
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
6th December 2018

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Productivity Commission Report

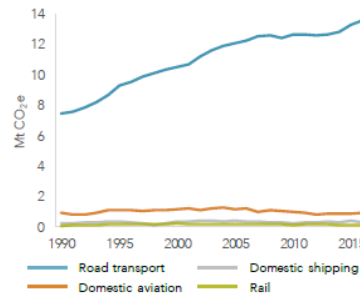
Low Emissions Economy



Low-emissions
economy

August 2018

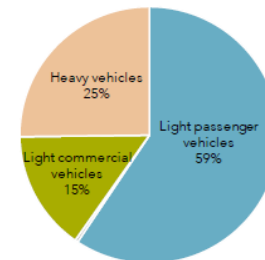
Figure 12-1 Transport emissions by mode, 1990–2016



Source: MfE (2017h); MoT (2016a).

Note: Motorcycles in 2015 produced about 0.4% of road transport emissions.

Figure 12-2 Composition of emissions from road transport, 2015



Road transport is the dominant source of transport emissions, and its emissions have increased substantially since 1990 (Figure 12-1). In 2015, light vehicles (passenger and commercial) accounted for about 75% of emissions from road transport (Figure 12-2). Heavy vehicles contributed 25% of these emissions, even though they accounted for only 6% of total vehicle kilometres driven.

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,

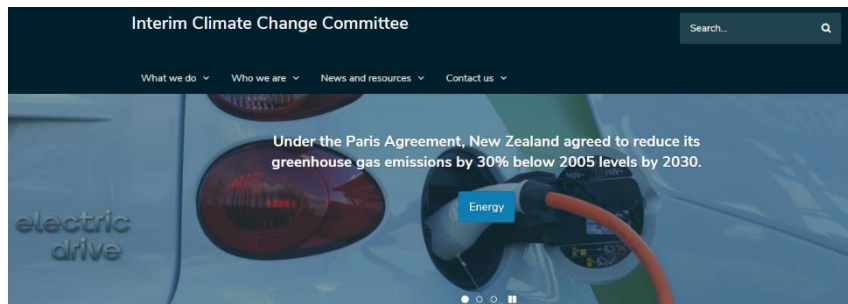
<https://www.productivity.govt.nz/inquiry-content/3254?stage=4>

Zero Carbon Bill and Interim Climate Change Committee

Zero Carbon Bill

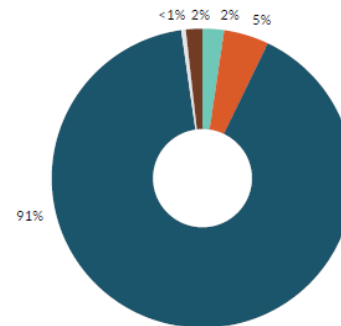


- 2050 Target
- Emission Budgets
- Climate Change Commission
- Adapting to the Impacts of Climate Change



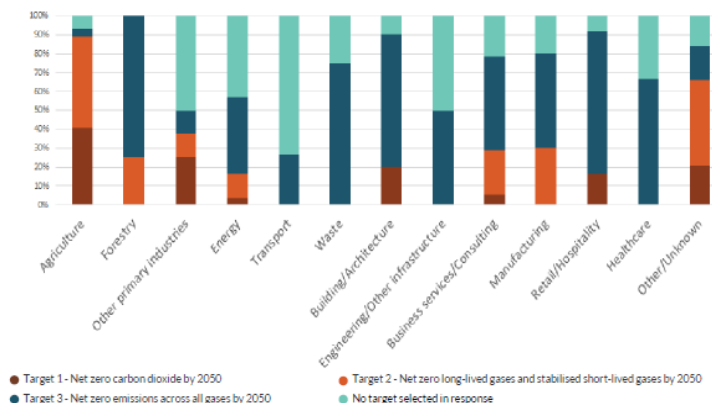
<https://www.iccc.mfe.govt.nz/who-we-are/terms-of-reference/>

If the Government sets a 2050 target now, which is the best target for Aotearoa? (long submissions)



