. Additionally, biofuels will be displacing fossil fuels that are currently imported, so there is minimal impact on trade balances.

25 June 2021

Transport Emissions
Ministry of Transport
PO Box 3175
Wellington, 6140

Submitted via Consultation Website

Kia ora

Transport Emissions: Pathways to Net Zero by 2050: TIA Submission

Tourism Industry Aotearoa (TIA) welcomes the opportunity to comment on, and provide its support to, the Ministry of Transport's Green Paper: *Transport Emissions: Pathways to Net Zero by 2050.*

Overview comment
TIA sees the Green Paper as another important component of the comprehensive and building Government response to enabling Aotearoa New Zealand to meet its 2050 net zero emissions target.

We fully support the intent and direction of travel of this paper (pun intended) as it provides further transport-specific analysis to inform the Government's Emission Reduction Plan that is to be released by the end of 2021.

This submission sets out tourism-specific perspectives that we believe would strengthen the paper and in Attachment One we respond to the specific consultation questions from this tourism perspective. For broader feedback, we support the submission of the Sustainable Business Council that provides a fuller response across the matters raised in the Green Paper.

Tourism Industry Aotearoa
TIA is the peak body for the tourism industry in New Zealand. With over 1,300 members, TIA represents a range of tourism-related activities including hospitality, accommodation, adventure and other activities, attractions, retail, airports and airlines, transport, as well as related-tourism services.

TIA established the tourism industry's strategic document, *Tourism 2025 & Beyond – A Sustainable Growth Framework, Kaupapa Whakapakari Tāpoi*. This has the Vision of '*Growing a sustainable tourism industry that benefits New Zealanders'*.

TIA gives effect to this through the *New Zealand Tourism Sustainability Commitment - He kupu taurangi kia toitū ai te tāpoitanga* that was launched in 2017 to drive to a sustainable tourism future. Refer: https://sustainabletourism.nz/. It has the Vision of *'Leading the world in sustainable tourism'*. The TSC's carbon-related action being:

> ***Commitment 11***
> ***Carbon Reduction –*** *We act urgently to contribute to Aotearoa's transition to a net zero carbon economy*.

TOURISM INDUSTRY AOTEAROA
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Why a tourism perspective is needed
Tourism is an important part of the New Zealand system, whether the economy or society more generally. Pre-COVID-19, total annual tourism expenditure was $42 billion, of which $17.5 billion was international, or 21% of export earnings. Tourism directly and indirectly contributed 9.4% of GDP and 13.7% of employment.

The reason for citing these figures is to build a picture of the scale of the tourism industry in relation to the overall transport system in Aotearoa. Given tourism is all about mobility, and takes place in every corner of New Zealand, it can safely be assumed that tourism activity is at least 10% of the transport sector, and likely more. For this reason, it is important that consideration of transport emissions must actively factor in the specific needs and perspectives of the tourism industry.

Key points of feedback

1. **Work with industry**. As set out above, through the Tourism Sustainability Commitment, TIA has a position on carbon reduction that is based upon getting all tourism businesses to reduce their carbon emissions, and thereby reducing industry-level emissions. This is a bottom-up approach that is increasingly gaining traction.

   As a next step, TIA is investigating setting a net zero carbon emission target for the New Zealand tourism industry. We are still in the process of working out the time periods and the actions needed to get there, but we are certainly wanting quick action and to be ahead of the Government's overall goal for the economy. We are also looking at how aviation fits with a net zero target.

   This proactive stance reinforces that the Government's objective will be most readily achieved if it works directly with industry**.** In tourism's case, this could be with TIA for a pan-industry programme, and/or with sectors or businesses for specific initiatives, whether aviation, tourism vehicle fleet, etc. It will be the decisions and investments made by businesses that will play an important role in driving the necessary changes.

   TIA key point: Getting the right systems in place to drive and enable effective partnership efforts will be important and this can be better reflected in the paper.

2. **Tourism has its own characteristics**. Tourism is all about mobility, whether internationally, regionally or just heading down to the nearby beach. It involves transportation of some form, but a different type or pattern use than is typically seen on a daily basis in an urban environment. Tourism is about going to different places on an occasional basis. Given this, what matters to tourism is transport networks to take people to places of interest, many of which will be highly dispersed. With New Zealand being a touring destination, this is really important. For instance, aviation is very important, there are particular light vehicle needs whether rental or private cars or camper vans, cruise ships play an important part in regional dispersal of visitors, and in many places the traveller density is low so that public transport is not available.

   TIA key point: The particular characteristics and needs of the tourism industry need to be factored into the emission reduction programme of the wider transport sector.

3. **Aviation: biofuels and other strategies.** The Green Paper describes well the challenges of aviation in the pursuit of the zero emission goals. For TIA, aviation

emissions are the chief stumbling block for tourism and this needs to be openly acknowledged. Our stance through the Tourism Sustainability Commitment is to be as sustainable as we can across all areas while we seek other ways to tackle aviation.

Our aviation sector members, including Air New Zealand, recognise the challenges ahead and are keen to invest in how to operate more sustainably and how they can reduce emissions. This provides an opportunity to partner with government to jointly seek solutions.

While TIA disagrees with the Parliamentary Commissioner for the Environment's suggestion of introducing a departure tax to fund international research into alternative aviation fuels, the idea of collaborating with international research consortia has considerable merit.

In the meantime, TIA is keen that the essential contribution of aviation is well understood, whether this is for tourism, for business connections, for personal and family wellbeing and for creating aviation freight capacity that is utilised for carrying New Zealand's high value export products to international and domestic markets.

TIA key point: Given the vital role of aviation for international and domestic connectivity, priority needs to be given to emission reduction actions, particularly for sustainable aviation fuel.

4. **Getting the incentives right**. The Green Paper sets out a wide and impressive range of actions the government can and may take. In looking at these as a package, TIA is interested in how these create the positive incentives to encourage businesses to get involved. This positive approach aligns best with people in the tourism industry who typically love the environment in which they operate, and they deeply care for these places. TIA is firmly of the view that operators across the industry want to do the right thing. They get it. Then, the question is how to harness this sentiment. Our view is that positive motivation will work better in the long term as opposed to being forced to do this – carrot rather than stick. This means that care will be needed to position the government response as an opportunity for businesses to orient to a new future, a future that involves them at every step.

