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Listed below are the most commonly used grounds from the OIA.

Section	Description of ground
6(a)	as release would be likely to prejudice the security or defence of New Zealand or the international relations of the New Zealand Government
6(b)	as release would be likely to prejudice the entrusting of information to the Government of New Zealand on a basis of confidence by (i) the Government of any other country or any agency of such a Government; or (ii) any international organisation
6(c)	prejudice the maintenance of the law, including the prevention, investigation, and detection of offences, and the right to a fair trial
9(2)(a)	to protect the privacy of natural persons
9(2)(b)(ii)	to protect information where the making available of the information would be likely unreasonably to prejudice the commercial position of the person who supplied or who is the subject of the information
9(2)(ba)(i)	to protect information which is subject to an obligation of confidence or which any person has been or could be compelled to provide under the authority of any enactment, where the making available of the information would be likely to prejudice the supply of similar information, or information from the same source, and it is in the public
9(2)(ba)(ii)	to protect information which is subject to an obligation of confidence or which any person has been or could be compelled to provide under the authority of any enactment, where the making available of the information would be likely otherwise to damage the public interest
9(2)(f)(ii)	to maintain the constitutional conventions for the time being which protect collective and individual ministerial responsibility
9(2)(f)(iv)	to maintain the constitutional conventions for the time being which protect the confidentiality of advice tendered by Ministers of the Crown and officials
9(2)(g)(i)	to maintain the effective conduct of public affairs through the free and frank expression of opinions by or between or to Ministers of the Crown or members of an organisation or officers and employees of any public service agency or organisation in the course of their duty
9(2)(h)	to maintain legal professional privilege
9(2)(i)	to enable a Minister of the Crown or any public service agency or organisation holding the information to carry out, without prejudice or disadvantage, commercial activities
9(2)(j)	to enable a Minister of the Crown or any public service agency or organisation holding the information to carry on, without prejudice or disadvantage, negotiations (including commercial and industrial negotiations)

MINISTRY OF TRANSPORT
TE MANATŪ WAKA

22 April 2026 OC260063

Hon Chris Bishop **Action required by:**

Minister of Transport Wednesday, 6 May 2026

OUTCOME OF THE STAGE 1 REVIEW OF THE CLEAN VEHICLE STANDARD

Purpose

To seek your decisions on whether to recommend to Cabinet to retain or abolish the Clean Vehicle Standard (the Standard).

Key points

- We recommend retaining the Standard so New Zealand can make the most of global advances in vehicle technology to lower fuel use and CO2 emissions. The Standard achieves this by gaining earlier and greater access to the latest efficient, lower-emissions vehicles from global manufacturers.

- The Emissions Trading Scheme (ETS) cannot deliver this outcome alone because it does not affect which vehicles are supplied to New Zealand, and it cannot influence consumers to purchase efficient and low-emission vehicles if those vehicles do not reach the New Zealand market.

- We also recommend that the Standard continues to apply to both new and used-vehicle imports, with targets for used imports set below those for comparable new vehicles to reflect their older technology.

- The current fuel crisis reinforces the case for retaining the Standard because global EV demand is rising, and near-term supply is constrained. Manufacturers are likely to prioritise markets with clear EV incentives. The Standard provides that incentive. Removing it would likely reduce New Zealand's share of EV supply and, over time, access to new technologies.

- We assessed five alternatives to the Standard, including abolishing the Standard and relying solely on the ETS. We found the Standard is the most effective and efficient option to achieve the policy goal. Ministry modelling estimates that retaining it would deliver net benefits of $6 billion over 2026–2050 (benefit cost ratio 1.9), excluding energy security benefits. Key quantified benefits and costs are:

    - **reduced fuel costs, valued at $9.1 billion.** Lower petrol and diesel use reduces ongoing fuel spending for households and businesses

    - **low-cost CO2 reductions valued at $1.7 billion.** The Standard is expected to reduce around 15.1 million tonnes of CO2 (2026–2050) at a lower cost than what the ETS would deliver. The Standard's reductions have a negative marginal abatement cost of -$288 per tonne (i.e. each

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tonne reduced delivers an estimated $288 net economic benefit). Because the ETS has a binding cap, these low-cost reductions displace higher-cost abatement elsewhere in the economy, lowering the overall cost of meeting emissions budgets

- **reduced air pollution and health co-benefits valued at $1.6 billion.** The Standard is expected to cut around 5.4 kilo-tonnes of noxious air pollution, reducing the risk of chronic diseases, hospitalisations and premature deaths

- **higher upfront vehicle purchase costs estimated to be $1.9 billion.** Vehicles with better technology, including electrification, are expected to continue to have higher upfront purchase costs over the medium term

- **additional electricity costs estimated to be $4.6 billion.** This is the increased expenditure on electricity as more electric and plug-in hybrid vehicles enter the fleet.

- The analysis assumes that the historic relationship between economic factors and vehicle demand holds over 2026–2050. It also assumes that consumers behave rationally and that the Standard will not have any impact on the level of vehicle registrations, scrappage, or total number of vehicles in the fleet.

- Stakeholders strongly support retaining the Standard with one partial exception: the Imported Motor Vehicle Industry Association (VIA) supports applying it to new vehicles but not to used vehicle imports. This broad support reflects the effectiveness of the Standard in:

  - gaining New Zealand earlier and greater access to the latest efficient, lower-emissions vehicles from global manufacturers. For example, during stakeholder engagement, we were told that BYD was able to bring forward and expand its offering to New Zealand because of the Standard

  - increasing competition in the supply of lower-emissions vehicles, which has contributed to downward pressure on price and increased quality

  - providing a regulatory signal that supports longer-term planning for EV-charging infrastructure investment.

- s 9(2)(h)

- New Zealand is projected to meet the second emissions budget (2026–2030), with a buffer of 3.6 million tonnes CO2-e. The buffer is 1.2 percent of the emissions budget. Abolishing the Standard would reduce this buffer to 3.0 million tonnes CO2-e. This is a relatively narrow buffer given the other known delivery risks outlined by the Minister of Climate Change in his 2025 Adaptative Management Assessment Cabinet paper [ECO-25-MIN-0155 refers].

- New Zealand is not currently projected to meet the third emissions budget (2031–2035). Emissions are expected to exceed the budget by 8.7 million tonnes CO2-e. Removing the

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Standard would widen this gap to 11.7 million tonnes CO2-e, increasing the need for additional mitigation measures.

- Abolition also risks increasing the long-term fiscal and economic costs of meeting emissions budgets. When inefficient vehicles enter the fleet, they embed higher fuel costs and higher emissions for up to 20 years.

Recommendations

We recommend you:

1	**agree** to recommend to Cabinet that the Clean Vehicle Standard (the Standard) be retained for new vehicles	Yes / No
2	**agree** to recommend to Cabinet that the Standard be retained for used-vehicle imports	Yes / No
3	**agree** that the Standard's CO2 targets for used-vehicle imports be set separately from those for new vehicles and below comparable new-vehicle targets, reflecting that used imports are, on average, around 10 years old and use older technology	Yes / No
4	**note** that advice on the level and trajectory of these CO2 targets would be provided through the Stage 2 review if Cabinet agrees to retain the Standard	
5	**consider** the attached draft Cabinet paper that will take forward your decisions on the future of the Standard, and **advise** us of any changes you would like made	Yes / No
6	**note** that the Cabinet paper is intended to be lodged by 11 June 2026 to enable consideration by the Cabinet Economic Development Committee on 17 June 2026	
7	**refer** this briefing to Hon Simon Watts, Minister of Climate Change, for his information given the Standard's role in lowering CO2 abatement costs.	Yes / No

Ruth Fairhall
Deputy Chief Executive, Policy Group
22 / 04 / 2026

Hon Chris Bishop
Minister of Transport
..... / ..... / .....

Minister's office to complete: ☐ Approved ☐ Declined ☐ Seen by Minister ☐ Not seen by Minister ☐ Overtaken by events

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Comments

Contacts

Name	Telephone	First contact
Ruth Fairhall, Deputy Chief Executive, Policy Group	s 9(2)(a)	
Mary Craythorne, Manager, Environment		✓
Gayelene Wright, Principal Adviser, Environment		

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OUTCOME OF THE STAGE 1 REVIEW OF THE CLEAN VEHICLE STANDARD

We have completed the first principles review of the Clean Vehicle Standard

1 Cabinet agreed on 12 November 2025 to expand the scope of the 2026 review of the Clean Vehicle Standard to a first principles review, that includes consideration of whether to abolish the Standard [ECO-25-MIN-0186 refers].

2 On 20 December 2025, you agreed that the review would be undertaken in two stages [OC251038 refers]:

2.1 **Stage 1**: a first principles review to enable Cabinet, in the second quarter of 2026, to decide whether to retain or abolish the Standard. If the recommendation is to retain the Standard, Stage 1 also advises on whether used-vehicle imports should be subject to a different standard than new vehicles and, if so, how the standards would differ.

2.2 **Stage 2**: either detailed policy design work to review and update the Standard's settings (if Cabinet agrees to retain the Standard) or work to wind down and abolish the Standard. The timing and scope of Stage 2 will be determined by Cabinet's Stage 1 decisions.

3 We have completed the Stage 1 review. This briefing sets out our analysis and recommendations and has been informed by stakeholder engagement. We have worked closely with the New Zealand Transport Agency, which supports our recommendations.

What the Standard is and how it works

4 The Standard is a fuel efficiency/CO2 standard, which came into effect on 1 January 2023. It encourages the supply and purchase of more fuel-efficient petrol and diesel vehicles, hybrids and zero emission vehicles to reduce fuel costs and CO2 emissions.

5 The Standard works by setting annual CO2 targets that progressively lower over time. Vehicle importers are required to meet the targets, on average, across the vehicles they import.

6 Importers may supply any mix of vehicles they choose, as the Standard does not prohibit the import of any vehicle. Instead, vehicles with CO2 emissions above the relevant target incur financial charges, while vehicles with CO2 emissions below the relevant target earn emission credits. To meet the targets, vehicle importers must offset any charges with credits, either earnt themselves or purchased from other importers.

Market failures justify regulation to ensure New Zealand benefits from advances in vehicle technology at a similar pace to other developed countries

7 The policy norm in developed countries is to use fuel efficiency or CO2 standards to overcome several supply- and demand-side market failures (outlined below) that slow improvements in vehicle efficiency and the uptake of low- and zero-emission technologies (see Annex 1). Standards are favoured because they directly influence the technology of vehicles entering vehicle fleets.

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8 In reviewing whether New Zealand should continue to do the same through the Standard, we defined the desired public policy outcome as:

> **New Zealand benefits from improved fuel efficiency and the latest low-emission vehicle technologies at a similar pace to other developed countries, reducing fuel use and CO2 emissions.**

9 Ministry modelling indicates that continuing to pursue this outcome with the Standard would deliver net benefits of $6 billion over 2026–2050, excluding energy security benefits, with a benefit-cost ratio of 1.9. The key quantified benefits and costs are:

9.1 **reduced fuel costs, valued at $9.1 billion**. Lower petrol and diesel consumption reduces ongoing fuel spending for households and businesses, easing cost-of-living pressures and lowering operating costs across the economy. These fuel savings more than offset higher upfront vehicle purchase costs and additional electricity costs

9.2 **improved energy security and reduced exposure to global fuel price volatility** by reducing New Zealand's dependence on imported oil. A more efficient and more electrified vehicle fleet reduces vulnerability to international fuel supply disruptions and supports a more resilient transport and energy system

9.3 **low-cost CO2 reductions valued at $1.7 billion.** The Standard is expected to reduce around 15.1 million tonnes of CO2 (2026–2050) at a lower cost than what the ETS would deliver. The Standard's reductions have a negative marginal abatement cost of -$288 per tonne (i.e. each tonne reduced delivers an estimated $288 net economic benefit). Because the ETS has a binding cap, these low-cost reductions can displace higher-cost abatement elsewhere in the economy, lowering the overall cost of meeting emissions budgets

9.4 **reduced air pollution and health co-benefits valued at $1.6 billion.** The Standard is expected to cut around 5.4 kilo-tonnes of noxious air pollution, reducing the risk of chronic diseases, hospitalisations and premature deaths

9.5 **higher upfront vehicle purchase costs estimated to be $1.9 billion.** Vehicles with better technology, including electrification, are expected to continue to have higher upfront purchase costs over the medium term

9.6 **additional electricity costs estimated to be $4.6 billion.** This is the increased expenditure on electricity as more electric and plug-in hybrid vehicles enter the fleet.

10 The above modelled costs and benefits represent the impacts of retaining the Standard compared with a counterfactual of having no Standard. The modelling assumes the legislated targets set to 2029 apply and continue to tighten beyond 2029. In our view this best reflects the long-term impact of retaining the Standard. The modelling also assumes that:

10.1 the historic relationship between economic factors, such as GDP, and vehicle demand holds over 2026–2050

10.2 consumers behave rationally, for example, they will purchase a vehicle with a higher upfront purchase price if the extra cost is offset by fuel savings

10.3 the Standard will not have any impact on the level of vehicle registrations, scrappage, or total number of vehicles in the fleet.

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The ETS alone will not speed the pace at which New Zealand benefits from advances in vehicle technology

11 The ETS is New Zealand's main tool for reducing CO2 emissions and achieving the 2050 target. It provides an economy-wide price signal to encourage emissions reductions where they are cost-effective. In principle, this includes influencing decisions about which vehicles are supplied to, and purchased in, New Zealand.

12 However, in practice a range of market failures and supply constraints in the vehicle market limits how effectively the ETS can influence these decisions. As a result, the ETS could advance the desired outcome but with a higher cost of reducing CO2 emissions across the economy. The key constraints are:

Small markets like New Zealand need strong regulatory signals to secure new vehicle technologies

12.1 New Zealand is a small vehicle market. Importers have limited ability to influence the global supply strategies of vehicle manufacturers. Large regulated markets such as the European Union, United Kingdom, United States, Canada, China and Japan have binding fuel-efficiency/CO2 standards that shape how manufacturers allocate their most advanced internal combustion, hybrid and zero emission vehicles. Manufacturers prioritise these markets to ensure compliance and avoid penalties.