Target 1 - Net zero carbon dioxide by 2050 (2%) Target 2 - Net zero long-lived gases and stabilised short-lived gases by 2050 (5%) Target 3 - Net zero emissions across all gases by 2050 (91%) Aotearoa New Zealand shouldn't have a new target (< 1%) Other opinion (2%)

2050 target preferences by industry sector (long submissions)



<https://www.mfe.govt.nz/have-your-say-zero-carbon>

Government Policy Statement on Land Transport 2018/19 – 2027/28

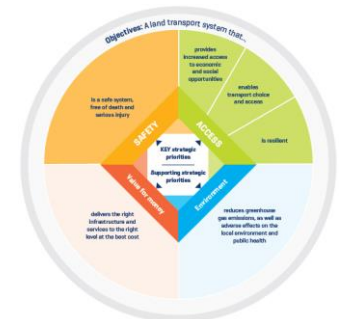
JUNE 2018



Environment In GPS 2018:

- 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)
- 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
- recognises the public health benefits of reducing harmful transport emissions and increasing uptake of walking and cycling
- recognises the importance of urban form for creating liveable cities that value public space and improve access.

Environment		
Long-term results (10+ years)	Short to medium term results (3-6+ years)	Reporting measures
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		
Reduce greenhouse gas emissions from transport	24. Reduced greenhouse gas emissions from land transport using a whole-of-system approach	Tonnes of greenhouse gases (i.e. CO ₂) emitted per year [from land transport] by vehicle type and region
Reduce transport's negative effects on the local environment and public health	25. Reduced significant harmful effects of land transport-related noise	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 road or rail line exposed to 64 Ldn (day-night average sound)]
	26. Reduced significant harmful effects of land transport-related air pollution	Tonnes of harmful emissions from land transport (i.e. NO ₂ , PM10 and PM2.5) emitted per year by region Apportioned harm (deaths and QALYS) from exposure to air pollutants from land transport by region*
	27. Reduced significant negative effects on water quality and biodiversity from construction and ongoing use of transport infrastructure	Tonnes per year of brake and tyre wear-related pollutants (i.e. copper, zinc, lead) in water catchment areas by region*
	28. Increased uptake of active travel modes such as walking and cycling to support environmental and public health objectives	[Measure of uptake of active travel modes included in result #17]



<https://www.transport.govt.nz/multi-modal/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

<https://www.eeca.govt.nz/funding-and-support/low-emission-vehicles-contestable-fund/>

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

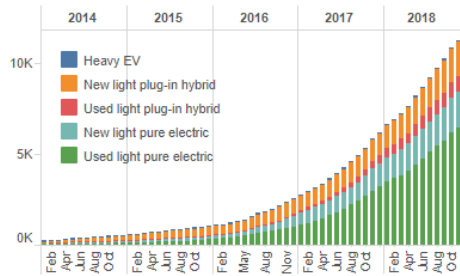
Light EVs are a
growing proportion of
registrations

Pure EVs are more
popular than plug-in
hybrid EVs

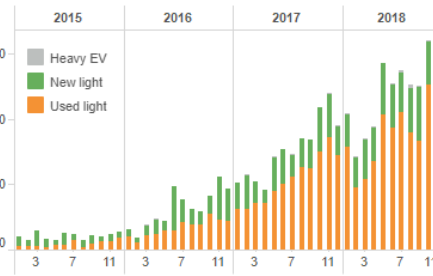
Individuals own more
light EVs than
companies

