Land Transport and Emissions Cross-Government Update – December 2018

CASANZ Transport Special Interest Group and NZ Transport and Environment Knowledge Hub Emissions Group Workshop
NIWA, Wellington
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Among the numerous changes – some disruptive some less obvious – that will be required across the economy, three particular shifts must happen for New Zealand to achieve its low-emissions goals:

- a transition from fossil fuels to electricity and other low-emission fuels across the economy;
- substantial afforestation; and
- changes to the structure and methods of agricultural production.

The transition from fossil fuels entails a rapid and comprehensive switch of the light vehicle fleet to electric vehicles (EVs) and other very low-emissions vehicles.

https://www.productivity.govt.nz/inquiry-content/3254?stage=4
Zero Carbon Bill and Interim Climate Change Committee

- 2050 Target
- Emission Budgets
- Climate Change Commission
- Adapting to the Impacts of Climate Change

https://www.iccc.mfe.govt.nz/who-we-are/terms-of-reference/

https://www.mfe.govt.nz/have-your-say-zero-carbon
Government Policy Statement on Land Transport
2018/19 - 2027/28

National land transport objective: A land transport system that reduces greenhouse gas emissions, as well as adverse effects on the local environment and public health.

Environment

<table>
<thead>
<tr>
<th>Environment in GPS 2018:</th>
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<tbody>
<tr>
<td>• prioritises reducing greenhouse gas emissions from transport and supports a mode shift to lower emission forms of transport, including walking, cycling, public transport and lower emission vehicles (such as electric vehicles)</td>
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<tr>
<td>• links to the wider environmental commitments of the Government, such as achieving the Paris Agreement target of reducing greenhouse gas emissions to 30 percent below 2005 levels by 2030, and setting a more ambitious reductions target for 2050</td>
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<td>• recognises the public health benefits of reducing harmful transport emissions and increasing uptake of walking and cycling</td>
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<td>• recognises the importance of urban form for creating liveable cities that value public space and improve access.</td>
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24. Reduced greenhouse gas emissions from transport using a whole-of-system approach

25. Reduced significant harmful effects of land transport-related noise

26. Reduced significant harmful effects of land transport-related air pollution

27. Reduced significant negative effects on water quality and biodiversity from construction and ongoing use of transport infrastructure

28. Increased uptake of active travel modes such as walking and cycling to support environmental and public health objectives

Reporting measures

- Tonnage of greenhouse gas (i.e. CO₂) emitted per year from land transport by vehicle type and region
- Number of noise complaints received by councils
- Investment in noise management practices
- Proportion of population exposed to road traffic noise over an acceptable level (e.g., proportion of population within 200m of roads or rail lines exposed to >4 Ldn [day-night average sound])
- Tonnage of harmful emissions from land transport (i.e. NO₂, PM10 and PM2.5) emitted per year by region
- Appointed harm (death and DALYs) from exposure to air pollutants from land transport by region
- Tonnage per year of brake and tyre wear-related pollutants (i.e. copper, zinc, lead) in water catchment areas by region
- Measure of uptake of active travel modes included in result #17

https://www.transport.govt.nz/multimodal/keystrategiesandplans/gpsonlandtransportfunding/
Low Emission Vehicle Contestable Fund

Encouraging innovation and investment to accelerate the uptake of electric and other low emission vehicles

Contestable Fund successful projects

Read about the projects approved for funding under the Low Emission Vehicles Contestable Fund.

Viewing 1-8 of 9 case studies

- Summaries of all projects approved for co-funding
- Electric truck conversion workshop opens
- Electric buses trialled for public transport
- Yoogo Share launches pure electric car share service
- NZ’s first battery electric bus
- Two projects trial electric heavy vehicles
- Green Cabs tests EVs as taxis
- Plug-in hybrids for Mevo’s car share fleet

Low Emission Vehicles

Monthly electric and hybrid light vehicle registrations
Last updated on 3/12/2018

Electric vehicle (EV) key statistics
- EVs are concentrated in Auckland
- Light EVs are a growing proportion of registrations
- Pure EVs are more popular than plug-in hybrid EVs
- Individuals own more light EVs than companies

Electric vehicle (EV) registrations are increasing, and are dominated by used imports at present.