Small markets like ours require similar regulation to secure access to the latest vehicle technologies. Stakeholders confirmed that without a comparable regulatory signal, New Zealand would have little leverage in global allocation decisions and would risk being supplied later - or not at all - with more efficient and lower emission models. We would receive less efficient vehicles that are cheaper for manufacturers to produce. Over time, this would mean slower improvements in the fleet, higher fuel costs for households and businesses, and greater exposure to global fuel price volatility.

This supply constraint limits the effectiveness of the ETS. The ETS cannot influence consumers to purchase efficient and low-emission vehicles if those vehicles do not reach the New Zealand market.

Supply constraints also limit access to efficient, low emission used-vehicle imports

12.2 A similar constraint applies to the supply of efficient used vehicle imports. New Zealand differs from other developed countries in allowing the import of used vehicles, with the majority sourced from Japan. The countries we compete with for supply are largely developing or transition economies. Unlike most of them, New Zealand does not apply age limits. Countries such as Kenya and Tanzania restrict imports to vehicles eight years or younger, Pakistan and Sri Lanka to three years, and Malaysia and Bangladesh to five years.

These age limits push up the price of newer used vehicles, as international demand is concentrated on them. Because New Zealand's used-vehicle importers typically purchase at lower price points to maximise their margins, they increasingly struggle to secure younger used hybrids, EVs, and efficient petrol vehicles.

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As a result, our used vehicle supply is skewed toward older, less efficient and less safe vehicles. Fifty-six percent of used imports are now 10 years or older. The New Zealand Automobile Association advised that without the Standard, importers would further shift toward cheaper, older, higher-emissions vehicles.

As with new vehicles, this supply constraint limits the effectiveness of the ETS. The ETS cannot influence consumers to purchase more efficient and lower-emission used vehicles when insufficient volumes of them are imported.

A weak and gradual fuel price signal cannot overcome some consumer factors

12.3 Alongside the supply constraints described above, a set of behavioural issues and market failures significantly limit how effectively the ETS can influence consumers to choose more efficient and lower-emission vehicles. The key ones are:

12.3.1 **Loss aversion and upfront cost bias.** Consumers place far more weight on upfront vehicle purchase price (the immediate "loss") than on uncertain future fuel savings. Consequently, their willingness to pay for fuel efficiency tends to be well below the value of lifetime savings.

12.3.2 **Information costs and asymmetries.** Many consumers lack the time, information or capability to assess lifetime running costs, reducing the influence of future ETS prices on vehicle choice.

12.3.3 **Short pay-back horizons**. Consumers often consider fuel savings only over the period they expect to own a vehicle rather than the vehicle's life. Where this is only a few years, they may opt for a less efficient model if the upfront cost premium cannot be recovered quickly. The ETS price signal will be too weak to influence decisions in favour of more efficient or low-emission vehicles.

12.3.4 **Split incentives.** Where the vehicle purchaser is not the fuel payer, the ETS signal does not reach the decisionmaker, reducing the demand for efficient vehicles. For example, rental car companies may not be willing to pay more for efficient vehicles because their customers bear the fuel costs.

12.3.5 **Competing consumer priorities**. Fuel efficiency is only one of many factors influencing purchase decisions. Vehicle size, capability, performance, or brand can be more important, and some people may not be able to afford more efficient or electrified vehicles. The ETS's incremental changes in fuel prices are unlikely to alter these priorities.

Early-mover disadvantage further weakens the ETS price signal

12.4 These demand-side barriers create a commercial disadvantage for importers that introduce advanced low-emission or fuel-efficient vehicles ahead of their competitors. Because these models typically have higher upfront costs, early movers risk losing sales to importers offering cheaper, less efficient vehicles - especially when consumers undervalue fuel savings.

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This discourages importers from supplying newer technologies until there is a strong and reliable market signal, or a regulatory requirement, that reduces the risk of moving early. Because the ETS price signal is gradual and spread over many years, it is too weak to generate the immediate demand needed to offset this competitive disadvantage.

As a result, early-mover dynamics slow the arrival of efficient and low-emission vehicles in New Zealand and reinforce that the ETS does not influence which vehicles importers choose to bring into the market.

Long vehicle life further dilutes the influence of the ETS

12.5 Vehicles have a long economic life: new vehicles remain in the fleet for around 20 years and used imports for about 10 years. This significantly weakens the ETS price signal because gradual fuel price changes are easily outweighed by upfront purchase price considerations and competing consumer preferences.

Each year's vehicle imports therefore lock in the fleet's fuel use and emissions profile for up to two decades. When inefficient vehicles enter the fleet, they embed higher fuel costs, higher emissions, and increase the long-term fiscal and economic cost of meeting emissions budgets.

The ETS acts too late in the decision chain to influence vehicle supply

12.6 The most effective point to influence New Zealand's vehicle supply is at the point of import, where importers decide which models to bring into the country and bear the commercial risk of those decisions. These decisions lock in the fleet's long-term fuel-use and emissions profile. In contrast, the ETS acts only once vehicles are already in the country, influencing fuel costs rather than which vehicles are available for purchase.

Although higher ETS-driven fuel prices could theoretically encourage cleaner imports, in practice the price increases are too gradual and uncertain, and consumer responses too muted, for importers to rely on it when making short-term supply decisions.

13 Taken together, these constraints show the ETS cannot, on its own, shift the composition of the light-vehicle fleet at the required pace. It does not influence which vehicles are supplied, and its demand signal is too weak to materially influence consumers' purchase decisions. A complementary measure is therefore needed to help New Zealand keep pace with advances in vehicle technology to reduce fuel use and emissions at a similar rate to other developed countries.

We assessed the Clean Vehicle Standard against five alternative options

14 Having concluded that regulatory intervention is warranted, we assessed the Standard against five alternative measures, including the option of abolishing the Standard and relying solely on the ETS. We found the Standard is the most effective and efficient option to achieve the policy goal.

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15 Relying solely on the ETS is not preferred for the reasons outlined above. The other options considered were:

15.1 **a voluntary CO2/fuel efficiency standard**. This option is discounted due to its likely ineffectiveness in the absence of enforcement. International experience shows voluntary standards in Australia, the European Union, Canada, and China achieved only business-as-usual improvements and were later replaced by mandatory standards. The Motor Industry Association has similarly advised that a voluntary standard would not be effective

15.2 **a zero-emission vehicle mandate for new vehicles** requiring importers to supply a fixed share of EVs (or any other zero emission vehicle). This option is discounted as it would compel EV supply irrespective of demand and supply conditions, likely constraining lower-cost vehicle supply, increasing prices, and increasing compliance risk for importers

15.3 **an age-ban for used-vehicle imports.** This option is not preferred because an age limit does not reliably drive improvements in electrification, fuel efficiency, or emissions outcomes. Importers could still comply by supplying newer but relatively inefficient, high-emitting vehicles. An age-ban could also reduce supply and increase vehicle prices depending on the age set

15.4 **a maximum CO2 emissions limit.** This option is discounted because a hard emissions cap would restrict the range of vehicles importers could supply and reduce consumer choice. Importers would likely need to shift toward smaller vehicles to comply, limiting options for large SUVs and utes until the range of affordable low-emission models expands.

Used imports should continue to be subject to the Standard, but have separate targets

16 The Imported Motor Vehicle Industry Association (VIA) considers that used-vehicle imports should not be subject to the Standard because these vehicles are already built and therefore cannot reduce global emissions. It also considers that, if retained for used imports, the Standard risks negatively affecting supply, prices and the rate of fleet turnover.

17 We consider that used-vehicle imports should continue to be subject to the Standard. Discontinuing it for used imports would likely:

17.1 **increase the volume of less fuel-efficient and higher-emitting vehicles entering the fleet**, locking in higher emissions and fuel costs over the long term. Low-income households would be disproportionately affected, as they spend a greater proportion of their income on transport and are more exposed to increases in fuel and vehicle running costs

17.2 **distort competition between the new and used vehicle sectors** by placing compliance costs only on new-vehicle distributors, thereby increasing the relative price competitiveness of used imports. This would likely shift more buyers toward higher-emission used models and slow the rate at which New Zealand benefits from more efficient technologies, including electric vehicles.

18 It has been harder for used-vehicle importers to comply with the Standard's CO2 targets compared with new vehicle distributors. This reflects the older technology in used imports as well as the limited availability of used EVs in the Japanese market.

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19 To recognise these technological differences and mitigate the risks raised by the VIA, we recommend setting separate targets, with CO2 targets for used-vehicle imports set below those for comparable new vehicles. Advice on the level and trajectory of these targets would be provided in the Stage 2 review.

Stakeholder feedback was strongly in favour of retaining the Standard, with only the VIA not supporting it for used imports

20 In doing the review we engaged with the following stakeholders: the Motor Industry Association, the Motor Trade Association, the Imported Motor Vehicle Industry Association (VIA), Toyota New Zealand, Tesla, Ateco, Armstrong Group, New Zealand Automobile Association, Rewiring Aotearoa, Drive Electric, Better NZ Trust, the Climate Change Commission, the Parliamentary Commissioner for the Environment, and the International Council on Clean Transportation. A summary of stakeholders' views is in Annex 2.

21 We also met with the Australian Department of Infrastructure, Transport, Regional Development, Communications, Sports and the Arts.

22 All stakeholders support retaining the Clean Vehicle Standard, seeing it as essential for ensuring New Zealand continues to access modern, efficient and low emission vehicles. However, the VIA only supports retaining the Standard for new vehicles. It does not support its retention for used imports.

23 The Motor Industry Association, the Motor Trade Association and Toyota emphasised that they support retention of a recalibrated Standard with CO2 targets that better reflect domestic market conditions, consumer affordability, and realistic vehicle availability. This is a matter that would be addressed in the Stage 2 review.

s 9(2)(h)



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The impact of abolishing the Standard on the Second and Third Emissions Reduction Plans

28 In considering a decision to abolish the Standard, Ministers must consider the impact abolition would have on the sufficiency of the second emissions reduction plan 2026-2030 (ERP2) to meet the second emissions budget (EB2), and any flow on impact for the third emissions budget for 2031–2035 (EB3).

29 New Zealand is projected to achieve EB2 and be under the emissions limit by 3.6 million tonnes (Mt) CO2-e. However, the projections are subject to considerable uncertainty and volatility.

30 The Standard contributes to the achievement of EB2 by reducing CO2-e emissions by an estimated 0.6 Mt over 2026–2030. Therefore, removing the Standard would reduce New Zealand's projections to 3 Mt CO2-e under the emissions limit. This is a relatively narrow buffer given the other known delivery risks outlined by the Minister of Climate Change in his 2025 Adaptative Management Assessment Cabinet paper [ECO-25-MIN-0155 refers].

31 Emission reductions from the Standard increase over time as efficient and lower-emissions vehicles imported in earlier years remain in the fleet and continue to reduce emissions. Over EB3, the Standard's reductions increase to around 3 Mt CO2-e. As New Zealand is currently projected to exceed the EB3 emissions limit by 8.7 Mt CO2-e, removing the Standard would widen this gap to 11.7 Mt CO2-e.

32 In the view of the Secretariat to the Climate Change Chief Executives Board, options available for New Zealand to continue to reduce emissions will likely get more difficult and more costly over time. The Secretariat recommends maintaining policies that reduce emissions and provide stable settings.

Emissions budgets	2025 emissions projections	Emissions impact of removing the Standard	Impact on meeting EBs
EB2: 305 Mt limit (2026-2030)	301.4 Mt (3.6 Mt under EB)	+ 0.6 Mt	302 Mt (3 Mt under EB)
EB3: 240 Mt limit (2031-2035)	248.7 Mt (8.7 Mt over EB)	+ 3 Mt	251.7 Mt (11.7 Mt over EB)

33 The above calculations are 2025 emissions projections for the current position on EB2 and EB3 emissions. The emissions impact of the Standard was modelled using more recent data and the Ministry's model.

34 The Standard is an existing policy that continues to support action in ERP2. While it is not one of the eight key ERP2 policies, decisions to discontinue it may attract closer scrutiny given current litigation relating to the sufficiency of ERP2 to meet EB2 and the greater attention being paid to changes to established climate policies.

35 If your preference is to remove the Standard, we recommend you consult the Minister of Climate Change on the implications for emissions reductions prior to Cabinet consideration. In any case we advise referring this paper to the Minister of Climate Change, for his information.

36 The Ministry for the Environment has noted that ETS market confidence is currently low, following November announcements of amendments to the Climate Change Response Act 2002. Commentary and market engagement suggest this is driven at least partially by market

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perceptions about the Government's commitment to climate change targets. The signal sent by removing the Standard may exacerbate low market confidence.

Next steps

37 A draft Cabinet paper is attached for your consideration, along with a regulatory impact statement. Once we have actioned any changes you request to the Cabinet paper, we will start departmental consultation.

38 Our proposed timeline for progressing the paper is set out below. It assumes you agree to retain the Standard and progress a Stage 2 review that resets the Standard's settings. This timeline secures Cabinet decisions by 22 June 2026 on the Stage 1 review.

39 Our recommended timeline for the Stage 2 review has been informed by the view of the Motor Industry Association. It emphasised the importance of taking the time to get the settings right, rather than moving quickly to provide certainty. Any required regulatory changes would be secured after Cabinet decisions in March 2027.

