

Climate Implications of Policy Assessment: Disclosure Sheet

This disclosure sheet provides the responsible department's best estimate of the greenhouse gas emissions impacts for New Zealand that would arise from the implementation of the policy proposal or option described below. It has been prepared to help inform Cabinet decisions about this policy. It is broken down by periods that align with New Zealand's future emissions budgets.

Section 1: General information

General information	
Name/title of policy proposal or policy option:	Decarbonisation of the public transport bus fleet
Agency responsible for the Cabinet paper:	Ministry of Transport
Date finalised:	26/11/2020
Short description of the policy proposal:	The Government was elected on a manifesto that included a commitment to: require only zero-emission public transport buses to be purchased by 2025; target the decarbonisation of the public transport fleet by 2035; and support regional councils to achieve these outcomes through a \$50 million fund over four years. The Cabinet paper seeks agreement to officials commencing a work programme to support local government to decarbonise the public transport bus fleet by addressing systemic barriers.

Section 2: Greenhouse gas emission impacts

The below reductions in GHG emissions represent the difference in emissions of two potential pathways to decarbonise the public transport bus fleet by 2035 and three different projected scenarios of emissions from the public transport bus fleet to 2050 (without any additional measures in place).

Sector & source	Changes in greenhouse gas emissions in thousands of tonnes of carbon dioxide equivalent (CO ₂ -e)						Cumulative impact
	2020–25	2026–30	2031–35	2036–40	2041–45	2046–50	
Transport							
Moderate emissions saving scenario: base case projections of public transport bus fleet size, moderate decarbonisation pathway and base case electric vehicle (EV) uptake projection	-54	-264	-653	-906	-931	-920	-3,728

Sector & source	Changes in greenhouse gas emissions in thousands of tonnes of carbon dioxide equivalent (CO ₂ -e)						
Transport	2020–25	2026–30	2031–35	2036–40	2041–45	2046–50	Cumulative impact
Low emissions saving scenario: slow growth projection of public transport bus fleet size, conservative decarbonisation pathway and fast EV uptake projection	-29	-179	-546	-789	-756	-683	-2,982
High emissions savings scenario: fast growth projection of public transport bus fleet size, moderate decarbonisation pathway and slow EV uptake projection	-58	-287	-718	-1,034	-1,138	-1,233	-4,468

Section 3: Additional information

Additional information

- The public transport bus fleet currently produces an estimated 155 thousand tonnes CO₂-e per year, and this is projected to increase to between 167 thousand and 204 thousand tonnes CO₂-e by 2035 without any additional measures.
- The emissions estimates provided are to demonstrate the scale of the emissions impact of meeting the commitment to target the decarbonisation of the public transport bus fleet by 2035.
- These estimates do not provide any indication of the emissions impact of the proposed \$50 million of funding, or additional funding that would be required to meet this commitment.
- The emissions amounts represent the difference in projected emissions of potential pathways (to decarbonise by 2035) and current projections of emissions from the public transport bus fleet with no additional measures.
- These emissions estimates do not represent the actual emissions impact of the Government’s commitments to decarbonisation, as additional measures will need to be introduced at both a local and central government level. The emissions impact of each measure will be assessed for its emissions impact (as appropriate) as further proposals are advanced.
- The potential pathways to decarbonising the public transport bus fleet by 2035 that were applied are based upon proposals developed by Auckland Transport (adjusted for the 2035 commitment) and current known orders for electric public transport buses.
- The projections of emissions from the public transport bus fleet (with no additional measures) was modelled across three different levels of projected EV uptake (slow, fast and a base case), and three different levels of projected fleet size growth (slow, fast and a base case). The base case, highest and lowest emissions savings scenarios are disclosed to give a sense of the variability dependent on which scenario occurs.
- As complete data on the full fleet of public transport buses was not available (i.e. emissions efficiency and distance travelled), a number of reasonable assumptions were made based on data for the entire heavy bus fleet in New Zealand and data from Wellington, Christchurch and particularly Auckland’s public transport bus fleet.
- The modelling includes the emissions impact of increased electricity demand as the share of EV buses increases. Although there is considerable uncertainty in the projections of emissions associated with additional electricity demand in New Zealand, this only accounts for an annual impact of 8 thousand to 12 thousand tonnes CO₂-e across all projected scenarios from 2036 to 2050.

Section 4: Quality assurance

Quality assurance

The Climate Implications of Policy Assessment (CIPA) team has been consulted and confirms that the CIPA requirements apply to this proposal as an objective of the proposal is to reduce greenhouse gas emissions.

New Zealand's public transport bus fleet currently produces an estimated 155 thousand tonnes of carbon dioxide equivalent (CO₂-e) per year, and is projected to increase to between 167 thousand and 204 thousand tonnes of CO₂-e by 2035 without any additional measures. The cumulative impact of meeting the commitment to target decarbonisation of the public transport bus fleet by 2035 is estimated to be a 3.0 to 4.5 million tonnes CO₂-e reduction in emissions by 2050.

The emissions amounts disclosed do not represent the actual emissions impact of the Government's commitment to decarbonisation but rather the potential total emissions reduction of this proposal. No information is available on the emissions impact of the proposed \$50 million dollar fund or any other additional funding and measures. The emissions impact of each measure will be assessed for its emissions impact (as appropriate) as proposals are advanced.

The requirement that only zero-emissions buses be purchased by 2025 will greatly reduce the emissions of the new public transport fleet in the long term. However if the funding is not sufficient there is a risk that overall emissions could increase if local government take actions to save money including purchasing new diesel busses prior to the 2025, scaling back public transport services, or raising prices of these services.

The co-benefit of better health outcomes due to improvements in air quality have not been considered in the analysis, but are likely to be significant.

The CIPA team has reviewed the calculation of estimates for this proposal and consider the estimates to follow good practice and use reasonable assumptions.