   TIA key point: Tourism businesses are keen to act for the good and getting the right incentives to support their actions and investments will be key to harnessing this sentiment.

5. **Pathways.** The pathways appear plausible, but TIA is not in a position to select between them. Rather, our interest is on getting started quickly and getting on with doing the things that can begin to make a difference now, and for the long term. For tourism, advancing electrification of the vehicle fleet is a key priority, as is making faster progress around sustainable aviation. As pointed out above, the tourism industry is intending to set its own targets that are ahead of the 2050 goal and aligned government effort will be key for enabling this to be achieved.

   TIA key point: Getting underway quickly and with effect on any of the pathways has to be the priority.

The points above are interrelated in that they all point to the need for government and industry to work together on this. Government is signaling that it will make major

policy changes in the transport sphere and more widely, and generally the industry supports this, and it wants and needs to be part of the solution. *He waka eke noa* – we are all in the same waka with this one.

Further Input
TIA would be very pleased to contribute further and we are available to support this submission in any way. Please do not hesitate to contact me if you have any questions - 021 609 674 or bruce.bassett@tia.org.nz.

Ngā mihi

Bruce Bassett
Strategy and Policy Manager
Tourism Industry Aotearoa

Attachment One. TIA Responses to Consultation Questions

No.	Question	TIA Response
1	Do you support the principles? Are there other considerations that should be reflected in the principles?	We support the principles as they are sound and comprehensive. Perhaps a missing aspect is around the need to validate the legitimacy of travel. Our society is mobility-based for trade, work, family, leisure, etc. As such, the challenge we face is to enable this mobility and to do so in ways that ensure that we can meet the targets that we set. If this is not possible, say due to technology limitations, then mitigation strategies are needed along with good understandings of the benefit of the travel in relation to its carbon emissions costs. Perhaps the partnership efforts of the public and private sectors could be covered also. There has to be a sense of shared effort.
2	Is the government's role in reducing transport emissions clear? Are there other levers that government could use to reduce transport emissions?	The paper is clear in setting out what the government can do, but it seems to be lacking the clear articulation of what industry can do, particularly in partnership with government. For instance, TIA is very keen to set emission reduction targets for the industry that are more ambitious that set out in this paper. It is clear that many tourism businesses are being progressive in their thinking and are acting ahead of the curve. The motivation of these operators seems to be as a strategic response to our exposure as a long-haul destination, but also because it is the 'right thing to do'.
3	What more should Government do to encourage and support transport innovation and supports emissions reductions?	For tourism, we see a need for a specific lens to be placed on tourism emissions given the 'difference' to the 'normal' travel that forms the bulk of the thinking in the paper. Aotearoa can be categorized as a 'touring destination' meaning the mobility of domestic and international visitors is an inherent part of what tourism is. As such, the industry would welcome government support to accelerate a range of tourism-related initiatives such as electrification of the tourism vehicle fleet (car, buses, campervans, ferries, etc.) and access to lower-carbon emission fuels. Aviation is the area that will be hardest to change in the near term with available technologies. Further government support for R&D around aviation biofuels would be a strategic action, and one where there are already industry partners to work with.
4	Do you think we have listed the most important actions the government could take to better integrate transport, land use and urban development? Which actions should be prioritised?	It logically follows that concentrating urban areas will result in lower per capita emissions. Given this, our cities should be developed accordingly. There will be strong benefits for the visitor economy, especially for urban visitors. A city with a good public transportation system will reduce the need for private vehicles, for instance. However, other forms of tourism involve travel activity to more dispersed and low-density areas, and this will need to be factored into the systems thinking – or network

		approach - that will shape and refine the policy's framework and responses.
5	Are there other travel options that should be considered to encourage people to use alternative modes of transport? If so, what?	Currently, there are very poor public transport links between key tourism locations and destinations, that make private vehicles the only viable option in many places. If private vehicles are used, then it is very important that there is a rapid transition to a low emissions vehicle fleet. While reducing aviation use may seem attractive, due to the geography of Aotearoa and with our well spread towns, cities and tourism destinations, there is significant difficulty substituting from aviation being an important mover of people nationally.
6	Pricing can play a role in changing behavior. Do you have any views on the role demand management and more specifically pricing could play to help Aotearoa reach net zero by 2050?	TIA considers that appropriate pricing mechanisms will play an important role to shift the NZ Inc system to being net zero. We see pricing as one of a suite of levers to be used. We also recognise the concept that those who generate the cost should pay the cost. The Emissions Trading Scheme is in place so users can 'pay' for the carbon they use, and we expect the cost of carbon will increase in coming years to increase the incentives on users to reduce their carbon use. We are generally wary of policies that may be seen as punitive or excessive. We consider that where a tough measure is needed, there should be an incentive to shift to a better direction. The new increased tax on high emission vehicles vs incentives to purchase electric vehicles is an example of the carrot and stick approach. Ultimately, the objective has to be to take the New Zealand public and industries willingly on the journey.
7	Moving to electric vehicles and use of sustainable fuels will be important for transition. What other actions could help active this transition more quickly?	The set of actions are comprehensive and if implemented will effect change. The tourism vehicle fleet has some characteristics that set it aside from the overall fleet. For instance, we have a large campervan fleet that is used to explore the many dispersed places in Aotearoa. How can we accelerate the electrification of this fleet? A number of operators have work underway but government support, particularly for R&D, could allow a faster transition. As discussed elsewhere, support for sustainable alternative fuels for aviation is the best near-term option and building on existing initiatives seems like a sensible way to proceed.
8	Do you support these possible actions to decarbonize the public transport fleet? Do you think we should consider any other actions?	We support the actions set out. We do think the tourism industry need differs to the norm and may need some accommodation. For instance, the long-distance bus fleet may not suit electrification at this point. Hydrogen may be a better option but will require further work.
9	Do you support the possible actions to reduce domestic aviation emissions? Do you think there are other actions to consider?	The paper recognises the serious challenges faced in this area and we support the actions set out as realistic. We particularly support investment in R&D on sustainable aviation fuels rather than around any subsequent programmes to produce these fuels.