Action	Timeframe
Draft Cabinet paper revised following Minister's feedback and provided to Minister's office	6–7 May 2026
Departmental consultation	Friday 8 May– Friday 15 May
Ministerial consultation	19 May–2 June
Updated papers provided to Minister's office	Thursday 4 June
ECO paper lodged	Thursday 11 June
ECO meets	Wednesday 17 June
Cabinet	Monday 22 June
Stage 2 review of the Standard's settings completed	s 9(2)(f)(iv)
Briefing on the outcome of the Stage 2 review, including a draft Cabinet paper and regulatory impact statement	
Cabinet paper on the outcome of the Stage 2 review considered by ECO	

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Annex 1
How developed economies intervene to accelerate vehicle efficiency/lower vehicle CO2 emissions

Policy in place or soon will be | Policy partially in place | No policy | Awaiting decision

Country / Region	Is there a vehicle specific policy?	Is there carbon pricing of road transport fuels?
New Zealand	Mandatory CO2 standard.	New Zealand's ETS covers all transport fuels.
Australia	Mandatory CO2 standard.	Australia's carbon pricing mechanism does not cover road transport fuels.
Canada	Mandatory CO2 standards.	The federal carbon tax that applied to transport fuels was removed in 2025.
Chile	Mandatory fuel-economy standards.	Has a one-off vehicle carbon tax that applies to the first sale of new light vehicles based on their fuel efficiency.
China	Mandatory fuel-efficiency standards and a new energy vehicles credit system. The latter requires that a specified share of a suppliers' vehicles be EVs, PHEVs or fuel-cell.	China's ETS does not cover road transport fuels.
European Union (27 countries)	Mandatory CO2 standards.	The European Union's ETS will be expanded to include road transport fuels in 2027. Currently, many member states impose carbon taxes on transport fuels, including France, Sweden, Finland, Denmark, Ireland, Portugal and Luxembourg. Germany's ETS covers transport fuels. This national system will transition to the wider European Union's ETS in 2027.
Japan	Mandatory fuel-efficiency standards	Japan's national carbon tax applies to road transport fuels.
Israel	No mandatory CO2 or fuel-efficiency standard but has the Green Taxation Scheme that applies taxes to vehicle purchases based on their emissions.	Carbon tax on road transport fuels
Mexico	Mandatory CO2 standards.	Carbon tax on road transport fuels
Norway	Mandatory EU-aligned CO2 standards.	Carbon tax on transport fuels and participation in EU ETS

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Singapore	No mandatory CO2 or fuel-efficiency standard. Has the Vehicle Emissions Scheme, which is a feebate scheme, applied at the point of consumer purchase.	Singapore's carbon tax does not apply to transport fuels.
South Korea	Mandatory CO2/fuel-efficiency standards.	Korea's ETS covers road transport fuels.
Switzerland	Mandatory EU-aligned CO2 standards.	The Swiss ETS does not cover road transport
Turkey	Mandatory EU-aligned CO2 standards.	A pilot phase of a national ETS is due to start over 2026-27 but will not cover road transport. It may be included in the full implementation stage from 2028 to match the EU.
United Kingdom	Mandatory CO2 standards and a zero emissions mandate. The latter requires that a specified proportion of a supplier's vehicles be zero emission.	The United Kingdom's ETS does not apply to road transport fuels.
United States	Mandatory fuel efficiency and CO2 standards (these were weakened in 2025 to have zero penalties).	There is no federal carbon pricing mechanism. However, California and Washington have emissions trading schemes and states within the Regional Greenhous Gas Initiative have transport carbon pricing[1].

The above comparison shows that, across developed countries, vehicle CO2 and fuel-efficiency standards are the primary policy lever to improve fuel efficiency and reduce CO2 emissions. It also shows that where carbon pricing applies, it is typically complemented by standards to shape vehicle supply. No developed country relies on carbon pricing alone.

International evidence shows that Standards are effective. They encourage innovation, reduce fuel use, strengthen energy security and lower emissions[]. Research by the International Council on Clean Transportation (ICCT) on Australia's access to advanced efficiency technologies (such as turbocharging and hybrid drivetrains) found a lag of 5–10 years relative to regulated markets. The ICCT concludes that standards are "among the most effective climate-change mitigation measures to have been implemented over the past decade."

The ICCT is an international nonprofit public policy think tank and research institute that provides technical, scientific, and policy analysis to environmental regulators on issues related to environmental, energy, and transportation policy.

Most standards align with, or are modelled on, the US Corporate Average Fuel Economy (CAFE) standard, introduced in 1978. Evaluations estimate that CAFE has driven savings of around 2 trillion

[1] Participating states: Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New York, Rhode Island, Vermont, and New Jersey.

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gallons of gasoline since 1975, reduced greenhouse gas emissions by around 14 gigatonnes, and saved US households an average of $16,000 in fuel costs from 1980 to 2014[2]. Without CAFE, estimates suggest that only around 15–20 percent of the increase in fuel economy from 1975 to 2018 would have occurred due to fuel price changes alone[3].

The European Union (EU) adopted CO2 standards for light passenger vehicles in 2009 and for light commercial vehicles in 2011. A 2015 evaluation found the standards had a positive impact on competitiveness and innovation, were beneficial from an equity perspective, and accounted for 65-85 percent of the reductions in tailpipe emissions achieved following their introduction[4]. The EU subsequently strengthened the targets in 2019. Following implementation, average CO2 emissions from new passenger cars registered in Europe fell by 28 percent between 2019 and 2024, and emissions from new vans by 9 percent[5]

[2] https://www.sciencedirect.com/science/article/abs/pii/S0301421520305048

[3] https://www.sciencedirect.com/science/article/abs/pii/S0301421520305048

[4] https://climate.ec.europa.eu/system/files/2016-11/evaluation_ldv_co2_regs_en.pdf

[5] https://climate.ec.europa.eu/eu-action/transport-decarbonisation/road-transport/cars-and-vans_en#:~:text=Passenger%20cars%20and%20light%20commercial,and%20vans%20from%202035%20onwards

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Annex 2 - Stakeholder views on retaining the Clean Vehicle Standard

Stakeholder	Support retaining the Standard?	Key reasons
Armstrong Group	**Yes**	Chinese brands will increase competition in our market leading to better quality, lower prices and reduced demand for Japanese used imports. The Standard is needed to provide a strong market signal in support of this change. s 9(2)(b)(ii)
Ateco	**Yes**	Provides the stable long-term signal global manufacturers need to prioritise New Zealand for the supply of the latest vehicles. BYD was able to bring forward and expand its offering of EVs to New Zealand because of the Standard. Without the Standard manufacturers will divert the supply of lower emission models to markets with regulated Standards. Removal of the Standard would strand investments, increase fuel costs, and lock in outdated technology.
Better NZ Trust	**Yes**	Prevents NZ becoming a destination for higher-emission vehicles. Supports consumer choice and reduces long-term household fuel costs. Is a cost-effective way to meet emissions obligations through supporting transition to EVs and, in the short term, increasing the efficiency of internal combustion vehicles. Alternative policies lack the same certainty and effectiveness.
Climate Change Commission	**Yes**	The Standard is the last policy lever we have to reduce vehicle CO2 emissions, which heightens its importance. It avoids New Zealand becoming a 'dumping ground' for higher emitting vehicles that lock households into higher fuel and vehicle running costs. Transport is expected to contribute about 10% of the net emissions reduction the Government is seeking in the second emissions budget period (2026–2030). Most of this needs to come from reducing emissions of light vehicles. Removal of the Standard will make it

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Stakeholder	Support retaining the Standard?	Key reasons
		more difficult to meet the emissions budget, and greater reductions will be needed elsewhere, either in other parts of the transport sector or in other sectors. This will put further strain on meeting the third emissions budget. Without any policy that encourages greater demand for EVs, New Zealand may struggle to find private sector investment in charging infrastructure to help meet the target of 10,000 charging points by 2030 – the key Government policy for transport in ERP2. A slowdown in EV sales could have significant impacts on EV businesses. For example, businesses investing or specialising in charging infrastructure, battery recycling, or EV servicing may lose confidence in the market having previously experienced growth through 2022-2024 from increasing EV sales. The ETS is not strong enough by itself to reduce transport emissions. In our advice on ETS settings, we have cautioned that by the third emissions budget period the ETS will unlikely be able to be relied upon to drive gross emissions reductions in its current form.
Drive Electric	**Yes**	Prevents New Zealand becoming a dumping ground for obsolete, high-emission vehicles. Avoids billions in avoidable fuel costs and reduces the health burden from noxious vehicle emissions. Long vehicle life means each high-emission import locks in pollution for 20 plus years. The ETS alone is insufficient as transport is unresponsive to carbon prices and vehicle buyers focus on the upfront vehicle purchase price, not long-term fuel costs. Achieving equivalent abatement via the ETS would require politically unacceptable carbon price levels.
Imported Motor Vehicle Industry Association (VIA)	**Partially** Retain for new vehicles but not for used imports	The Standard should apply to new vehicle distributors because it can influence production, specification, and supply decisions, and therefore has a credible role in shaping future fleet composition. However, it should not be used as the primary CO2 reduction mechanism for used-vehicle imports. Used vehicles are already built, and a CO2-at-import standard significantly affects supply, price, and turnover (leading to fleet emissions remaining high) and has no impact on global emissions outcomes. Initiatives to increase the rate of fleet turnover are preferable for used imports.

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Stakeholder	Support retaining the Standard?	Key reasons
International Council on Clean Transportation (ICCT)	**Yes**	The Standard is working — cutting fleet-average CO2 emissions, improving fuel efficiency for both new and used imports, and delivering substantial annual fuel savings for consumers. Compared with 2021, average CO2 emissions and fuel use of imported vehicles fell by 18% for cars/SUVs and 10% for utes, vans and light trucks over 2022–2025. Pre-standard performance showed annual reductions of only around 2% for cars/SUVs and 1% for light commercials. Applied over the same period, this would imply total business-as-usual improvements of just 8% and 4% respectively — below what has been achieved under the Standard. Electrification has accelerated, even after repeal of the Clean Car Discount and the introduction of EV road-user charges, the Standard has helped maintain growing EV uptake. Importers can meet the targets, with technology to comply with 2026–2029 targets already being available globally. Markets such as the EU, UK, Canada and China are already meeting stricter targets, demonstrating feasibility. Costs to consumers are low and savings are high. Fuel efficiency standards are highly cost-effective—any vehicle price increases from technology upgrades are far outweighed by lifetime fuel savings. EVs are also rapidly approaching cost parity this decade. Repealing the Standard would have significant risks. It would lead to increased imports of high-emitting vehicles that would increase fuel costs for households, slow EV uptake and harm compliant businesses.
Motor Industry Association	**Yes**	Supports retaining the Standard but with its settings recalibrated to better reflect domestic market conditions, consumer affordability, and realistic vehicle availability. Supports applying the Standard to both new vehicles and used vehicle imports, as excluding used imports would distort competition and slow emission reductions. Removal of the Standard could: • disadvantage imports and distributors that have made substantial compliance and portfolio investments under the current requirements • weaken the policy signal for the fleet to transition to lower and zero emission • reduce New Zealand importers' and distributors' influence in securing supply of low- and zero-emission vehicles from global manufacturers, potentially affecting how many of those vehicles are supplied • distort market competition toward higher-emission vehicles

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Stakeholder	Support retaining the Standard?	Key reasons
		• increase reliance on the ETS to reduce fleet emissions, when evidence suggests it is unlikely, in isolation, to materially influence vehicle purchasing decisions • slow the rate at which older, less efficient vehicles are replaced in the fleet, delaying aggregate emissions reductions • introduce regulatory instability and planning uncertainty in a market characterised by long product lead times and advance volume commitments.
Motor Trade Association	**Yes**	It would be remiss of New Zealand not to have a Standard as it is the last policy lever we have to influence vehicle CO2 emissions. However, its settings need to change to make sure its targets are achievable. The Standard stops New Zealand being a destination for less fuel efficient/high emission vehicles that cost more to run. To date it has successfully shifted the vehicle mix towards hybrids. The Standard should apply to used vehicle imports as they do not need to be treated differently. Alongside achievability the Standard needs to contribute to providing certainty for the industry.
New Zealand Automobile Association (AA)	**Yes**	A regulated standard is the most direct lever to influence the CO2 intensity of vehicle imports. The Standard balances environmental ambition with commercial flexibility. It should apply to used imports as without it, importers will likely shift toward cheaper, higher-emission used stock.
Parliamentary Commissioner for the Environment	**Yes**	The original rationale for the Standard is clear from the original policy work and still stands. If the Standard were removed, New Zealand will become an increasingly attractive dumping ground for fuel inefficient used vehicles. Given New Zealand's relative poverty and the fact that we drive cars almost to the grave, there is a long emissions shadow that comes with such vehicles. A range of outcomes would be negatively affected if it were removed eg air quality and health outcomes. Its removal would undermine private investment in EV charging. Refer to note below.

Note: PCE has requested additional context be provided for this statement. Removing the CVS would reduce the incentive to import clean vehicles, particularly EVs. If the demand for EVs drops, then there would be less incentive for private industry to invest in public charging infrastructure, which would make it harder for the Government to reach their goal of 10,000 new public chargers.

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Stakeholder	Support retaining the Standard?	Key reasons
		The Standard was intended to work in concert with the Clean Car Discount (CCD). Given the repeal of the CCD it is not surprising that the Standard is operating as it is. The original intent of the Standard should be revisited to accept that without the CCD it will need to alter prices to favour low-emissions vehicle purchases. If the Government is unhappy with the performance of the Standard, it should slow the reductions required. It is too early to remove the Standard entirely. The ETS is insufficient by itself. For example, it does not impact on vehicle purchase decisions because people place more weight on vehicle purchase price than fuel costs.
Rewiring Aotearoa	**Yes**	A transition to EVs is strongly in New Zealand's interests. The Standard is a low-cost, market-based tool with flexibility mechanisms to maximise consumer choice. Without the Standard vehicle manufacturers will deprioritise New Zealand, slowing the availability of affordable new EVs to reduce household cost of living. Vehicles last 20 years plus. The import of high emission vehicles locks the vast majority of New Zealanders who buy used vehicles into higher transport costs.
Tesla	**Yes**	Fuel efficiency standards are proven and necessary to incentivise cleaner vehicles. The Standard prevents the dumping of older polluting vehicles on our market. Abolishing the Standard signals New Zealand is not serious about new technology. Removal would deter investment in NZ's broader electrification ecosystem (EVs, batteries, solar, and EV charging infrastructure).

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Stakeholder	Support retaining the Standard?	Key reasons
Toyota New Zealand	**Yes**	Toyota has long supported the need for the Standard, subject to it striking the right balance between ambition and achievability/affordability. The Standard addresses issues and barriers that the ETS alone cannot. It has succeeded in supporting product accessibility and we are confident that the vehicle fleet is lower-emissions than it would have been in a no-Standard counterfactual. It helped create a more equitable market for distributors that moved early in supplying low emission vehicles. Its repeal would: • reduce Toyota NZ's ability to supply lower emissions/new efficient technologies • see New Zealand being a dumping ground for high-emissions vehicles that lock-in higher lifetime emissions and fuel costs. • disrupt long-term stability and confidence in low-emissions vehicle uptake and could undermine confidence in long-term charging infrastructure investments • reduce energy and fuel security. Used vehicle imports should not be excluded as this would distort competition in favour of used imports. We need to develop regulation that addresses NZ's market and structural challenges. Despite positive actions of vehicle manufacturers, customers have not adopted EVs. Government needs to: • play a role through enabling policies as seen in other markets • accelerate the rollout of charging infrastructure.