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

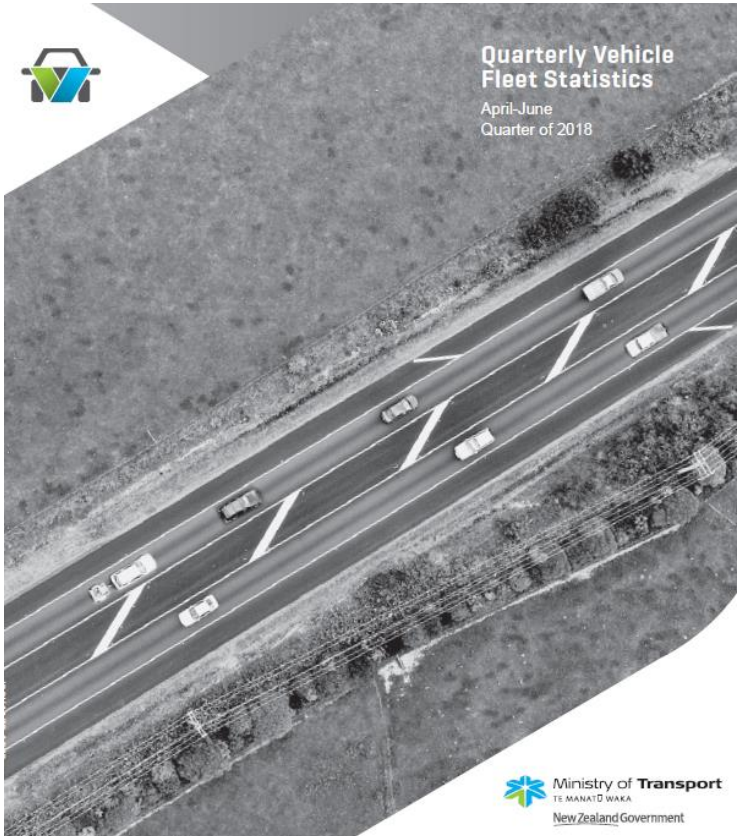
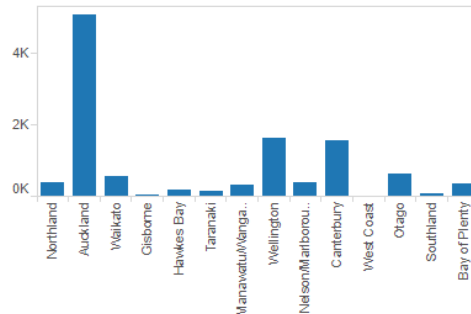
EV fleet size