		Existing industry initiatives are in place that should be able to partner with government to accelerate progress. Note that in our submission to the Climate Change Commission, we sought the inclusion of New Zealand's international aviation emissions alongside our domestic aviation emissions in the interests of transparency and our desire to act faster than might be possible under CORSIA.
10	The freight supply-chain is important to our domestic and international trade. Do you have views on possible actions and what should be prioritised?	We welcome this chapter of the paper as it highlights particularly the very important relationship between high value freight exports and international travel. While most international aviation capacity is in place because of tourism demand, the aircraft freight capacity can then be used for high-value trade. This is an important positive externality that should be further explored in the paper. Again, this reinforces the importance that a move to a low emission aviation industry is the target and <u>not</u> the reduction of capacity that will have consequential impacts on both tourism and high value trade.
11	Decarbonising freight modes and fuels will be essential to reach net zero. Are there any actions you consider have not been included?	We support the set of actions. As pointed out earlier, aviation and the tourism-specific transport modes are of primary interest to TIA. We welcome the maritime actions set out in this section. These appear reasonable although there will need to be particularly consideration given to the cruise industry. For instance, what would energy efficiency targets look like, what would speed limits have on point-to-point itineraries and would shore-side power supply work in practice. As with other parts of the tourism industry there are ferry operators who are progressing alternative fuel options and so will likely be in a position to work with government to accelerate progress.
12	A just transition for all of Aotearoa will be important as we transition to net zero. Are there other impacts that we have not identified?	We appreciate that the government anticipates difficult transitions for parts of society and that it will strive to mitigate these pain points. From a tourism industry perspective, how this transition will play out over the longer term is unknown at this stage. The tourism industry is positioning itself to act proactively to drive the transition to its benefit, as opposed to waiting for things to be done to the industry. We certainly see challenges, but we also see opportunities if we can make sure the New Zealand tourism industry is the most sustainable tourism industry in the world – a position that will drive considerable competitive advantage for Aotearoa. Zero emissions will be an important part of this, and we will be pursuing our broad-based sustainability strategy at the same time.
13	Which pathways do you think Aotearoa should follow to reduce transport emissions?	Our general approach, as it was with the Climate Change Commission, is that the most important thing is to get a clear direction of travel cemented in place based on a sound set of policies, incentives and initiatives. Each of the pathways seems to move us along, some faster than others. At a macro level, the transition will require public and private sector investment and this effort should be done in conjunction where this makes sense.

		We were encouraged by the Climate Change Commission that indicated that the transition will be affordable at a national level, and we also suspect that many upside opportunities will emerge once we get going. As such, 'how' it is done will likely be more important than any particular pathway that we nominally select at this stage. The journey will be key.

25 June 2021

Tēnā koe me koutou mā

Hīkina te Kohupara Kia mauri ora ai to iwi

Healthy Families NZ is a large-scale prevention initiative funded by the Ministry of Health. It brings community leadership together in a united effort for better health and wellbeing in the places where we live, learn, work and play.

Transport choice is one of the many factors that influence the health and wellbeing of our communities. The transition to a low carbon transport system is an opportunity to shift to a system that provides healthier options and considers the diverse needs of our communities.

The following submission is joint feedback from three Healthy Families NZ localities - Invercargill, Waitākere and Hutt Valley. It focuses on the need to consider transport equity and the opportunity for co-benefits of improved health and wellbeing in the transition to a zero carbon future.

We are happy to provide further input and clarification on any of the points raised and would welcome the opportunity to be involved further.

The key contact for this submission is:

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Ngā mihi nui

Healthy Families Invercargill, Waitākere and Hutt Valley

Introduction

Transport choice has significant impacts on more than just our climate. It impacts the health and wellbeing of our communities. The transition to a low carbon transport system is a once in a generation opportunity to also address health and transport inequities in our society.

Streets designed for cars without focusing on other means of moving around our cities and neighbourhoods make it unattractive to use active modes of transport, even over short distances. Being active has been designed out of our day to day life. Consequently, walking and cycling make up only a small amount of mode share with most trips being taken by private vehicle.

One of the key contributors to poor health and wellbeing is the lack of physical activity in our daily lives. A World Health Organisation report ranked New Zealand as the fourteenth most inactive country out of 168 countries worldwide. An increase in physical inactivity over the decades has led to a rise in chronic diseases including obesity and diabetes which are preventable and where physical activity has an important role to play. There is also a large body of evidence that shows that physical activity reduces depression and anxiety and positively contributes to mental wellbeing. This health burden disproportionately affects our Māori and Pasifika peoples.

We therefore support the approach of Hīkina te Kohupara to focus on a **fair, equitable and inclusive** transition that addresses the immediate need to reduce emissions while improving the health and wellbeing of our communities.

Consultation question 1 - Do you support the principles in Hīkina te Kohupara? Are there any other considerations that should be reflected in the principles?

Overall we support the principles set out in Hīkina te Kohupara. We have provided comments on specific principles below.

Principle 1. The transport sector will play a lead role in meeting our 2050 net zero carbon target

We support this principle and appreciate the opportunity this will provide to re-shape the transport system which currently does not serve all of our people equitably.

Principle 2. We need to focus on moving to a zero carbon transport system, rather than offsetting emissions

We support this principle and appreciate the opportunity this will provide to re-shape the transport system which currently does not serve all of our people equitably.

Principle 3. We need to take a strategic approach to reducing transport emissions

We support the government taking a strategic approach and prioritisation of initiatives that will have the largest impact on reducing emissions while delivering value for society through co-benefits.

Beyond strategic planning, we support and actively encourage taking a systems thinking approach. Systems thinking aims to understand the interconnected conditions that hold the status quo in place. This allows for a deeper understanding of the issues and how the system enables these to prevail. It also allows for greater appreciation and understanding of the interconnected co-benefits or unintended consequences of changes to the transport system.

Healthy Families NZ localities are currently using systems thinking approaches to enable healthy city design and active transport options and can demonstrate the value of this approach.