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Office of the Minister of Transport

Cabinet Economic Policy Committee

OUTCOME OF THE STAGE 1 REVIEW OF THE CLEAN VEHICLE STANDARD

Proposal

1. This paper proposes that the Clean Vehicle Standard (the Standard) be retained and that further work starts to recalibrate its settings. It also recommends that the:

    1.1. Standard continues to apply to both new and used vehicle imports

    1.2. Standard's annual CO2 targets for used vehicle imports be set below those of comparable new vehicles to reflect their older technology.

Relation to government priorities

2. Retaining the Standard will improve New Zealand's energy security, lower households' and businesses' fuel costs, and reduce the cost of meeting climate change commitments.

Executive Summary

3. The Standard reduces fuel costs and CO2 emissions by increasing the supply of more efficient and low-emission vehicles into New Zealand. It sets annual CO2 targets for vehicle imports that tighten over time. Vehicles that exceed their target incur charges, while vehicles that perform better earn credits. Importers remain free to choose the mix of vehicles they supply but must offset higher-emission vehicles with sufficient lower-emission vehicles to avoid paying net charges.

4. The Standard addresses a long-term problem: vehicles imported today lock in fuel costs and emissions for up to 20 years. Importing less efficient vehicles increases fuel costs, emissions, and the long-term cost of meeting New Zealand's emissions budgets. These costs can be reduced by getting more efficient vehicles into the fleet sooner.

5. New Zealand is exposed to this problem because two supply constraints limit access to the latest efficient vehicles. Absent a standard, these constraints mean global market forces tend to favour the continued supply of less efficient vehicles into New Zealand.

    5.1. Manufacturers do not supply their latest most efficient vehicles to every market at once, because these vehicles tend to cost more to produce and earn lower margins. In comparison, vehicles with older technology are cheaper to make and can often be sold at similar prices, generating higher margins. Consequently, manufacturers allocate their latest efficient vehicles to large markets and markets with fuel efficiency/CO2 regulation. As a small new-vehicle market, New Zealand has little influence over the models and technologies global manufacturers choose to supply.

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Without a standard, manufacturers would be incentivised to supply less efficient vehicles to our market for as long as possible.

5.2. In the used vehicle market, New Zealand competes internationally for a limited supply of newer, more efficient vehicles. Age restrictions in other importing countries (i.e. limits on the maximum age of imported vehicles) increase competition for these vehicles and push up their prices. This creates incentives for importers to supply older, less efficient vehicles instead.

6. The Emissions Trading Scheme (ETS) is New Zealand's primary emissions reduction tool, but it cannot address these vehicle supply constraints effectively. It works through fuel prices after vehicles enter the fleet, so it has little influence over which vehicles are supplied to New Zealand. It cannot shift consumer choices if efficient and low-emission vehicles are not available, and even where they are, the fuel-price signal is too weak to materially change vehicle purchasing decisions.

7. Officials have completed a first principles review of the Standard and assessed it as the most effective and cost-efficient way to gain earlier and greater access to the latest efficient, lower-emissions vehicles. The Standard acts at the point of import, shaping vehicle availability rather than consumer choice. It delivers emission reductions at a lower cost than what the ETS would achieve. Because the ETS has a binding cap, these low-cost reductions would tend to displace higher-cost abatement elsewhere in the economy, reducing the overall cost of meeting emissions budgets.

8. The Standard therefore complements the ETS by addressing vehicle supply issues that the ETS alone cannot efficiently resolve. Modelling indicates that, excluding energy security benefits, retaining the Standard would deliver net economic benefits of $3.3–$12.8 billion over 2026–2060 with a benefit cost ratio of 1.5–2.2.

9. All stakeholders engaged during the review support retaining the Standard, with the partial exception of the Imported Motor Vehicle Industry Association (VIA). VIA supports retaining the Standard for new vehicles but not for used vehicle imports. VIA considers that applying the Standard to used imports risks negatively affecting supply, prices and the rate of fleet turnover.

10. I recommend retaining the Standard for both new and used vehicle imports. However, I recognise that used vehicle imports broaden consumer choice, and older vehicles cannot reasonably be expected to meet the same emissions targets as new vehicles. I therefore recommend separate, less stringent targets for used vehicle imports. I also propose further work to recalibrate the Standard's settings to ensure they remain achievable and affordable.

11. Abolishing the Standard would forgo the benefits outlined above and increase the long-term costs of meeting emissions budgets. s 9(2)(h)

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Background

The Standard is a supply-side measure that sets CO2 targets the reduce over time

12. The Standard is a fuel efficiency/CO2 standard, which came into effect on 1 January 2023. It increases the supply and purchase of more efficient and low emission vehicles to reduce fuel costs and CO2 emissions. Similar vehicle emissions standards are in place across most developed countries[1].

13. The Standard works by setting annual CO2 targets that lower over time. Importers can sell any mix of vehicles they choose, as the Standard does not prohibit the import of any vehicle. Instead, vehicles with CO2 emissions above the relevant target incur charges, while vehicles that perform better than their targets earn credits. To meet the targets, vehicle importers must offset any charges with credits, either earnt themselves or purchased from other importers. Any charges not offset by credits must be paid.

14. The first review of the Standard in 2024 concluded that the CO2 targets then in place were overly stringent and unlikely to be met. In response, Cabinet agreed to ease the targets to align with Australia's, on the basis that this level was achievable for the vehicle industry while continuing to protect vehicle availability, consumer choice, and affordability. It also agreed that given the uncertainties involved in setting targets, the targets' achievability be reviewed every two years, and invited the Minister of Transport to report the outcome of the next review by 30 June 2026 [CBC-24-MIN-0067 refers].

15. On 12 November 2025, Cabinet agreed to reduce the Standard's charges from 1 January 2026 to 31 December 2027 to a top rate of $15 per gram of CO2 [ECO-25-MIN-0186 refers]. This reflected ongoing market challenges importers faced in meeting the targets. For used vehicle importers, these challenges were largely a lack of newer hybrids and electric vehicles available at affordable prices. For new vehicle importers, the primary challenge was reduced consumer demand for electric vehicles.

16. These issues created a risk that importers would pass the costs of not meeting the targets on to consumers. The temporary reduction in charges is intended to provide interim relief while the 2026 review of the Standard is completed and any changes are implemented.

17. The 2026 review is occurring in two stages. This paper reports back on Stage 1:

    17.1. Stage 1: a first principles review to enable Cabinet, in the second quarter of 2026, to decide whether to retain or abolish the Standard

    17.2. Stage 2: either detailed policy design work to review and update the Standard's target settings (if Cabinet agrees to retain the Standard) or work to wind down and abolish it[2].

[1] Russia is the only developed country without a fuel efficiency/CO2 standard, or its equivalent, in place.
[2] In November 2025, Cabinet noted that officials would consider the abolition of the Standard as part of this review [ECO-25-MIN-0186 refers].

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Analysis

The Standard helps ensure New Zealand benefits from advances in vehicle technology at a similar pace to other developed countries

18. New Zealand is a small vehicle market and has limited ability to influence decisions made by global vehicle manufacturers. Manufacturers prioritise their latest efficient vehicles to large markets and markets with regulated fuel-efficiency or CO2 standards. This is because these vehicles tend to cost more to produce and earn lower margins. In comparison, vehicles with older technology are cheaper to make and can often be sold at similar prices, generating higher margins.

19. In the absence of a regulatory signal, manufacturers are incentivised to continue supplying older, less efficient vehicle technologies to smaller unregulated markets for longer. Maintaining broadly comparable regulatory settings with other developed countries is therefore important to ensure New Zealand remains an attractive market for the timely supply of newer, more efficient vehicle models.

20. Stakeholders confirmed that without a similar regulatory signal, New Zealand would have little leverage in global allocation decisions. This would increase the risk that newer, more efficient models are supplied later - or not at all – compared with other markets. Over time, this would lock in higher fuel costs and emissions across the vehicle fleet, with long term cost impacts for consumers.

21. The current fuel crisis reinforces the case for retaining the Standard. By accelerating the uptake of more efficient and electrified vehicles, the Standard helps improve energy security and strengthens the resilience of the transport system to fuel price and supply shocks.

The Standard will deliver net benefits of $6 billion over 2026-2050

22. Ministry of Transport modelling estimates that retaining the Standard would deliver net benefits of around $3.3–$12.8 billion over 2026–2060, with a benefit cost ratio of 1.5–2.2. These estimates exclude the additional benefits associated with improved energy security. The key benefits and costs are:[3]

    22.1. **reduced fuel costs, valued at $7.7–$13 billion.** Lower petrol and diesel consumption reduces ongoing fuel spending for households and businesses, easing cost-of-living pressures and lowering operating costs across the economy

    22.2. **improved energy security and reduced exposure to global fuel price volatility** by reducing New Zealand's dependence on imported oil. A more efficient and more electrified vehicle fleet reduces vulnerability to international supply disruptions and supports a more resilient transport and energy system

[3] The modelling assumes the legislated targets set to 2029 apply and tighten beyond 2029. This best reflects the long-term impact of retaining the Standard. It also assumes that the historic relationship between economic factors and vehicle demand holds over 2026–2060, that consumers behave rationally, and the Standard will have no impact on the level of vehicle registrations, scrappage, or the total number of vehicles in the fleet.

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22.3. **low-cost CO2 reductions valued at $0.6–$6 billion.** The Standard is expected to reduce between 13.3–31.5 million tonnes of CO2 (2026-2060) at a lower cost than what the ETS would deliver. The Standard's reductions have a negative marginal abatement cost of between -$269 to -$176 per tonne (that is, each tonne reduced delivers an estimated net economic benefit of between $176–$269). Because the ETS has a binding cap, these low-cost reductions would tend to displace the need for higher-cost abatement elsewhere in the economy, lowering the overall cost of meeting the emissions budgets

22.4. **reduced air pollution and delivery of health co-benefits valued at $1.6–$4.6 billion.** The Standard is expected to cut between 5.2–12.9 kilo-tonnes of noxious air pollution, reducing the risk of chronic diseases, hospitalisations and premature deaths

22.5. **higher upfront vehicle purchase costs estimated at $1.4–$3 billion.** Vehicles with better technology, including electrification, are expected to continue to have higher upfront purchase costs over the medium term

22.6. **additional electricity costs estimated to be $5.3–$7.7 billion.** This is the increased expenditure on electricity as more electric vehicles enter the fleet.

The ETS is New Zealand's primary emissions-reduction tool, but it will not deliver these benefits on its own efficiently

23. The ETS is New Zealand's main tool for reducing emissions and achieving the 2050 target. It provides a price signal to encourage emissions reductions where they are cost-effective. In principle, this includes influencing decisions about which vehicles are supplied to, and purchased in, New Zealand.

24. In practice, a range of market failures and supply constraints in the vehicle market limit how effectively the ETS can influence these decisions. As a result, while the ETS could advance the desired outcome, it would do so with a higher cost of emissions abatement across the economy. The key constraints are:

24.1. **The ETS acts too late in the decision chain to influence vehicle supply.** The most effective point to influence New Zealand's vehicle supply is at the point of import, where importers decide which models to bring into the country and bear the commercial risk of those decisions. The ETS only acts only once vehicles are already in the country, influencing fuel costs rather than which vehicles are available for purchase.

24.2. **Small markets like New Zealand need strong regulatory signals to secure new vehicle technologies.** As outlined earlier, manufacturers prioritise supply of the latest efficient vehicles to large markets and to markets with strong regulation. This limits the effectiveness of the ETS, because the ETS cannot influence consumers to purchase efficient vehicles if those vehicles do not reach the New Zealand market.

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24.3. **Supply constraints limit access to efficient, low-emission used vehicle imports.** New Zealand competes internationally for a limited pool of newer, more efficient, and electrified used vehicles. The cost of these vehicles is increased by the widespread use of age restrictions (the maximum age of used vehicles that can be imported) in other importing countries. As a result, commercial incentives favour importing cheaper, older vehicles.

24.4. **A weak and gradual fuel price signal cannot overcome some consumer factors.** Observed consumer behaviour works against the purchase of more efficient vehicles. Many consumers:

- place more weight on upfront vehicle purchase price than on uncertain future fuel savings
- lack the time, information or capability to assess lifetime running costs, reducing the influence of future ETS prices on vehicle choice
- only consider fuel savings over the period they expect to own the vehicle rather than the vehicle's full life. Where this is only a few years, they may opt for a less efficient model if the upfront cost premium cannot be recovered quickly
- are not the vehicle purchaser. Where this is the case the ETS signal does not reach the decisionmaker, reducing the demand for efficient vehicles (for example, in the case of rental car companies).

24.5. **Vehicle decisions are long-term, locking in outcomes.** Vehicle import decisions lock in fuel use, power-train type, CO2 emissions and air-quality impacts for up to 20 years. When inefficient vehicles enter the fleet, they embed higher fuel costs, higher emissions, and increase the long-term fiscal and economic cost of meeting emissions budgets.

25. An additional measure, such as the Standard, is therefore needed to help New Zealand keep pace with advances in vehicle technology to reduce fuel use at a similar rate to other developed countries and to reduce CO2 emissions at a lower cost than what the ETS would deliver.

Key stakeholders support retaining the Standard

26. Officials engaged with the motor vehicle industry, international bodies, the Climate Change Commission, the Office of the Parliamentary Commissioner for the Environment, key advocacy groups and subject matter experts. All stakeholders supported retaining the Standard, seeing it as important for ensuring New Zealand continues to access modern, efficient and low-emission vehicles. Many stakeholders considered the Standard to be a necessary complement to the ETS, given New Zealand's small market size and limited influence over global vehicle supply decisions.