Monthly EV registrations



Regional EVs - based on owner location



Quarterly Vehicle Fleet Statistics

April-June
Quarter of 2018

Ministry of Transport
TE MANATŌ WAKA
New Zealand Government

<https://www.transport.govt.nz/resources/vehicle-fleet-statistics/#quarterly>

Low Emission Vehicles

Figure 3a: NZ new petrol emissions regime

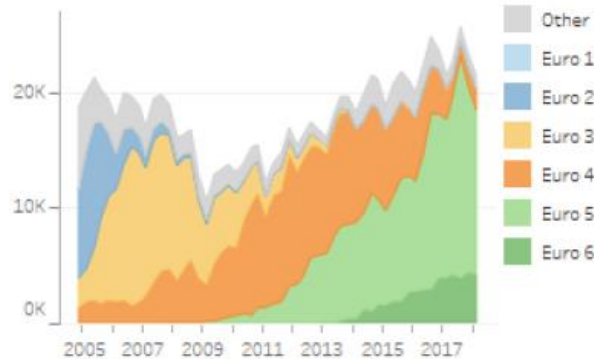


Figure 3b: NZ new diesel emissions regime

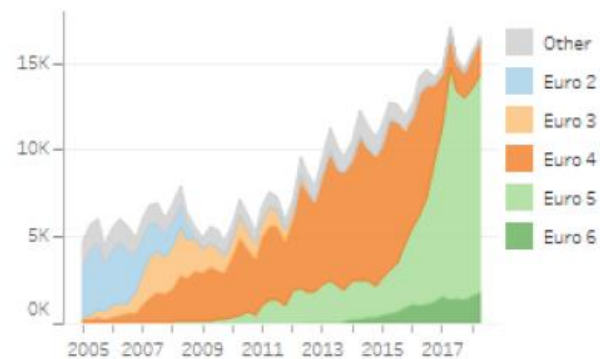


Figure 3c: Used import petrol emissions regime

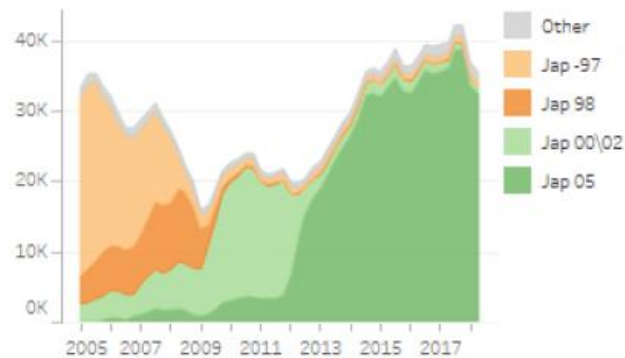
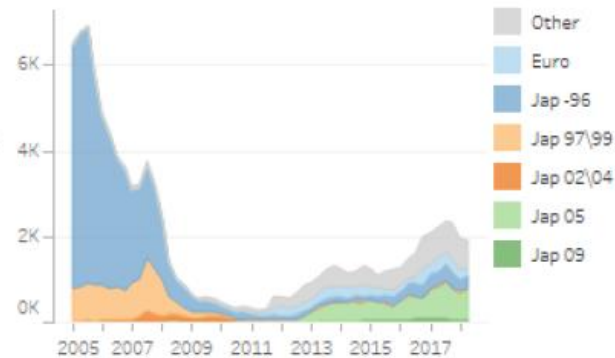
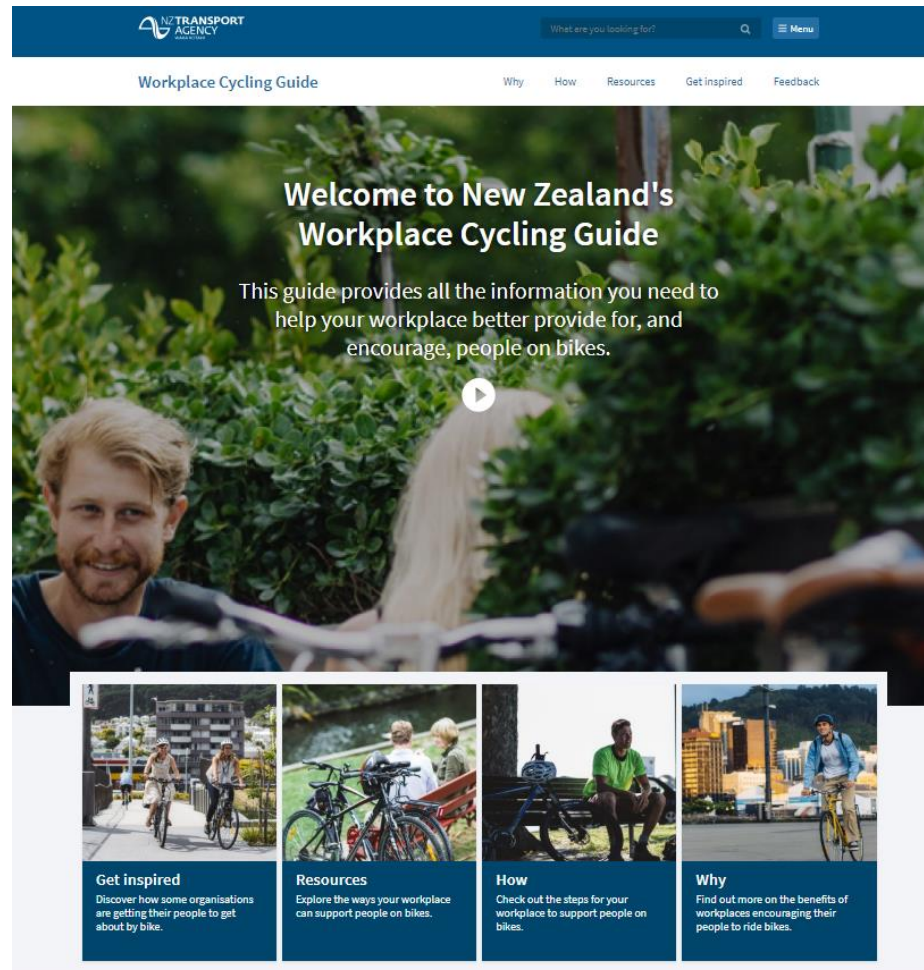


Figure 3d: Used import diesel emissions regime



<https://www.transport.govt.nz/resources/vehicle-fleet-statistics/#quarterly>

Low Emission Transport – Cycling



<https://www.nzta.govt.nz/walking-cycling-and-public-transport/cycling/>

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.