Principle 4. Co-ordinated action is required across the transport system to avoid and reduce emissions

We agree that co-ordinated action is required from the government with iwi, community, businesses and Councils to reduce transport emissions, as outlined in principle 4.

This transition provides an opportunity for agencies to strengthen the ways of working together in the transport system. The Healthy Families NZ approach and Waka Kotahi's Innovating Streets for People Programme are good examples of how different levels of government and community can work together in a co-ordinated, collaborative way for effective outcomes.

An opportunity that should be explored for greater collaboration and co-ordination to achieve active transport outcomes is through a Regional Community of Practice alongside central government (Waka Kotahi) playing a facilitating role. A Regional Community of Practice would allow for sharing of learnings, best practice, peer support and capability development across multiple sectors and agencies as we transition our transport system.

Principle 5. To ensure a Just Transition we need to manage the impacts and maximise the opportunities brought about by changes to the transport system

A Just Transition is a once in a lifetime opportunity to address the decreasing liveability of our cities and towns and address transport inequity.

An equitable transport system ensures everyone has a choice on how they travel and everyone can participate fully in those choices without barriers. Moving towards an equitable transport system requires existing inequities to be better understood, addressed and improved for those who are currently disadvantaged by the system.

Communities experiencing the highest levels of deprivation would benefit the most from greater transport choices. Transport expenditure and design that takes into consideration where the greatest need is will create the most impact. We strongly suggest making transport equity a key decision making principle for new micro-mobility projects which will support us to reach a fairer, equitable and inclusive transport system. Infrastructure spend could be prioritised where the highest levels of preventable chronic disease are in our communities.

Another imperative to a Just Transition is to ensure policies and infrastructure are designed to consider the diverse needs of our communities. For example, infrastructure that supports walking and cycling and micro-mobility modes should be suitable for women, children and those with limited mobility.

While we acknowledge that electric vehicles will be a critical part of the transition to a net zero carbon emissions transport system, these will not be accessible for those who are already experiencing transport inequity. Micro-mobility or public transport initiatives that reduce or remove transport costs for those that need it most are important tools to address transport inequity while improving health and wellbeing outcomes.

Principle 6. We need to forge a path to zero transport emissions by 2050, while recognising that there is not one way to get there

An adaptable response is critical to achieving an effective and efficient transition. To increase adaptability there will need to be system changes that enable more flexibility.

There are many ways that the government can forge a path to zero transport emissions. The path taken should be the one that enables our communities to thrive in the coming generations. The co-benefits in health, wellbeing and improving equity need to be adequately considered to enable informed decisions. This may require a change to the way cost/benefit ratios are undertaken with emphasis placed on comprehensive analysis of the health benefits.

Active transport delivers significantly higher co-benefits over zero emissions vehicles including to mental health. The benefits to mental health of prioritising active modes of transport should be adequately quantified and reported. This approach, if communicated effectively, will help communities to understand the benefits of the changes required.

Principle 7. Innovation and technologies will play an important role in reducing emissions, but people are the key to our future

Changes in technology will shape the future of the transport system. A relatively new technology that is rapidly evolving is e-bikes and micro-mobility technology. E-bike sales, for example, are on the rise globally and may compete with new car sales.

Micro-mobility technology could result in this form of transport playing a more significant role in the transition to a zero carbon transport system that is forecasted by the Climate Change Commissions' report *'Ināia tonu nei: a low emissions future for Aotearoa'*.

There is a need to consider how we can make micro-mobility choices available to more people and systematically remove the barriers to choosing these healthier transport options for trips that are not walkable.

Consultation question 2 - Is the government's role in reducing transport emissions clear? Are there other levers the government could use to reduce transport emissions?

We support a co-ordinated, collaborative approach with the government showing leadership and working alongside local government, iwi, communities and businesses. This could include the government taking a more active role in understanding the barriers to change in individual localities and communities.

Under-resourcing in active transport capability and capacity at local government level is a barrier that is evident in some areas. Government should seek to understand all Council's capability and capacity to deliver on the changes required and support them to address this. This may involve government funded roles in local government, similar to Eco Design Adviser roles funded by the Energy Efficiency and Conservation Authority.

Transport costs are a barrier to some whānau participating fully in social and economic opportunities and we support the Ministry of Transport working with the Ministries of Social Development and Health to realise the co-benefits of a healthier, more equitable transport system.

Sport New Zealand is another agency which could support the Ministry of Transport in the goal to increase active transport modes.

Consultation question 3 - What more should Government do to encourage and support transport innovation?

Urban form, placemaking and infrastructure design will all be key areas where innovation is important to support a low carbon, healthy and equitable transport system.

Waka Kotahi's Innovating Streets for People Programme has demonstrated how the government can support Councils and communities to innovate in street design and placemaking. Further Innovating Streets for People Programmes, or other similar initiatives, will enable greater innovation in transport infrastructure and set the scene for the changes that will need to be made within urban environments for the future of urban mobility.

Technological advances that are supported by government funding should be implemented and designed so that they are inclusive and do not exacerbate existing transport inequities.

Consultation question 4 - Do you think we have listed the most important actions the government could take to better integrate transport, land use and urban development to reduce transport emissions? Which of these possible actions do you think should be prioritised?

At the heart of integrating transport, land use and urban development is liveability. Local Councils should be required and supported by government to deliver more liveable urban environments including low traffic neighbourhoods, placemaking and innovative street design changes.

Making streets attractive places to walk, wheel and play requires designing with communities, as has been done by Councils alongside Waka Kotahi in the Innovating Streets for People Programme. In this transition, strong leadership and a clear collective vision at central and local government is important to bring communities along on the journey.

Storytelling and communications are important tools and local Councils should be supported and adequately funded to ensure these functions are well executed in placemaking and Innovating Streets for People initiatives. This is an important part of getting buy-in and bringing communities along on the journey in the transition.

We agree that re-shaping streets to support public transport, active transport and placemaking could be done swiftly and cost-effectively provided learnings from the Innovating Streets for People Programme are integrated into the next revision of Innovating Streets for People funding or any new initiatives designed for this purpose. These include changes to regulations to better enable tactical urbanism, a clear vision from central government and a government backed mandate for change, as outlined above.