27. The exception was the Imported Motor Vehicle Industry Association (VIA). VIA supports retaining the Standard for new vehicles but not for used vehicle imports. VIA's view is that used vehicles are already manufactured and therefore do not reduce global emissions, and that applying the Standard to used imports risks negatively affecting

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vehicle supply, prices, and the rate of fleet turnover. Other stakeholders did not share this view and considered the treatment of used vehicle imports to be important for influencing fleet composition and access to newer, more efficient vehicles over time.

I recommend retaining the Standard for new and used vehicle importers, with used importers being subject to different targets

28. Nevertheless, it has been harder for used importers to comply with the Standard's CO2 targets than new vehicle importers. Used imports have older technology and there is limited availability of affordable used EVs on the Japanese market, from where most used imports are sourced.

29. I do not recommend removing used imports from the Standard as this would likely:

    29.1. **increase the volume of less efficient and higher-emitting vehicles entering the fleet**, locking in higher emissions and fuel costs over the long term. Low-income households would be disproportionately affected, as they spend a greater proportion of their income on transport and are more exposed to increases in fuel and vehicle running costs

    29.2. **distort competition between the new and used vehicle sectors** by placing compliance costs only on new vehicle distributors, thereby increasing the relative price competitiveness of used imports. This would likely shift more buyers towards higher-emission used models and slow the rate at which New Zealand benefits from more efficient and emerging technologies, such as new generation EV battery technologies.

30. If Cabinet agrees to retain the Standard, I will provide advice on the level and trajectory of CO2 targets for new and used vehicle imports as part of the Stage 2 review.

Abolishing the Standard would forgo the above benefits and create risks

s 9(2)(h)



Impact on meeting the second and third emissions budgets

33. Abolishing the Standard would also have an impact on the sufficiency of the second emissions reduction plan 2026-2030 (ERP2) to meet the second emissions budget (EB2), and a flow on impact for the third emissions budget for 2031-2035 (EB3).

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34. New Zealand is projected to achieve EB2 and be under the emissions limit by 3.6 million tonnes (Mt) CO2-e. The Standard contributes to this by reducing CO2-e emissions by an estimated 0.51–0.68 Mt over 2026–2030. Therefore, removing the Standard would reduce New Zealand's projections to 2.9–3.1 Mt CO2-e under the emissions limit. This is a relatively narrow buffer given the other known delivery risks outlined by the Minister of Climate Change in his 2025 Adaptative Management Assessment Cabinet paper [ECO-25-MIN-0155 refers].

35. Emission reductions from the Standard increase over time as efficient and lower-emissions vehicles imported in earlier years remain in the fleet and continue to reduce emissions. Over EB3, the Standard's reductions increase to between 2.6–4.4 Mt CO2-e. As New Zealand is currently projected to exceed the EB3 emissions limit by 8.7 Mt CO2-e, removing the Standard would widen this gap to between 11.3–13.1 Mt CO2-e.

Increases strategic risk to the ETS

36. Despite recent partial price recovery, ETS market confidence remains fragile following November announcements of amendments to the Climate Change Response Act 2002. Commentary and market engagement suggest this is driven at least partially by market perceptions about the Government's commitment to climate change policy and targets. Maintaining the Standard may support recent price recovery, while removing it may exacerbate this perception and contribute to further negative market reaction.

Ministry of Foreign Affairs and Trade Advice

37. s 9(2)(h)

38.

39.

40 6(a) and 9(2)(g)(i)

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View of the Ministry for Regulation

41. The Clean Vehicle Standard does appear to increase the variety of fuel-efficient vehicles available in New Zealand, which is a stated goal. However, it achieves this effect by distorting the market, effectively overriding the preferences of New Zealand consumers and diminishing their freedom of choice. It also creates administrative costs. Given that the emissions trading scheme already prices in societal costs of greenhouse gas emissions and that New Zealand consumers are better placed than the Government to balance the benefits of fuel efficiency against other factors important to them, the Ministry for Regulation does not support the continuation of the standard.

42. I do not accept the Ministry for Regulation's view. By increasing the availability and diversity of fuel-efficient vehicles, the Standard enables New Zealand consumers to access models that would otherwise be unavailable or arrive much later than in comparable overseas markets. I accept that there are administration costs, but these are factored into the Ministry's regulatory impact analysis.

43. While the ETS provides an economy-wide price signal, it does not shape vehicle supply or the pace of fleet turnover, locking in higher fuel use and emissions for years. The Standard's fleet-average CO2 targets are designed to preserve consumer choice and deliver lower-cost gross emission reductions that, under a capped ETS, reduce overall system costs by avoiding higher-cost abatement in other sectors.

Next steps

44. Subject to Cabinet's decisions, officials will start Stage 2 of the review to recalibrate the Standard's targets for achievability and[affordability. I will report back to Cabinet by 30 April 2027 on the outcomes of Stage 2. This timeline has been informed by the view of the Motor Industry Association (MIA). The MIA emphasised the importance of taking time to get the Standard's settings right, rather than moving quickly in an attempt to provide certainty.

Cost-of-living implications

45. Retaining the Standard will deliver reduced fuel costs, valued at $$7.7–$13 billion. Lower fuel consumption will reduce ongoing fuel spending for households and businesses, easing cost-of-living pressures and lowering operating costs across the economy.

Financial implications

46. The proposal to retain the Standard carries no direct fiscal implications.

47 s 9(2)(h) [redacted]

Legislative implications

48. There are no legislative implications arising from this paper.

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Impact analysis

Regulatory impact statement

49. A regulatory impact statement (RIS) has been prepared and is attached. A quality assurance panel with members from the Ministry of Transport has reviewed the RIS. The RIS provides useful evidence to support decision-making, including feedback from comprehensive consultation. The panel therefore considers that it meets the Quality Assurance criteria for the purpose of informing Cabinet/Ministers decisions.

Climate implications of policy assessment

50. The Climate Implications of Policy Assessment (CIPA) team has been consulted and confirms that the CIPA requirements apply to this proposal. The Standard is intended to reduce emissions, relates to a supporting action in ERP2 "Ensuring the Clean Vehicle Stand is Effective", and is expected to help achieve Emissions Budgets 2 (EB2).

51. While the status quo option of retaining the Standard would have no emissions impact, discontinuing the Standard is estimated to increase transport emissions by 0.51–0.68 million tonnes (Mt) CO2-e in EB2 and by 2.61–4.39 Mt CO2-e in EB3. The ranges represent different modelling scenarios. The emissions associated with discontinuing the Standard exceed CIPA's quantitative threshold. Over 2026–2050 discontinuing the Standard is estimated to increase emission by 11.58–26.09 Mt CO2, which poses risks to the achievement of New Zealand's 2050 net-zero target.

Population implications

52. There are no population implications arising from this paper.

Human rights

53. There are no human rights implications arising from this paper.

Use of external resources

54. No external resources were used in writing this paper.

Consultation

55. The New Zealand Transport Agency, Ministry for the Environment, Ministry for Regulation, Ministry for Business, Innovation and Employment (Energy and Government Procurement), Ministry for Foreign Affairs and Trade, and The Treasury were consulted. The Department of the Prime Minister and Cabinet was informed.

56. Officials engaged with the Motor Industry Association, Imported Motor Vehicle Industry Association, Ateco Group NZ, Better NZ Trust, Climate Change Commission, Drive Electric, International Council on Clean Transportation, Motor Trade Association, New Zealand Automobile Association (AA), Office of the Parliamentary Commissioner for the Environment, Rewiring Aotearoa, Tesla, and Toyota New Zealand. The Armstrong Group also met with the Ministry during the period of the review and provided feedback on the Standard.

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Communications

57. I intend to issue a press release announcing the Government's decisions on the Standard.

Proactive release

58. This Cabinet paper and its corresponding minute will be proactively released within 30 business days of final decisions being taken by Cabinet.

Recommendations

The Minister of Transport recommends that the Committee:

1 **note** that Cabinet agreed on 1 July 2024 that the achievability of the Clean Vehicle Standard's targets be reviewed every two years, given the uncertainties involved in setting targets, with the next review due by 30 June 2026 [CBC-24-MIN-0067 refers]

2 **note** that on 12 November 2025 Cabinet agreed that the 2026 review would also consider abolishing the Standard [ECO-25-MIN-0186 refers]

3 **note** that every inefficient vehicle that is imported locks-in higher fuel costs and higher emissions for up to 20 years

4 **note** that retaining the Clean Vehicle Standard is necessary to ensure New Zealand continues to gain earlier and greater access to the latest efficient, low-emission vehicles, reducing fuel costs and CO2 emissions. Without it, manufacturers would be incentivised to supply new vehicles with older, less efficient vehicle technologies

5 s 9(2)(h) [redacted]

6 **agree** to retain the Clean Vehicle Standard for both new and used vehicle imports

7 **agree** that the Standard's CO2 targets for used vehicle imports be separate targets to those applying to new vehicles, reflecting the older technology in used imports

8 **note** that these separate targets will be designed during the upcoming stage 2 review of the Standard

9 **invite** the Minister of Transport to report back to the Cabinet Economic Policy Committee by 30 April 2027 on the outcomes of the Stage 2 review.

Authorised for lodgement.

Hon Chris Bishop

Minister of Transport

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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 emissions budgets.

Section 1: General information

General information	
Name/title of policy proposal or policy option:	2026 Review of the Clean Vehicle Standard
Agency responsible for the Cabinet paper:	Ministry of Transport
Date finalised:	Updated results produced June 2026
Short description of the policy proposal:	This policy proposal seeks to retain the Standard following its first principles review. The key proposal is to: • Retain the Clean Vehicle Standard as the fuel efficiency mechanism to enable New Zealand to access fuel efficiency and low-emissions vehicles at a pace similar to comparable countries. • The estimates presented in the table below show how much GHG emissions would increase if the Clean vehicle standard was discontinued.

Section 2: Greenhouse gas emission impacts

Sector & source	Changes in greenhouse gas emissions in tonnes of carbon dioxide equivalent (Kilo tonnes CO_2-e)						
	2022–25	**2026–30**	**2031–35**	**2036–40**	**2041–45**	**2046–50**	**Cumulative impact**
Transport	0	511 to 678	2,605 to 4,391	3,412 to 7,544	3,000 to 7,667	2,054 to 5,808	11,582 to 26,088
Total	0	511 to 678	2,605 to 4,391	3,412 to 7,544	3,000 to 7,667	2,054 to 5,808	11,582 to 26,088

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Section 3: Additional information

Additional information
• The output is from the Ministry of Transports' redeveloped Vehicle Fleet Model (VFM), this model estimates the effect of the Clean Vehicle Standard (CVS) across six different scenarios adjusting for low (less 20%), medium and high energy prices (+20%) and a three and six year period for the total cost of ownership calculation. • The analysis assumes that legislated CO_2 emissions targets continue to tighten beyond 2029. This assumption differs from current policy settings, which hold targets constant from 2029, but reflects the long-term impacts of retaining the CVS. In practice, if the CVS was retained, targets would be expected to continue to tighten over time like the reducing targets scenario does, as legislation sets targets on a rolling four-year basis. • The estimates provided are indicative and subject to high levels of uncertainty in key inputs and assumptions, particularly those relating to future consumer purchasing behaviour, vehicle availability, technology costs, and energy prices.

Section 4: Quality assurance

Quality assurance
Include in this section the quality assurance statement from the Ministry for the Environment's Climate Implications of Policy Assessment (CIPA) team.

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MINISTRY OF TRANSPORT
TE MANATŪ WAKA

Regulatory Impact Statement:
2026 Review of the Clean Vehicle Standard

Decision sought	*Analysis produced to inform Cabinet decisions following a first principles review of the Clean Vehicle Standard.*
Agency responsible	*Ministry of Transport*
Proposing Ministers	*Minister of Transport*
Date finalised	*5 June 2026*

The Minister of Transport proposes to retain the Clean Vehicle Standard (the Standard) following a first principles review.

Summary: Problem definition and options

What is the policy problem?

- The Standard is a fuel efficiency/CO2 standard, which came into effect on 1 January 2023. It encourages the supply of more fuel-efficient petrol and diesel vehicles, hybrids and zero emission vehicles to reduce fuel costs and CO2 emissions. The Standard works by setting annual CO2 targets that progressively lower over time. Vehicle importers are required to meet the targets, on average, across the vehicles they import.
- A regulated fuel efficiency standard incentivises vehicle manufacturers to supply a more fuel-efficient selection of new vehicles to New Zealand. Increasing the supply of these vehicles enables New Zealanders to benefit from increased energy security, reduced fuel costs to households and businesses, and aids in meeting climate change commitments.
- During the prior review in 2024, industry and Government had agreed the forward CO2 targets. Industry considered they were achievable and Government considered they encouraged the import of low- and zero-emissions vehicles at a faster pace than the market could provide alone.
- From 2024 onwards, weak economic conditions affected the vehicle market. By December 2025, weak demand and limited supply of low-emission used vehicles meant importers were likely to pass compliance charges onto consumers, while also failing to improve the fuel efficiency and emissions profile of the fleet.
- In December 2025, the Minister of Transport introduced a temporary change to reduce the charge per gram of CO2 over the target from $67.50 to $15.00, which will be in place for 2026 and 2027. This easing of the charges allows officials to conduct a thorough review.
- As part of the 2026 review of the Standard, the Minister of Transport requested that a first principles review be conducted on the policy. This is stage 1 of the 2026 review. Stage 2

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will entail work to either review and set annual CO2 targets or abolish the Standard, depending on Cabinet's decisions on stage 1.

- This presents an opportunity to confirm whether the policy approach in the Standard is the correct one for New Zealand.

What is the policy objective?

- The policy objective is that New Zealand benefits from vehicles with improved fuel efficiency and the latest low-emission technologies at a similar pace as other developed countries. This will reduce CO2 emissions and fuel use.

What policy options have been considered, including any alternatives to regulation?