### EV fleet size

<table>
<thead>
<tr>
<th>Year</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
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<tbody>
<tr>
<td>Heavy EV</td>
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<tr>
<td>New light plug-in hybrid</td>
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<tr>
<td>Used light plug-in hybrid</td>
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<tr>
<td>New light pure electric</td>
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<td></td>
</tr>
<tr>
<td>Used light pure electric</td>
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</table>

### Monthly EV registrations

<table>
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<tbody>
<tr>
<td>Heavy EV</td>
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<td>New light</td>
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<tr>
<td>Used light</td>
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</table>

### Regional EVs - based on owner location

- Auckland
- Wellington
- Christchurch
- Hawke’s Bay
- Waikato
- Taupō
- Taranaki
- Bay of Plenty
- Waikato
- Christchurch

Low Emission Vehicles

Figure 3a: NZ new petrol emissions regime

Figure 3b: NZ new diesel emissions regime

Figure 3c: Used import petrol emissions regime

Figure 3d: Used import diesel emissions regime

Low Emission Transport – Cycling

Welcome to New Zealand's Workplace Cycling Guide

This guide provides all the information you need to help your workplace better provide for, and encourage, people on bikes.

Get inspired
Discover how some organizations are getting their people to get around by bike.

Resources
Discover the ways your workplace can support people on bikes.

How
Check out the ideas for your workplace to support people on bikes.

Why
Find out more on the benefits of workplaces encouraging their people to ride bikes.

Low Emission Transport – Public Transport

Auckland Light Rail

31 July 2018

Electric buses trialled for public transport

Auckland Transport (AT) has put two battery-only electric buses in normal daily operation on the City Link service. The project, co-funded by the Low Emission Vehicles Contestable Fund, will gather data that will help AT plan when, where and how electric buses can be rolled out more widely.


Environmental impacts of land transport

To measure the impacts of land transport construction, operation and maintenance emissions/pollutants on the natural and built environment.

<table>
<thead>
<tr>
<th>Year commissioned</th>
<th>Project title</th>
<th>Researcher</th>
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<tbody>
<tr>
<td>2017/18</td>
<td>Establishing a national environmental aspect (activities) and impacts register for the transport sector</td>
<td>Beca</td>
</tr>
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<td>2016/17</td>
<td>Testing New Zealand vehicles to measure real-world fuel use and exhaust emissions</td>
<td>Emission Impossible Ltd</td>
</tr>
<tr>
<td>2015/16</td>
<td>Understanding the value of meeting the requirements of environmental legislation</td>
<td>Tonkin and Taylor Ltd</td>
</tr>
<tr>
<td>2015/16</td>
<td>Evidential basis for community response to land transport noise</td>
<td>AECOM New Zealand Ltd</td>
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NZ Transport Agency Active Research Projects – December 2018

https://www.nzta.govt.nz/resources/research/reports/

About us

The Emissions Group is a specialist forum that is part of the Transport and Environment Knowledge Hub. The Group has a technical focus and brings together researchers interested in transport emissions (harmful air pollutants and greenhouse gases) to enable information sharing and collaboration in areas of mutual interest.

We run and support a range of seminars as well as other discussion sessions with the aim of sharing knowledge and experience to help drive the quality of research and data analysis relating to transport emissions.

https://www.transport.govt.nz/resources/transport-knowledge-hub/
Vehicle emissions contributed to poor air quality in places, particularly for nitrogen dioxide pollution, which can cause serious health problems.

- The national emissions inventory indicates on-road vehicles were the single biggest source of human-generated nitrogen oxides in 2015 (39 percent). But regional council and New Zealand Transport Agency data both indicate a slightly decreasing trend in Auckland, Bay of Plenty, Hamilton, Northland, and Wellington between 2004 and 2016.
Thank You

QUESTIONS?

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