Supporting and investing in active transport planning, placemaking and urban design capability and capacity within local government would have significant benefits.

Consultation question 5 - Are there other travel options that should be considered to encourage people to use alternative modes of transport? If so, what?

We agree that there is major untapped potential for walking and cycling to increase in mode share. We would like to see the government put out ambitious targets and increased funding for increasing vehicle kilometers travelled by these modes given the significant co-benefits for health.

A network of cycle infrastructure that caters for the diverse needs of riders, including women transporting children, is important to realising the potential for cycling mode share to increase.

E-bikes can enable greater participation in cycling, particularly for women who may need to transport several children. Initiatives to support uptake of e-bikes in communities where upfront cost is a barrier would contribute towards transport equity. A mass roll out of secure cycle parking for e-bikes would also support the uptake of this technology.

Shared micro-mobility is another way to address transport equity as it could be subsidised by the government for low income earners. Alternatively, small scale micro-mobility sharing could occur in government-led urban developments, such as villages created by Kāinga Ora. Another form of shared micro-mobility that could be supported by the government is company fleets of e-bikes, which could be tax deductible.

Public transport is an area where subsidies are already provided to some users such as students and children. This could be expanded to those who would benefit most from access to low-cost public transport.

We agree that public education and behaviour change campaigns are required, and emphasise the need for leadership and vision setting by central government in this area.

Consultation question 6 - Pricing is sometimes viewed as being controversial. However, international literature and experiences demonstrate it can play a role in changing behaviour. Do you have any views on the role demand management, and more specifically pricing, could play to help Aotearoa reach net zero by 2050?

The impact of pricing mechanisms on low-income earners must be carefully considered in order to limit exacerbating existing transport inequities.

Consultation question 7 - Improving our fleet and moving towards electric vehicles and the use of sustainable alternative fuels will be important for our transition.
Are there other possible actions that could help Aotearoa transition its light and heavy fleets more quickly, and which actions should be prioritised?

We do not have anything to add to this discussion.

Consultation question 8 - Do you support these possible actions to decarbonise the public transport fleet? Do you think we should consider any other actions?

We do not have anything to add to this discussion.

Consultation question 9 - Do you support the possible actions to reduce domestic aviation emissions? Do you think there are other actions we should consider?

We do not have anything to add to this discussion.

Consultation question 10 - The freight supply chain is important to our domestic and international trade. Do you have any views on the feasibility of the possible actions in Aotearoa and which should be prioritised?

We do not have anything to add to this discussion.

Consultation question 11 - Decarbonising our freight modes and fuels will be essential for our net zero future. Are there any actions you consider we have not included in the key actions for freight modes and fuels?

We do not have anything to add to this discussion.

Consultation question 12 - A Just Transition for all of Aotearoa will be important as we transition to net zero. Are there other impacts that we have not identified?

The transition to a low-carbon transport system is an opportunity to address transport equity and improve liveability in Aotearoa's towns and cities.

Providing transport choices for those who experience inequities can be facilitated through new infrastructure, improved public transport service and reducing the cost of public or active transport. We support subsidies for public transport and e-bikes for those on low incomes.

We also support locating social housing in areas where there is access to walking and cycling infrastructure and activities are within walking or cycling distance.

We support marae based advisory groups to inform future government policy on the role of Māori and specific support for Māori in the transition to a low-carbon future.

Consultation question 13 - Given the four potential pathways identified in Hikina te Kohupara, each of which require many levers and policies to be achieved, which pathway do you think Aotearoa should follow to reduce transport emissions?

Pathway 4 which involves the most significant reduction in light vehicle distances travelled through swiftly enabling quality compact urban environments, placemaking and high targets in increases in public transport, walking, cycling and shared mobility mode share.

Consultation question 14 - Do you have any views on the policies that we propose should be considered for the first emissions budget?

We support the wide-range of policies outlined in budget period 1 and commend the prioritisation of shaping towns and cities and providing better travel options in the first emissions budget.

Below are further policies we believe should be considered for the first emissions budget:

- Support Councils to provide for active transport through funding capability and capacity for active transport planners. Government funded active transport planners could form a network either regionally or nationally for greater collaboration.
- Create contestable funds for medium-large scale local micro-mobility initiatives that seek to reduce the barriers to participation in individual localities and communities.
- Fund a communication and behaviour change campaign that seeks to inform communities on the journey we'll collectively need to take towards safer, healthier streets including reallocating street space.
- Review how co-benefits are considered, alongside public health experts and systems change makers, to ensure the full benefit to health and wellbeing are being considered, quantified, reported and communicated to communities.
- Investigate policy levers to ensure transport equity is adequately considered in decision making on infrastructure spend for transport.
- Investigate shifting public transport to public ownership to ensure it can be delivered in a way that considers transport equity.
- Form an advisory group tasked with understanding the barriers to women taking up cycling and micro-mobility and the system changes needed to remove these barriers.

- Form an advisory group tasked with understanding any specific barriers to taking up cycling and micro-mobility for Māori and Pasifika and the system changes needed to remove these barriers.
- Inquire into changing tax settings for business to incentivise purchase of e-bike fleets for staff.
- Investigate government supported bike share schemes.
- Support the implementation of large scale network of secure cycle parking infrastructure suitable for e-bikes.
- Set nationally consistent methods for tracking local progress on walking and cycling including funding for measuring pedestrian level of service and increases in walking and cycling numbers.

"If you plan cities for cars and traffic, you get cars and traffic. If you plan for people and places, you get people and places" – Fred Kent

25 June 2021

Ministry of Transport

Hikina te Kohupara kia mauri ora ai te Iwi

INTRODUCTION

1. EROAD is a technology company specialising in regulatory vehicle telematics, providing services in New Zealand, Australia and the United States. We appreciate the opportunity to provide this submission.

2. Representatives of EROAD are available to speak on the submission at your convenience.

ABOUT EROAD

3. EROAD believes every community deserves safer and more sustainable roads that are sustainably funded. This is why EROAD develops technology solutions that enable the better management of vehicle fleets, support regulatory compliance, improve driver safety, and reduce the social, economic and environmental costs associated with driving and roads.