- Status quo- regulated fuel efficiency standard (the Clean Vehicle Standard). A progressively tightening fuel efficiency standard which does not limit the types of vehicles imported into New Zealand and creates charges and credits against a target for importers to offset or pay.
- Abolish the Standard (no targets) and rely on the New Zealand Emissions Trading Scheme (ETS). No fuel efficiency standard/intervention would be in place. The ETS becomes the key driver of transport emissions reductions and fuel efficiency improvements.
- Voluntary efficiency targets. Voluntary CO2 targets are agreed between government and industry.
- Maximum CO2 limits. A maximum CO2 limit applies to all vehicles entering New Zealand. This limit progressively tightens.
- Age restriction (used vehicles only). An age restriction applies to all used vehicles entering New Zealand. For example, a 5-year age ban starting in 2027 would require all used imports to be model year 2022 or newer.
- Regulated zero-emission vehicle import target (new vehicles only). A zero-emission vehicle (ZEV) sales standard which requires new vehicle importers to import/sell a set progressively increasing proportion of ZEVs.

What consultation has been undertaken?

- During January and February 2026, the Ministry undertook targeted consultation with industry and key advisory bodies. A summary of the consultation is included as Annex 1.
- Stakeholders support retaining the Standard for all vehicles with one exception. The Imported Motor Vehicle Industry Association[1] (VIA) supports applying it to new vehicles but not to used vehicle imports.

Is the preferred option in the Cabinet paper the same as preferred option in the RIS?

- Yes

[1] The VIA represents the interests of used vehicle importers and sellers.

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Summary: Minister's preferred option in the Cabinet paper

Costs (Core information)

Outline the key monetised and non-monetised costs, where those costs fall (e.g. what people or organisations, or environments), and the nature of those impacts (e.g. direct or indirect)

- Consumers face costs from retaining the Standard. From 2026 to 2060, costs arise through higher electricity expenditure ($5.3 billion to $7.7 billion) and higher vehicle purchase expenditure ($1.4 billion to $3 billion) than the No Standard scenario.
- NZTA administers the Standard and costs are collected from importers ($0.2 billion).
- The near-term distributional impacts of the Standard are borne by vehicle importers. Importers who can supply more fuel efficient and lower emission vehicles are better able to comply, generate credits, and face lower compliance risks, while importers who cannot supply suitable vehicles will face the opposite.

Benefits (Core information)

Outline the key monetised and non-monetised benefits, where those benefits fall (e.g. what people or organisations, or environments), and the nature of those impacts (e.g. direct or indirect)

- Reduced fuel expenditure provides the largest source of benefits for consumers, ranging from $7.7 billion to $13.0 billion across scenarios.
- Public benefits arise from reductions in greenhouse gas (GHG) emissions ($0.6 billion to $6.0 billion) and harmful nitrogen oxide (NOx) emissions ($1.6 billion to $4.6 billion).
- Increased access to lower emission vehicles benefits lower income households who spend a higher share of income on transport and are more exposed to fuel price volatility. In the long term, positive distributional impacts are relayed through reduced fuel expenditure and improved vehicle quality.
- The Standard strengthens New Zealand's position to receive a broader range of modern, efficient vehicle models. Increasing the supply of efficient vehicles supports competitive pressure among importers, helping expand consumer choice and placing downward pressure on prices over time.

Balance of benefits and costs (Core information)

Does the RIS indicate that the benefits of the Minister's preferred option are likely to outweigh the costs?

- The estimated benefit–cost ratio (BCR) of retaining the CVS ranges from 1.5 to 2.2 across scenarios, and consumer benefits are positive in all cases.
- The CBA suggests that retaining the CVS would deliver net benefits to New Zealand, with net present values (NPVs) ranging from $3.3 billion to $12.8 billion.

Implementation

How will the proposal be implemented, who will implement it, and what are the risks?

- Retaining the Standard assumes the existing arrangements for its implementation and administration continue.

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- Retaining the Standard means stage 2 of the 2026 review will review and set forward annual CO2 targets. We intend this to be done in consultation with industry.

Limitations and Constraints on Analysis

- The modelled results are indicative and subject to significant uncertainty in key inputs and assumptions, particularly consumer behaviour, vehicle availability, technology costs, and energy prices. This is reflected in the wide range of estimates.
- The modelling analysis quantifies only impacts that can be robustly modelled within the Vehicle Fleet Model (VFM). Items omitted from the modelling include administration and compliance costs, lifecycle vehicle costs such as battery disposal, wider system effects, maintenance and repair savings, particulate matter emissions, fuel security benefits and consumer welfare impacts. The analysis covers the period from 2026 to 2060, but the impacts of the policy are expected to extend beyond this timeframe.
- The analysis assumes that historic relationships will hold for the projection period, consumers behave rationally, zero-emissions vehicles are electric, and vehicle ownership and travel demand are not disrupted by future technologies such as automated vehicles. The model does not assume or apply any effect of the policy on overall vehicle registrations, scrappage, or fleet totals; the CVS is assumed to affect the mix of vehicles rather than total volumes.
- The Ministry has recently redeveloped its VFM on which the modelling relies. This is the first time the new VFM has been used for policy application. The inherent limitations with its modelling capabilities will affect the estimated effects of the CVS policy.
- The model does not account for substitution between vehicle groupings beyond powertrain and import status and does not explicitly control for vehicle supply constraints.

I have read the Regulatory Impact Statement and I am satisfied that, given the available evidence, it represents a reasonable view of the likely costs, benefits and impact of the preferred option.

Responsible Manager(s):



Mary Craythorne, Manager, Environment
5/6/2026

Quality Assurance Statement

Reviewing Agency: Ministry of Transport	**QA rating:** Meets

Panel Comment:
A quality assurance panel with members from the Ministry of Transport has reviewed the Regulatory Impact Statement (RIS) prepared by the Ministry of Transport. The RIS provides useful evidence to support decision-making, including feedback from comprehensive consultation. The panel therefore considers that it meets the Quality Assurance criteria for the purpose of informing Cabinet/Ministers decisions.

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Section 1: Diagnosing the policy problem

What is the context behind the policy problem and how is the status quo expected to develop?

The Clean Vehicle Standard is a fuel efficiency standard which aims to improve the vehicles entering New Zealand's fleet

1. The Clean Vehicle Standard (the Standard) is a CO2/fuel efficiency regulation which is applied to vehicles when they are imported into New Zealand. It came into effect on 1 January 2023.

2. The Standard incentivises the transition to a lower CO2 emissions vehicle fleet. It supports New Zealand's decarbonisation and economic goals through improved fuel efficiency and electrification. It is a complementary measure to the New Zealand Emissions Trading Scheme (ETS) to reduce GHG emissions.

3. The Standard operates by setting annual average CO2 emissions targets, expressed in grams of CO2 per kilometre, which become progressively more stringent over time. Vehicle importers are required to meet these targets on average across the vehicles they import.

4. Importers may supply any mix of vehicles they choose, as the Standard does not prohibit the import of any vehicle. Instead, vehicles with CO2 emissions above the relevant target incur financial charges, while vehicles with CO2 emissions below the relevant target earn emission credits. To meet the targets, vehicle importers must offset any charges with credits, either earnt themselves or purchased from other importers.

Beginning in 2024, economic circumstances created a volatile vehicle market

5. The Standard's annual CO2 targets require regular review to ensure they reflect market conditions. The first review was a legislated requirement, while the current review was established through Cabinet decisions.

6. The first review, in July 2024, adjusted the Standard's targets to align with Australia's. This was a slower reduction but more reflective of vehicle supply. Importers were of the view that these targets were achievable while also setting achievement beyond business-as-usual. It also introduced additional flexibility mechanisms to provide further options for importers, including allowing trading between new and used vehicle importers and extending the lifespan of credits from 3 to 4 years.

7. Cabinet's decisions to adjust the targets in 2024 worked well for the import of new commercial vehicles (vans, utes and light trucks). However, by 2025 it was clear that most importers were unable to achieve the target for passenger vehicles (cars and SUVs), and that the flexibility measures could not accommodate the underachievement.

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8. By the end of 2025 demand[2] and supply[3] constraints on EVs meant that importers would begin passing the costs from not reaching the targets onto consumers. If charges from high-emitting vehicles cannot be offset by credits, importers could restrict supply and/or pass on charges as higher vehicle prices, affecting vehicle availability and affordability.

9. The Government agreed in December 2025 to reduce the per gram charge for exceeding the Standard's target from a top rate of $67.50 g CO2 to a top rate of $15.00 g CO2 from 1 January 2026 to 31 December 2027. This allowed a grace period while officials conducted the 2026 review of the targets.

The New Zealand Emissions Trading Scheme is the Government's key policy for reducing emissions.

10. The ETS is New Zealand's main tool for reducing CO2 emissions and achieving the 2050 target. It provides an economy-wide price signal to encourage emissions reductions where they are cost-effective. In principle, this includes influencing decisions about the types of vehicles that are supplied to, and purchased in, New Zealand. In the absence of a policy intervention such as the Standard, New Zealand would rely on the ETS to achieve the policy objective.

11. The Climate Change Commission notes that the transport sector is expected to contribute about 10% of the net emissions reduction the Government is seeking in the second emissions budget period (2026–2030). Most of this would be found by reducing emissions from light vehicles. Without the Standard, it will be more difficult to meet the emissions budget, and greater reductions will be needed elsewhere, either in other parts of the transport sector or in other sectors. In addition, it would be more challenging to meeting the third emissions budget.

The ETS alone is unlikely to improve fleet efficiency and reduce vehicle CO2 emissions

12. New Zealand is a small, price-taking vehicle market. Importers have limited ability to influence the global supply strategies of vehicle manufacturers. Large regulated markets such as the European Union, United Kingdom, United States, Canada, China and Japan have binding fuel-efficiency/CO2 standards that shape how manufacturers allocate their most advanced internal combustion, hybrid and zero emission vehicles. Manufacturers prioritise these markets to ensure compliance and avoid penalties.

13. Manufacturers do not supply their latest most efficient vehicles to every market at once because these vehicles tend to cost more to produce and earn lower margins. In comparison, vehicles with older technology generate higher margins because their production costs are lower and they can be sold at similar prices to vehicles with new technology. Consequently, manufacturers allocate their latest vehicles to markets where efficiency is required or rewarded and send less-efficient models to markets where there is no regulatory or commercial downside.

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[2] For the new vehicle sector, non-achievement was largely the result of reduced consumer demand for EVs. This was being driven, in part, by weaker economic conditions which depress demand for vehicles, especially those with higher upfront costs, like EVs. The share of light passenger EVs (battery electric plus plug-in hybrid) entering New Zealand's fleet (based on initial registrations) had decreased from 28 percent in December 2023, to 12 percent in December 2024 and 7 percent in September 2025.

[3] For the used vehicle sector, non-achievement was largely the result of supply constraints. These included a shortage of used EVs available to import, higher vehicle prices at Japanese auctions, and reduced levels of vehicle supply in Japan.

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14. As a result, without a standard, manufacturers would have every commercial incentive to keep selling less efficient vehicles in our market for as long as possible. To access these vehicles, New Zealand needs to maintain broadly comparable regulatory settings to other developed countries. Stakeholders confirmed that without a similar regulatory signal, New Zealand would have little leverage in global allocation decisions and would risk being supplied later - or not at all - with newer more efficient vehicle models. In practice, this would result in manufacturers continuing to supply vehicles with older, less efficient technologies. Over time, this would lock in higher fuel costs and emissions across the vehicle fleet.

15. This supply constraint limits the effectiveness of the ETS in provisioning New Zealand with low-emission, efficient new or used vehicles. The ETS cannot influence consumers to purchase efficient and low-emission vehicles if those vehicles do not reach the New Zealand market, whether through the prioritisation of other markets or though limited supply/price competition in used vehicle auctions.

16. As the ETS acts once vehicles are already in the country, it influences fuel costs rather than which vehicles are available for purchase. Although higher ETS-driven fuel prices would theoretically encourage cleaner imports, in practice the price increases are too gradual and uncertain, and consumer responses too muted, to ensure a supply of efficient, low-emission vehicles.

17. An underlying assumption of the ETS is that it will find the lowest-cost abatement across the economy, which would include more efficient vehicles due to the lifetime fuel savings/avoided ETS prices on fuel. However, because it acts on consumers late in the process a suitable supply of more efficient vehicles can enable consumers to realise lifetime fuel and emissions benefits that are unlikely to be fully achieved through the ETS alone.

Vehicle consumers do not make decisions using pure economic reasoning

18. Demand-side biases preventing a rapid uptake of the most fuel efficient and low-emissions technology vehicles include:

    - **Present Bias.** Consumers place far more weight on the upfront vehicle purchase price (the immediate "loss") than on uncertain long-term fuel savings. Their willingness to pay for efficiency is therefore well below the value of lifetime fuel savings, and ETS driven increases in future fuel costs are usually too small to influence purchase decisions.

    - **Risk and uncertainty aversion.** Consumers hold concerns about EV technologies, battery life, resale value, range, and charging access, even when evidence suggests these risks are overstated. Additionally, consumers' vehicle choices are influenced by a range of attributes beyond fuel efficiency, including size, performance, brand, and familiarity. These heterogeneous preferences dampen the responsiveness of vehicle purchasing to incremental fuel price signals.

    - **Information costs and asymmetries.** Many consumers lack the time, information, or capability to assess lifetime running costs. While there is mandatory fuel efficiency labelling in New Zealand, the complexity of comparing models and fuel efficiency ratings means small increases in fuel costs increases can be overshadowed by the effort required to evaluate alternatives.

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- **Short ownership horizons and secondary market information.** Buyers often consider fuel savings only over the period they expect to own the vehicle, and the long-term signal provided by the ETS may not be a consideration. A market failure occurs where resale prices do not fully reflect fuel efficiency and emissions. Evidence on the extent to which fuel efficiency is capitalised into used vehicle prices is mixed. To the extent that efficient vehicles are undervalued in the secondary market, initial purchasers face weakened incentives to pay higher upfront costs for fuel-efficient technologies.
- **Split incentives.** In some cases, the purchaser is not the party that bears fuel costs — for example rental fleets or corporate fleets with take-home vehicles. In these cases, ETS-driven fuel price signals are weakly transmitted, reducing incentives to select more fuel-efficient vehicles. While the scale of this effect in New Zealand has not been precisely quantified, these principal–agent problems are well-documented in transport markets and further weaken reliance on fuel pricing alone.