<https://www.nzta.govt.nz/roads-and-rail/rapid-transit/auckland-light-rail/>

<https://www.eeca.govt.nz/funding-and-support/low-emission-vehicles-contestable-fund/low-emission-vehicles-contestable-fund-successful-projects/electric-buses-trialled-for-public-transport/>

Research

Environmental impacts of land transport

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

Year commissioned	Project title	Researcher
2017/18	Establishing a national environmental aspect (activities) and impacts register for the transport sector	Beca
2016/17	Testing New Zealand vehicles to measure real-world fuel use and exhaust emissions	Emission Impossible Ltd
2015/16	Understanding the value of meeting the requirements of environmental legislation	Tonkin and Taylor Ltd
2015/16	Evidential basis for community response to land transport noise	AECOM New Zealand Ltd

NZ Transport Agency Active Research Projects – December 2018

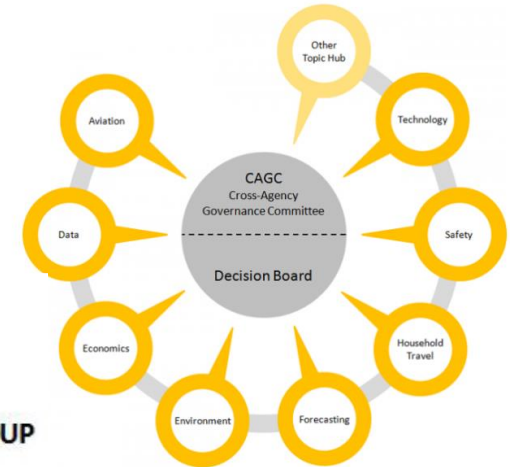
<https://www.nzta.govt.nz/resources/research/reports/>

Transport Knowledge Hub

Last updated on: 26/11/2018

The Transport Knowledge Hub strives to encourage collaboration and raise awareness of related work and future opportunities or needs.

To learn more about the Transport Knowledge Hub, read page 30 of the Domain Plan



<https://www.transport.govt.nz/resources/transport-knowledge-hub/>

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.

Our Air 2018



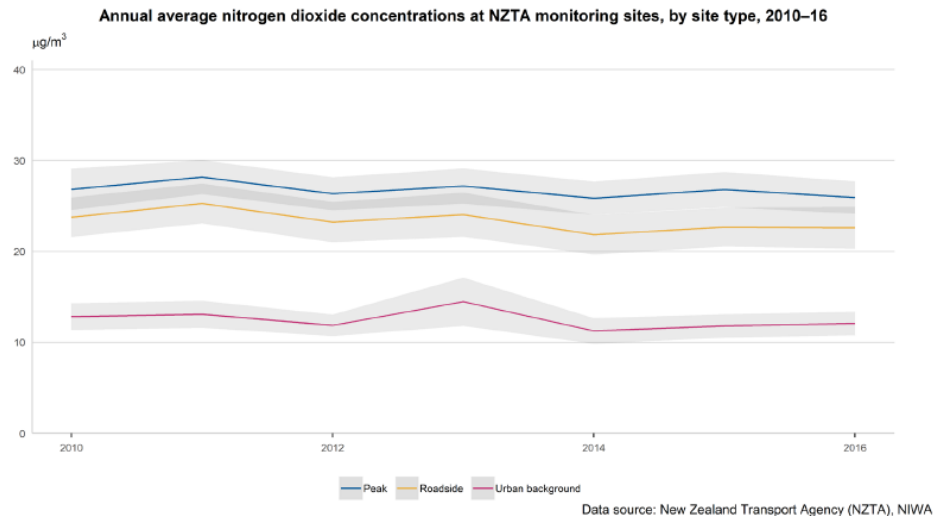
Our air 2018

DATA TO 2017

newzealand.govt.nz

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.



Note: Urban background and roadside are on a continuum so a boundary is arbitrary. Shading shows 95% confidence intervals.

<https://www.mfe.govt.nz/publications/environmental-reporting/our-air-2018>



Thank You

QUESTIONS?

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