4. In 2010, EROAD became the first supplier of electronic Road User Charges (eRUC) services in New Zealand. Today we support our customers in tracking and managing 87,000 vehicles on New Zealand's roads and worksites. EROAD offers a broad suite of products which support safe use of the roads and optimised vehicle use, and also provides valuable data, analytics and insight to universities, government agencies and others who research, plan or evaluate transport network performance.

5. EROAD (ERD) is listed on the NZX and ASX, and employs over 300 staff located across New Zealand, Australia and North America. If you would like to know more about EROAD, you can visit https://www.eroad.co.nz/

OUR SUBMISSION

Consultation question 1

Do you support the principles in Hīkina te Kohupara?

6. Yes.

Are there any other considerations that should be reflected in the principles?

7. Partnership is discussed at various places in the document and is likely to be necessary even when not directly alluded to. Principle 4 does not fully encompass the idea, and could be adjusted to explicitly acknowledge the desirability of various partnerships.

Consultation question 2

Is the government's role in reducing transport emissions clear?

8. No. It's ability to have a role is clear, as is the need for it to take an active one. How willing will government be to make the hard calls needed and actually use those levers and coordinate its

own actions? This discussion document details a very good menu of options, but the difficulty for government is that every direction impacts vested interests. A bipartisan approach would be most desirable, but not something the government can just decree, of course.

Are there other levers the government could use to reduce transport emissions?

9. Government is potentially a choke point. It could consider 'regulatory retreat' to enable innovation and privately-led change in selected spaces that get separated out to be left to the private sector, devolved to communities etc, for example, in lower priority areas where the government lacks the bandwidth to be an active driver of change.

Consultation question 3

What more should Government do to encourage and support transport innovation that supports emissions reductions?

10. Government can pay attention to enabling the little things that can done in the short-term that will deliver small early gains and position transport operators especially to better understand and navigate the 'next steps'. For example, there is a whole range of reasons why high-quality telematics are good things for heavy commercial vehicles and corporate light vehicle fleets to have: speed adherence, driver coaching, awareness of vehicle and fleet use to enable fuel management and fleet optimization are all emissions supporting benefits of eRUC and/or Transport Service Licence (TSL) monitoring and compliance technologies. There is a relatively wide range of suppliers in place to respond to regulatory push through Road to Zero or pull through incentives.

Other comment

The role of innovation in the transport system (p28)

11. Regarding the statement:

> Electrification, shared mobility and automation are likely to have a significant impact on how people and goods travel. Electrification and shared mobility will have a significant impact on emissions but the impact of automation is less certain.

12. Don't forget simple digitization., e.g. of credentials like registration, TSLs and permits. On current pathways, autonomous vehicles look more like a risk to be managed and a development that needs to be forced to conform to a wider mobility strategy.

13. Regarding the statement:

> Government has a key role to implement policies that support transport innovation, including decarbonisation. Regulatory policies that encourage transport innovation with positive outcomes, building strong connections between government and nongovernment players in the innovation sector, leveraging the skills and expertise of the private sector and targeted investment can help direct innovation towards new products or services that can contribute to reducing emissions.

14. Supply will follow demand, so a key role for government is to encourage uptake by modernising its regulatory frameworks and approaches.

15. Where government seeks to help improve supply, a mixed and balanced approach to ensure innovations relevant to each budget get support is necessary to ensure such support isn't all captured by longer-term high-ambition/high-speculation innovations.

Consultation question 4

Do you think we have listed the most important actions the government could take to better integrate transport, land use and urban development to reduce transport emissions?

16. Do the people in these roles have the relevant skills, training and capacity to take on and give effect to the new behaviours? A workforce and capability review should be included.

Which of these possible actions do you think should be prioritised?

17. Ensuring we have the planning workforce in place and prepared to give effect to the new directions proposed is an urgent priority as addressing gaps is a long-term endeavour. If there are gaps that cannot be closed, then thought may need to be given to pooling and rationing the capacity that is there, for example through an evolution of the all-of-government procurement system.

18. The other initial priorities for action seem to be:

    - Ensuring people in planning and decision-making roles have the statutory powers and incentives to behave as the change needs them to.

    - Appropriate funding signals to (a) give confidence that proposed changes will be able to go ahead, and (2) enable investors to actually direct the funding to the right places in sensible proportion to BAU needs.

Other comment

Placemaking and inclusive street design (p43)

19. Regarding the statement:

> Set targets for councils to deliver public transport and active travel networks that require street changes (e.g. dedicated/priority bus lanes on some routes; connected cycling networks) by a specific date. There could be funding consequences if Road Controlling Authorities do not deliver these changes within these timeframes

20. Using funding consequences as a lever is difficult to do in a way that isn't counter-productive. It may fail to take account of the relevant power structures RCAs have to operate within in order to deliver their end of any co-funded project. Given that budget allocation is a zero-sum activity, taking a punitive approach risks cutting across the budget setting accountabilities of local governments, while 'robbing Peter to pay Paul'. Arguably, before this kind of tool becomes viable there will need to be a successful resolution of the whole local government funding question.

Consultation question 5

Are there other travel options that should be considered to encourage people to use alternative modes of transport; If so, what?

21. The range of travel options seems comprehensive. However, this is an inward-looking view – solving transport problems within the range of transport options – when perhaps it should be supplemented with an outward-looking view, solving connectivity and access problems through both transport and non-transport options.

Other comment

Public transport (p45)

22. Regarding the statement:

> Further invest in public transport infrastructure to increase the capacity, frequency, quality, and reliability of services. (Some investment currently occurring through GPS on land transport, NZ Upgrade programme, and local Government)

23. Is it really only investment in infrastructure, or is it services too?

24. Regarding the statement:

> Increase incentives to use existing public transport (such as reduced fares or service improvements). (Councils already provide some incentives to specific users e.g. students, children. The Government's SuperGold card provides free travel to over 65s off-peak)

25. This may be an old-fashioned paradigm. It implicitly rejects the 'public good' dimension of public transport as a means for reducing emissions, congestion, and deadweight investment in private passenger vehicles. A starting point could be 'free for all', with policy considering how far that can actually be delivered, and/or the pathway to get there.