First mover disadvantage creates friction for importers

19. These demand-side biases create a commercial disadvantage for importers that introduce advanced low-emission or fuel-efficient vehicles ahead of their competitors. Because these models typically have higher upfront costs, early movers risk losing sales to importers offering cheaper, less efficient vehicles - especially when consumers undervalue fuel savings.

20. This discourages new vehicle importers from supplying newer technologies until there is a strong and reliable market signal, or a regulatory requirement, that reduces the risk of moving early. Because the ETS price signal is gradual and spread over many years, it is too weak to generate the immediate demand needed to offset this competitive disadvantage.

21. As a result, early-mover dynamics slow the arrival of efficient and low-emission vehicles in New Zealand and reinforce that the ETS alone cannot influence which vehicles importers choose to bring into the market.

Long vehicle life further "locks in" emissions

22. Vehicles have a long economic life: new vehicles remain in the fleet for around 20 years and used imports for about 10 years. Each year's vehicle imports lock in the fleet's fuel use and emissions profile for up to two decades. When inefficient vehicles enter the fleet, they embed higher fuel costs, higher emissions, and increase the long-term fiscal and economic cost of meeting emissions budgets. The ETS price signal can change driver behaviour during those years, but the gradual fuel price changes are easily outweighed by upfront purchase price considerations and competing consumer preferences at point of purchase.

23. Vehicle choice generates external costs that are not fully priced through fuel use alone. Higher fuel consumption is closely associated with increased emissions of harmful air pollutants such as nitrogen oxides and fine particulate matter, which impose public health costs not borne directly by vehicle purchasers. Newer and more fuel-efficient vehicles tend to incorporate higher safety standards and technologies, reducing accident-related harm to occupants and other road users. Because vehicles are long-lived assets, the import of fuel-inefficient and older vehicles can lock in these external costs.

24. Evidence suggests fuel demand is relatively price-inelastic in both the short and long run, reflecting limited ability for households to adjust travel patterns once a vehicle is purchased. By contrast, vehicle choice at the point of purchase is significantly more

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price-responsive. Influencing vehicle choice is therefore a more effective and durable way to reduce transport emissions and fuel costs over the life of the vehicle fleet.

What is the policy problem?

25. Before the Standard, vehicle manufacturers were supplying a less-fuel efficient selection of new vehicles to New Zealand compared with other countries[4].

26. During the 2024 review, Government agreed forward CO2 targets in consultation with industry. Industry considered the targets achievable while Government considered they encouraged the import of low- and zero-emissions vehicles at a faster pace than the market could provide alone.

27. However, from 2024 onwards, weak economic conditions affected the vehicle market. By December 2025, weak demand and limited supply of used vehicles meant importers were likely to pass compliance charges onto consumers, while also failing to improve the fuel efficiency and emissions profile of the fleet.

28. As part of the 2026 review of the Standard, the Minister of Transport requested that the Ministry conduct a first principles review on the policy. This is an opportunity to confirm whether the policy approach in the Standard is the correct one for New Zealand.

What objectives are sought in relation to the policy problem?

29. Our policy objective is that New Zealand benefits from vehicles with improved fuel efficiency and the latest low-emission technologies at a similar pace to other developed countries.

30. Therefore, the policy needs to:

- Deliver progressive reductions in average vehicle CO2 emissions and improvements in vehicle fuel efficiency in vehicles entering the fleet.
- Set a feasible rate of improvement in fuel efficiency and CO2 emission reductions for vehicle supply chains, consumers and government.
- Maintain an affordable and diverse supply of vehicles that meet the needs of all consumers, lower long term fuel costs, and avoid disproportionate impacts on low-income households.
- Be efficient, and low-cost to administer and comply with, minimising regulatory burden for government and industry.
- Improve New Zealand's access to efficient and low emission vehicles, reduce the risk of high emission vehicle dumping, and stimulate competition in the supply of low and zero-emission vehicles to expand consumer choice and reduce prices.

What consultation has been undertaken?

31. We undertook a targeted consultation during January and February of 2026. We engaged with the following stakeholders: the Motor Industry Association, the Motor Trade

[4] For example, in 2019, across the top-selling 17 new light vehicle models, the most efficient variants available in New Zealand had, on average, 21 percent higher fuel use and emissions than models supplied to the United Kingdom.

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Association, the Imported Motor Vehicle Industry Association (VIA), Toyota New Zealand, Tesla, Ateco New Zealand Automobile Association, Rewiring Aotearoa, Drive Electric, Better NZ Trust, the Climate Change Commission, the Parliamentary Commissioner for the Environment, and the International Council on Clean Transportation. The Armstrong Group also met with the Ministry during the period of the review and provided feedback on the Standard.

32. We also met with the Australian Department of Infrastructure, Transport, Regional Development, Communications, Sports and the Arts.

33. Across all consulted parties there was strong support for retaining a regulated fuel-efficiency standard for new vehicles. All consulted parties except for the Imported Motor Vehicle Industry Association (VIA) supported retaining the Standard for all vehicles. The VIA supports retaining it for new vehicles but not for used vehicles.

34. A summary of the consultation can be found in Annex 1.

Section 2: Assessing options to address the policy problem

What criteria will be used to compare options to the status quo?

35. We propose that any interventions to influence the vehicles supplied to New Zealand should meet the following objectives:

- **Effectiveness** –delivers progressive reductions in average vehicle CO2 emissions and improvements in vehicle fuel efficiency in vehicles entering the fleet.
- **Achievability** – sets a feasible rate of improvement in fuel efficiency and CO2 emission reductions for vehicle supply chains, consumers and government.
- **Equity** – supports an affordable and diverse supply of vehicles, reduces long term fuel costs, and avoids disproportionate impacts on low-income households.
- **Cost-effectiveness** –is efficient, and low-cost to administer and comply with, minimising regulatory burden for government and industry. This criterion does not include any costs to the Government relating to abolishing the Standard.
- **Market access and competitiveness** - improves New Zealand's access to efficient and low emission vehicles, reduces the risk of high emission vehicle dumping, and stimulates competition in the supply of low and zero-emission vehicles to expand consumer choice and reduce prices.

What scope will options be considered within?

36. No demand-side measures are in scope. This includes initiatives such as subsidies for EVs or information campaigns.

37. Options to help Cabinet decide whether the Standard is the preferred way to meet the policy objective are in scope and analysed. The options include whether to retain the Standard or abolish it.

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38. Settings of the mechanisms are not in scope. Specifically, the Standard's targets and charge per gram of CO2 are not in scope. These would be addressed following further policy work if retaining the Standard is agreed.

What options are being considered?

Status Quo – Clean Vehicle Standard

39. A fuel efficiency/CO2 standard which does not limit the types of vehicles imported into New Zealand but creates charges and credits against a target for importers to offset or pay. Its targets would become more stringent over time.

Option one – Abolish the Standard, rely on the ETS

40. No fuel efficiency standard/intervention or targets would be in place. The Emissions Trading Scheme (ETS) becomes the key driver of transport emissions reductions and fuel efficiency improvements.

Option two - Voluntary CO2/fuel efficiency standard

41. The industry operates a voluntary CO2 standard that members agree to abide. There is no government regulator or enforcement.

Option three - Maximum CO2 limits

42. A maximum CO2 limit applies to all vehicles entering New Zealand. This limit gets progressively tighter over time.

Option four - Age Restriction for used vehicle imports

43. An age restriction applies to all used vehicles entering New Zealand. For example, a five-year ban starting in 2027 would require all used imports to be model year 2022 or newer.

44. Currently, on average, used vehicles are 10 years old at time of import.

Option five – Zero-emission vehicle mandate for new vehicles

45. A zero-emission vehicle (ZEV) sales regulation or EV availability standard requires importers to import a proportion of ZEVs, which would increase over time

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How do the options compare to the status quo/counterfactual?

	Status quo – Regulated fuel efficiency standard	Option One – Abolish the Standard, rely on the ETS	Option Two – Voluntary efficiency targets	Option Three – Maximum CO2 limit	Option Four – Age restriction on used vehicles	Option Five – Regulated ZEV target for new vehicles
Effectiveness Delivers progressive reductions in average vehicle CO2 emissions and improvements in vehicle fuel efficiency in vehicles entering the fleet.	**0** New vehicle manufacturers are incentivised to sell fuel efficient and low-emission technology vehicles to New Zealand – ensuring consumer access to technology needed to decarbonise fleet. Annually tightening targets incentivises importers to bring in more fuel efficient and low-emission technology vehicles. Credits add incentive to import vehicles below target. Charges act as disincentive to import vehicles above target.	**– –** ETS has no direct impact on decisions of vehicle manufacturers, new vehicle importers or used vehicle importers. Countries without standards receive higher emissions vehicles in comparison to regulated markets[5], delayed access to fuel efficient vehicles and a more limited range of ZEVs entering fleet. This is true regardless of the presence of a carbon pricing mechanism like the ETS (see annex 2).	**– –** Effectiveness much less certain that status quo – compliance not enforceable and international examples show uneven uptake and limited benefits. Australian, European Union, Canadian and Chinese experience shows voluntary standards not effective in reducing emissions.	**–** New vehicle manufacturers are incentivised to sell fuel efficient and low-emission technology vehicles to New Zealand – ensuring access to technology needed to decarbonise fleet. Importers are forced to bring in fuel efficient and low-emission technology vehicles. Less effective in reducing emissions from smaller passenger vehicles entering fleet (some small internal combustion engine (ICE)/inefficient hybrid cars will fall under the limit. These are disincentivised under current weight-adjustment methodology).	**–** Used importers restricted to importing vehicles within allowed age range. Newer vehicles are typically more fuel efficient and have more low-emission technology present, model-to-model. No specific requirement to supply more fuel efficient and low-emission technology vehicles. Instead, this is an indirect outcome of an age ban. This creates a risk that importers supply newer, but less fuel efficient or low-emission technology vehicles. Characteristics of Japanese source market (smaller vehicles and high share of hybrid vehicles) may help mitigate above risk to some degree. *Note: only applies to the used-import sector. If this were the preferred option, a complementary new vehicle measure may be required.*	**0** New vehicle manufacturers are incentivised to prioritise New Zealand for supply of ZEVs– ensuring consumer access to technology needed to decarbonise fleet. Progressively increasing shares force importers to bring in more ZEVs. Does not seek to improve fuel efficiency for remaining imports, creating a risk that most new vehicles imports could still have high emissions or be fuel inefficient. *Note: option only applies to the new-import sector. If this were the preferred option, a complementary used vehicle measure may be required.*
Achievability Sets a feasible rate of improvement in fuel efficiency and CO2 emissions reductions for importers, with sufficient flexibility to adapt to changing market conditions.	**0** Targets can balance progressively reducing vehicle CO2 emissions with realistic supply/demand conditions at the time, and flexibility mechanisms like credit trading, banking and borrowing enable importers to manage progressively reducing vehicle CO2 emissions in the face of changing supply/demand conditions.	**– –** Rate of improvement dependent on market and ETS. ETS does not provide or meet a rate of improvement because it does not influence which vehicles are supplied to NZ. ETS demand signal too weak to materially influence consumer vehicle purchase decisions.	**–** Targets can be set that balance government ambition with feasibility for industry. More flexibility for industry than status quo[6]. Unpredictable supply/demand conditions less risky than status quo as no consequences for industry if targets not met. However, importers would have a weaker position in getting supply	**–** No flexibility for industry to achieve the limit. High level of flexibility in terms of what can be imported within allowed CO2 range. Importers likely to import greater number of lighter, smaller, vehicles to meet limit. Supply of heavier, larger vehicles will be limited in short-medium term as it will be challenging to meet the limit. Exemptions will	**–** Achievability for industry dependent on how strict the age ban is. The stricter the age ban, the more competition importers are likely to face at auction, as there are other countries that import used vehicles under age restrictions, limiting the supply of vehicles within younger age ranges.	**–** Targets can balance progressively increasing EV imports with realistic supply/demand conditions at the time. New vehicle importers place orders in advance; highly achievable to import, but sales highly dependent on consumer demand. Likely to result in unsellable vehicles and unmet consumer demand for non-EVs.

[5] For example, in 2019, across the top-selling 17 new light vehicle models, the most efficient variants available in New Zealand had, on average, 21 percent higher fuel use and emissions than models supplied to the United Kingdom.
[6] https://epub.wupperinst.org/frontdoor/deliver/index/docId/2301/file/WR2.pdf

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	Status quo – Regulated fuel efficiency standard	Option One – Abolish the Standard, rely on the ETS	Option Two – Voluntary efficiency targets	Option Three – Maximum CO2 limit	Option Four – Age restriction on used vehicles	Option Five – Regulated ZEV target for new vehicles
			from manufacturers compared with countries with a regulated target, making it harder for them to meet the target.	likely be required (for disability vans as per the status quo, trade utes/vans, etc. before technology improves and more models are equipped with fuel efficient and low-emission technology.)		
Equity Supports an affordable and diverse supply of vehicles that meet the needs of consumers, reduces long-term fuel costs, and avoids disproportionate impacts on low-income households.	**0** Importers can supply any mix of vehicles they like. Manufacturers can sell the mix of vehicles that suits their business model and consumer (importer) demand, but importers are incentivised to procure fuel efficient and low-emission technology vehicles. This ensures NZ is getting a broad range of vehicles to meet consumer demand. Reduces access to higher emitting vehicles by increasing costs for importing them (vehicles which would otherwise have a cheaper upfront purchase cost). Used vehicle importers are only able to supply vehicles that are available at auction; charges can accumulate if there are no suitable vehicles to offset them with credits. Changes in the used vehicle market would likely impact lower-income households (as the primary purchasers of imported used vehicles).	**–** Importers can supply any mix of vehicles they like. Likely ongoing reduced choice for consumers looking to purchase more fuel efficient/low emissions vehicles. Less fuel-efficient selection of new vehicles will be supplied in absence of regulated standard. Could increase access to less expensive, higher emitting vehicles which would not be imported under status quo. Older, less efficient/high-emitting vehicles lock in higher emissions and fuel costs over long term, disproportionately affecting lower-income households (more exposed to increases in fuel and vehicle running costs).	**–** Importers able to supply any mix of vehicles they like. Equity impacts expected to be similar to having no standard and relying on the ETS (option two).	**–** Importers limited in what vehicles they can supply (will improve as technology advances). Increased choice for consumers looking to purchase small, light vehicles (including ICE vehicles). Offerings limited for consumers looking to purchase (non-electric/more cost effective) larger, heavier vehicles in short-medium term. Most high performance, luxury, vehicles will not meet target.	**–** Used-importers able to supply any mix of vehicles they like within allowed age range. Used importers may need to compete for smaller pool of suitable vehicles, with a smaller pool of vehicles entering New Zealand as a result - limiting consumer choice. Potential to increase market price of imported used vehicles as vehicles may be more expensive to buy at auction, which could reduce access to imported used vehicles for lower-income households (may push more consumers towards domestic used vehicle market).	**–** New importers more limited in what vehicles they can supply (choice remains outside of zero-emission vehicle targets). Does not incentivise lower cost but still fuel-efficient smaller ICE vehicles. Risk of more inefficient and high emission vehicles entering market as no restrictions other than EV supply proportion - all other individual vehicles could be high emissions. This could lock in higher emissions and fuel costs over the long term, disproportionately affecting lower-income households who are more exposed to increases in fuel and vehicle running costs. Ensures EV supply to flow through to used vehicle consumers.
Cost-effectiveness Be practical and low-cost to administer and comply with, minimising regulatory burden for government and industry.	**0** Relatively low-cost for government to administer. Relatively low-cost for industry to comply with if settings are	**+ +** No additional regulation/intervention and therefore no additional cost to government.	**0** Low-cost for government and industry[7].	**+** Low-cost for government to administer. Simpler than status quo to understand/navigate.	**+** Low-cost for government to administer. Simpler than status quo to understand/navigate.	**+** Low-cost for government to administer. Simpler than status quo to understand/navigate.