Shared mobility (p45)

26. Regarding the statement:

> Regulate for data access/data sharing between public and private transport providers.

27. This needs a lot more explanation, as it turns up in the list, but without the benefit of the supporting text the other ideas enjoy. We appreciate that it is presented in the context of shared mobility services, but the approach taken establishes and model and principle that could be migrated into other domains on the back of precedent. We are aware of similar interests in compiling data of public interest in the freight and vehicular telematics domains. This idea should be located and discussed within a wider framework that allows a consistent approach to evolve.

28. Regulation in this context implies appropriation. We consider a partnership approach with the consolidated data held at arm's length from regulators and producers alike, might be a more constructive approach worth identifying as an option here.

Consultation question 6

Do you have any views on the role demand management, and more specifically pricing, could play to help Aotearoa reach net zero by 2050?

29. Demand management is essential.

30. Pricing should be seen as a 'shaping' tool – something designed to encourage people to be open to changing when/how/how often they use their private vehicle, with the expectation that certain aspects of pricing (e.g. congestion and low emission charges) will abate over time as congestion/emissions drop below some defined threshold. The high likelihood that pricing will be needed in some places at some times argues in favour of factoring the capability into thinking about the future funding system. The complexity of transport makes unintended negative consequences likely. In consequence, the need to be able to deploy pricing quickly in response to unanticipated developments is also likely. ANPR has many advantages, but scale and speed of redeployment are not among them: while GNSS-based solution might not prove practical, they should be tested to provide the evidence needed to determine this.

31. No player in the system should be dependent on the revenue derived from pricing/surcharging over network cost recovery as this would create a vested interest that would ultimately work against the goal of eliminating unnecessary car travel.

Other comment

32. Regarding the statement:

> New technologies are enabling more customised pricing approaches (p59)

33. We agree. However, the question remains whether we really need to get too clever, or whether a few basic measures done properly will suffice to achieve the outcome. Clever approaches introduce complexity which can actually reduce the manageability of the system.

34. Regarding the statement:

> Using blunt charging tools could change behaviour but has distributional impacts and risks (p62)

35. We agree. However, an issue with many blunt tools is that they are often simple tools that have been introduced and shaped according to what was convenient for the narrow interest at the time rather than in accordance with some consistent principle and strategy. It's the internal contradictions that make them 'blunt' when more careful and consistent use could allow them to be 'subtle'.

Consultation question 7

Are there other possible actions that could help Aotearoa transition its light and heavy fleets more quickly?

36. Government could consider leveraging the ability to impose conditions through TSLs, both by developing and consistently applying a set of conditions, and by extending the coverage of TSLs.

37. Government could consider how to enable the safety regulator to deliberately target and push out of business the tail of non-compliant operators. They hold prices down at unhealthy levels and make it uneconomic for the middle part of the fleet to invest in better vehicles and performance enhancing technologies. An example action is tightening regulatory monitoring to incentivise modern compliance systems.

38. Government could also consider how to get shop trucks out of non-transport businesses and into TSL-governed transport firms. These vehicles are only an adjunct to the business they support, are exposed to few regulatory levers, and driven by 'amateur' drivers. An assumption is that these businesses tend to use older vehicles; if true, then the other policies already discussed relating to age or standards-based deregistration, combined with higher standards (and vehicle costs) for new registrations may in fact create the same effect.

Which actions should be prioritised?

39. Given the legislative changes and lead times involved, priority should be given to:

- Entry standards for new registrations, and exit thresholds for existing registrations
- Tightening the regulatory net/regulatory compliance standards, to exploit co-benefits.

Other comment

Encouraging the demand for clean and safe cars (p72):

40. Regarding the statement:

> Further investigate potential tax incentives (including Fringe Benefit Tax, Depreciation and Tax Grants and RUC).

41. We agree in principle, noting RUC exemptions are practically time-limited as network maintenance is still required for safe and efficient running, and the risk/actuality of inequitable social impacts increases as the level of cross-subsidy grows.

42. Regarding the statement:

> Consider how parking and priority use on roads for low emission vehicles can encourage uptake, or reduce the use of ICEs.

43. We agree in principle, subject to social impacts analysis.

Consultation question 8

Do you support these possible actions to decarbonise the public transport fleet?

44. Yes, with one exception. The ongoing RUC exemption, unless extended to all heavy vehicles, seems unnecessary and perhaps more complicated that it first appears. 'Bus' is a body type and does not exclusively refer to vehicles used (or even used exclusively) for public transport or intercity passenger services. If the intent is only to exempt vehicles operating under PTOM, then the same effect can be achieved by including a RUC-offset in the contract price.

Do you think we should consider any other actions?

45. No comment.

Other comment

Decarbonising the public transport fleet: possible key actions (p75):

46. Regarding the statement:

> Consider how to fund foregone revenue for the National Land Transport Fund if road user charges exemptions are extended for heavy electric vehicles or expanded to include hydrogen or other low carbon fuels.

47. We agree this needs to be thought about. However, it really depends on how big a fleet share you want to tolerate being subsidized. Vote funding to the appropriate level is easiest if government does not want to have the club of other road users subsidise the exempted classes. This approach recognises the subsidy is a public good rather than a benefit solely for other road users.

Consultation question 9

Do you support the possible actions to reduce domestic aviation emissions?

48. Yes.

Do you think there are other actions we should consider?

49. No comment.

Consultation question 10

The freight supply chain is important to our domestic and international trade. Do you have any views on the feasibility of the possible actions in Aotearoa and which should be prioritised?

50. Thought needs to be given to freight priority routes through major urban areas, especially where congestion is a known issue impacting freight movement and truck efficiency. Taking corridor space away from (single occupant) light passenger vehicles is an important demand management tool, and providing it for smoother and more reliable freight movement addresses two issues through one intervention.

51. Freight patterns reflect demand. Domestic demand, including for same-day or over-night delivery of non-perishable goods, is a part of the problem. To what extent should government consider undertaking or incentivising social marketing in favour of more responsible consumer behaviour?

Other comment

Optimising freight routes, logistic nodes, equipment and vehicles (p86):

52. Regarding the statement:

> Consider if there is potential to optimise payloads, e.g. load maximisation and back loading.

53. We agree in principle, but do have to wonder if this isn't something that we might expect the major logistics firms to already do, so far as is possible? There could be value in properly segmenting the commercial vehicle fleet to find those freight vehicles attached as equipment to a business that does 'something else'.

54. The questions may be whether and how to consolidate those vehicles within transport firms that would be more amenable to incentives/assistance to back-load. See also paragraphs 36 to 38 of this submission, above.

Information sharing and collaboration (p86):

55. Regarding the statement:

> Examine opportunities for the collection and better use of data to improve efficiencies in the freight system.

56. We agree with the need for this. See also paragraphs 26-28 of this submission, above.

57. Regarding the statement:

> Consider encouraging/supporting voluntary business collaborations to reduce emissions in logistics.

58. We agree strongly with this.

Consultation question 11

Decarbonising our freight modes and fuels will be essential for our net zero future. Are there any actions you consider we have not included in the key actions for freight modes and fuels?

59. Although biofuels for trucks is something discussed in the document, it is only briefly touched on and not accompanied by any specific action. While uncertainty remains about New Zealand's ability to access an adequate supply of electric or hydrogen trucks, it seems prudent to have some thought going towards the alternative of enabling or even incentivising greater use of biodiesel and/or renewable diesel.

Other comment

Cleaner trucks (p95):

60. Regarding the statement:

> Investigate the viability of introducing a penalty or financial disincentives system for high GHG emitting heavy trucks.

61. We agree, although a more direct alternative is just to set a forced retirement horizon for them. The road pricing system could be a mechanism for this. For certain vehicles, owners might expect to be exempt from penalties if they can demonstrate proper engine maintenance and optimal engine performance (Australia has provisions of this nature for its fuel tax credit regime).

62. Regarding the statement:

> Investigate the viability of providing upfront grants or other incentives (such as changing depreciation rates) for low and zero emissions trucks.

63. We agree with this approach, especially in conjunction with a forced retirement mandate as a form of targeted compensation.

64. Regarding the statement:

> Phase out the registration of diesel heavy vehicles beyond a certain date, e.g. from 2035 or banning diesel trucks in certain cities or zones

65. We recognise the possible value of this. Would this be necessary under a biofuels and/or renewable diesel mandate and/or with emissions and CO_2 standards, or even desirable given likely direction of international vehicle supply and New Zealand's ability to source enough of the preferred vehicles?

Improving existing infrastructure and vehicles (p96):

66. Regarding the statement:

> Investigate potential for adoption of more efficient vehicle design.

67. Agree, e.g. mandate Euro VI. Although some aspects of it seems outside New Zealand's ability to directly influence: we are design takers, not makers when it comes to vehicles in general. The stated wisdom is that geography and infrastructure design are greater constraints on achieving more fuel efficient journeys, while the opportunities to really benefit from streamlining are fewer than other jurisdictions, partly because of hill climbs and curvature, and partly because a big portion of journeys are in urban, stop-start traffic.

68. Regarding the statement:

> Investigate the impacts of better road design and maintenance.

69. We agree, and EROAD could potentially help with data to support this.

Consultation question 12

A Just Transition for all of Aotearoa will be important as we transition to net zero. Are there other impacts that we have not identified?

70. Something to consider it that not all the negatives are bad: New Zealand may need a bit of consolidation in the road transport sector to improve the pace and quality of movement to improve/meet safety, productivity and environmental goals. See paragraphs 36 to 38 and 54, above.

71. The lesson from the 1980s is that the welfare and adult education systems need to be ready to support the redeployment of labour that may result. However, the under-supply of suitable truck drivers is actually a present-day problem that is looking like it will only get worse: if

consolidation enables better wages to be paid and more attractive conditions of service introduced, then it may turn out to be a win-win intervention.

72. It is a sensitive topic that would need extensive consultation with industry, but New Zealand's hours of service rules, while similar to the USA and Australia, are on the generous side compared to like-minded jurisdictions[1]. The apocryphal explanation is that the limits were determined by the time it takes to drive from Auckland to Wellington. Not only is that time standard no longer really applicable (congestion allowing), that freight journey may not be one New Zealand really wants to have trucks completing (as the first or default option) if/when a suitable and lower carbon emitting rail or coastal shipping options exist.

Other comment

Key points (p98):

73. Regarding the statement:

> Some parts within the transport sector may be more affected by the transition than others, especially if they face rising transport costs, and/or find it difficult to adapt. Government could assist the sector to adopt new technologies to encourage an earlier transition, and support education and upskilling.

74. We agree in principle. But refer again to our comments in paragraphs 36 to 38, 54 and 70.

Consultation question 13

Given the four potential pathways identified in Hīkina te Kohupara, each of which require many levers and policies to be achieved, which pathway do you think Aotearoa should follow to reduce transport emissions?

75. Pathway 4: it is easier to ease off than accelerate further because of the time involved to initiate (further) change.

Consultation question 14

Do you have any views on the policies that we propose should be considered for the first emissions budget?

76. The more painful options need to be acted on soonest, in part so that there is more time to moderate their negative consequences. In this context, acting early does not necessarily mean acting hastily or at full scale.

77. Creating the regulatory frameworks, with thought for enacting gateways to enable transitions to be initiated or managed on a performance and readiness basis, should also happen sooner.

[1] In **NZ**, in any cumulative work day a driver can work (drive) a maximum of 13 hours and then must take a continuous break of at least 10 hours (as well as the standard half-hour breaks every 5½ hours). A driver operating within the **Australia** Standard Hours of Service rules cannot drive more than 12 hours in a 24 hour period. In the **USA**, within a 14-hour workday, property-carrying drivers are only permitted to drive their truck for a maximum of 11 hours after 10 consecutive hours of off-duty time. The main **EU** rules on driving hours are that you must not drive more than: 9 hours in a day, which can be extended to 10 hours twice a week; 56 hours in a week; and 90 hours in any 2 consecutive weeks.

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