[7] https://www.jstor.org/stable/44397118?read-now=1&seq=5

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	Status quo – Regulated fuel efficiency standard	Option One – Abolish the Standard, rely on the ETS	Option Two – Voluntary efficiency targets	Option Three – Maximum CO2 limit	Option Four – Age restriction on used vehicles	Option Five – Regulated ZEV target for new vehicles
	achievable and supply/demand favourable. High level of flexibility for industry (can offset charges with credits, etc.). Established processes and systems. Complex and technical (but well understood by government/industry).	More flexibility for used vehicle importers and some new vehicle importers.	More flexibility for industry than status quo[8]. Cost associated with monitoring could fall on government.	Less flexibility for industry compliance than status quo (cannot import vehicles over limit – status quo allows imports over target).	Less flexibility for industry compliance than status quo (cannot import vehicles over limit – status quo allows imports over target).	Less flexibility for industry compliance than status quo (cannot import vehicles over limit – status quo allows imports over target).
Market access and competitiveness Improves New Zealand's access to efficient and low-emission vehicles, reduces the risk of becoming a preferred destination for less efficient vehicles and stimulates competition which expands consumer choice and reduces price.	**0** Manufacturers are incentivised to provide the most fuel efficient and low-emission technology vehicles to markets with strong standards. Increased supply of low emissions vehicles, stimulating competition and improving consumer choice. Downward pressure on low emission vehicle prices if greater supply/competition.	**– –** Without strong standards, countries are more likely to become preferred destinations for less efficient vehicles which cannot be supplied to countries with regulations. Decreased supply of low emissions vehicles. Likely to reduce competition and limit consumer choice for fuel efficient and low-emission technology vehicles. Upwards pressure on prices of low emissions vehicles.	**– –** Weak incentive for manufacturers to supply most fuel efficient and low-emission technology vehicles to New Zealand. Unlikely to stimulate competition. Upwards pressure on prices of low emissions vehicles.	**–** Manufacturers are incentivised to supply fuel efficient and low-emission technology vehicles to markets with strong standards. While not as direct as the status quo, this provides some leverage for importers seeking efficient vehicle supply. Increased supply of smaller vehicles, including small low emissions vehicles, will lead to downward pressure on prices for those models. Decreased supply of larger, heavier ICE vehicles and hybrids that will not meet limit in short-medium term. Initial market advantage for importers who have large electric/efficient hybrid vehicles readily available. Importers who primarily supply larger, heavier vehicles (without low-emission alternatives) will face structural disadvantage and may exit the market, reducing competition.	**–** Supply of newer vehicles that are more fuel efficient and less emissions intensive expected to increase, if available at auction. Potential to be more costly for consumers due to international competition for younger age bands of used vehicles increasing auction prices. Potential for greater competition at cheaper end of new/higher end of used market. New vehicles may become more attractive option for some consumers who would typically purchase newer used vehicles. Potential to reduce total number of used imports. Some businesses may be impacted, and their exit from the market will reduce overall competition.	**–** Close to guaranteed supply of EVs, stimulating competition and improving consumer choice for EVs. Weaker incentive for manufacturers to supply fuel efficient and low-emission technology vehicles to New Zealand. Reduced supply and limited model choice could reduce competition. Initial market advantage for importers who have EVs readily available. Highly likely to impact the business viability of some importers. Importers who primarily supply internal combustion engine, hybrid, or plug-in-hybrid vehicles (depending on exact settings) will face structural disadvantage and may exit the market, reducing competition.

[8] https://epub.wupperinst.org/frontdoor/deliver/index/docId/2301/file/WR2.pdf

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	Status quo – Regulated fuel efficiency standard	Option One – Abolish the Standard, rely on the ETS	Option Two – Voluntary efficiency targets	Option Three – Maximum CO2 limit	Option Four – Age restriction on used vehicles	Option Five – Regulated ZEV target for new vehicles
Overall assessment	**0**	Not preferred because the ETS provides only an indirect and weak signal at the point of vehicle purchase and does not shape vehicle supply decisions. Without vehicle-specific regulation, New Zealand risks importing vehicles with older, less fuel-efficient technology, entrenching higher fuel costs and emissions across the fleet for decades.	Not preferred because a voluntary target is likely ineffective as it is unenforceable. International experience shows voluntary standards in Australia, the European Union, Canada, and China achieved only business-as-usual improvements and were later replaced by mandatory standards.	Not preferred because a hard emissions cap would restrict the range of vehicles importers could supply and reduce consumer choice. Importers would likely need to shift toward smaller vehicles to comply, limiting options for large SUVs and utes until the range of affordable low-emission models expands.	Not preferred because an age limit does not reliably drive improvements in electrification, fuel efficiency, or emissions outcomes. Importers could still comply by supplying newer but relatively inefficient, high-emitting vehicles. An age-ban could also reduce supply and increase vehicle prices depending on the age set.	Not preferred because a zero-emission vehicle mandate would compel EV supply irrespective of demand and supply conditions, likely constraining lower-cost vehicle supply, increasing prices, and increasing compliance risk for importers.
Key for qualitative judgements: ++ is much better than the status quo | + is better than the status quo | 0 is about the same as the status quo | - is worse than the status quo | - - is much worse than the status quo.						

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What option is likely to best address the problem, meet the policy objectives, and deliver the highest net benefits?

46. No option performs better overall than the Standard. It directly targets the policy problem, supporting New Zealand's access to efficient and low-emission vehicles while preserving flexibility for industry. It protects long-term consumer interests through lower fuel costs and addresses market failures that the ETS cannot. As reflected in the multicriteria analysis, it delivers the highest expected net benefits relative to the alternatives.

47. A fuel efficiency or CO2 standard is the policy norm in developed countries to overcome market failures that slow improvements in vehicle efficiency and the uptake of low- and zero-emission technologies (see Annex 2). Standards are favoured because they directly influence the technology mix of vehicles entering vehicle fleets, and this remains true in the New Zealand context.

Distributional impacts of the Standard

48. Costs of the Standard are initially borne by importers. Importers who can supply more fuel-efficient and lower emission vehicles are better able to comply, may generate credits, and face lower compliance risk. Importers with a higher share of emissions-intensive vehicles face stronger incentives to adjust their vehicle mix or incur compliance costs.

49. The long-term distributional impacts are positive, relayed through reduced fuel expenditure and improved vehicle quality. Consumers are affected indirectly through changes in vehicle availability and prices.

50. While some consumers may face higher upfront vehicle prices, the lifetime fuel savings and broader social benefits outweigh these costs on average. Distributional impacts are primarily timing and affordability issues rather than reductions in overall economic welfare.

51. Increased access to more efficient vehicles benefits lower income households, who spend a higher share of income on transport and are more exposed to fuel price volatility. Future vehicle owners benefit from a more efficient fleet over time, avoiding long term lock in of high fuel and emissions costs caused by slow fleet turnover

The Standard improves competition among efficient vehicles

52. The Standard strengthens New Zealand's position to receive a broader range of modern, efficient vehicle models, rather than being deprioritised relative to regulated markets.

53. An increased supply of efficient vehicles supports competitive pressure among importers, helping to expand consumer choice and place downward pressure on prices of fuel efficient and low-emissions vehicles over time.

Used vehicles would continue to be subject to the Standard

54. We consider that used-vehicle imports should continue to be subject to the Standard. Discontinuing it for used imports would likely:

    - **increase the volume of less fuel-efficient and higher-emitting vehicles entering the fleet**, locking in higher emissions and fuel costs over the long term. Low-income households would be disproportionately affected, as they spend a greater proportion of

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their income on transport and are more exposed to increases in fuel and vehicle running costs

- **distort competition between the new and used vehicle sectors** by placing compliance costs only on new-vehicle distributors, thereby increasing the relative price competitiveness of used imports. This would likely shift more buyers toward higher-emission used models and slow the rate at which New Zealand benefits from more efficient technologies, including electric vehicles.

55. However, it has been harder for used vehicle importers to comply with the Standard's CO2 targets compared with new vehicle distributors. This reflects the older technology in used imports as well as the limited availability of used EVs in the Japanese market.

56. To recognise these technological differences and mitigate the risks raised by the VIA (see annex 1), should Cabinet agree to retain the Standard, we recommend setting separate targets, with CO2 targets for used-vehicle imports set below those for comparable new vehicles. Advice on the level and trajectory of these targets would be provided in the Stage 2 review.

Is the Minister's preferred option in the Cabinet paper the same as the agency's preferred option in the RIS?

57. Yes

What are the marginal costs and benefits of the preferred option in the Cabinet paper?

58. The analysis covers the period from 2026 to 2060 inclusive, with all values presented in 2025 prices. It is made up of two distinct parts:

    1. The Vehicle Fleet Model (VFM), which is where the policy effects of the CVS on motor type are modelled. This model uses a total cost of ownership (TCO) framework to estimate the effect of the CVS on motor type choice, and the downstream effects on fuel and electricity use, vehicle purchase volumes, and GHG emissions, modelled by detailed vehicle cohort. All behavioural responses from the CVS are estimated within the VFM.

    2. The CBA component, which is where the volume outputs from the VFM are combined with unit values and discounted to produce final estimates of the social costs and benefits in monetary terms. Additionally, volume and value estimates of harmful emissions (NOx) are calculated in this part.

59. Together, these are used to estimate the effects of the policy. These include the monetised economic effects included in the CBA and other quantitative or qualitative policy effects that are not included in the CBA.

60. A discount rate of 2% is applied in the calculation of the costs and benefits, while an 8% rate was applied as part of the sensitivity testing.

61. We compared two policy options in this CBA, with CVS and without CVS, to determine whether they would provide net benefits to the nation. Costs and benefits are presented from the perspective of the CVS as an active policy, with positive values representing benefits and negative values representing additional costs.

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Affected groups *(identify)*	**Comment** *nature of cost or benefit (eg, ongoing, one-off), evidence and assumption (eg, compliance rates), risks.*	**Impact** *$m present value where appropriate, for monetised impacts; high, medium or low for non-monetised impacts.*	**Evidence Certainty** *High, medium, or low, and explain reasoning in comment column.*
Additional costs of the preferred option (*retaining the Standard)* compared to taking no action (*abolishing the Standard)*			
Regulated groups (importers)	Administration costs accrued by NZTA are collected from importers.	Administration: $0.2 billion	High - actual cost
Regulators (Government)	No costs[9] expected on regulators from retaining the Standard.		High
Others (wider public, consumers)	The costs of retaining the Standard on consumers arise from increased electricity expenditure and increased vehicle purchase expenditure	Electricity: $5.3 to $7.7 billion Purchase: $1.4 to $3.0 billion	Medium – modelled estimate
Total monetised costs		$6.7 to $10.5 billion	Medium – largely modelled estimate
Non-monetised costs	Some potentially substantive non-monetised costs are not estimated, including policy uncertainty.		n/a
Additional benefits of the preferred option (*retaining the Standard)* compared to taking no action (*abolishing the Standard)*			
Regulated groups (importers)	No benefits expected on the vehicle industry from retaining the Standard.		High
Regulators (Government)	No benefits expected on regulators from retaining the Standard.		High
Others (wider public, consumers)	The largest benefit from the policy comes from reduced fuel expenditure for consumers. Other benefits come from reduced GHG emissions and reduced harmful emissions (NOx).	Fuel: $7.7 to $13.0 billion GHG emissions: $0.6 to $6.0 billion Harmful emissions: $1.6 to $4.6 billion	Medium – modelled estimate
Total monetised benefits		$9.9 to $23.6 billion	Medium – modelled estimate

[9] The Standard current costs around $6.4 million annually to administer, but these costs are passed through to importers by NZTA. NZTA reports this would increase marginally if the complexity of the scheme increases, for instance, through the addition of separate targets for used vehicles.

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Non-monetised benefits	Some potentially substantive benefits for consumers and the wider public are not estimated. These include vehicle maintenance/ insurance cost reductions, improved safety features, increased energy security, and reductions in other harmful emissions (i.e., particulate matter 2.5).		n/a

62. CBA results suggest that retaining the CVS would deliver net benefits relative to abolishing the scheme. As some uncertainties can cause large changes in the scale of effects, NPVs vary considerably across simulation runs. By contrast, BCR (benefit cost ratio) largely removes this scale effect, making it a more informative measure. The estimated BCR for retaining the Standard (vs abolishing) is 1.5 to 2.2.

63. The net benefit from retaining the Standard is $3.3 to $12.8 billion in 2025 prices.

Section 3: Delivering an option

How will the proposal be implemented?

64. The preferred option requires no legislative amendments or changes to technical systems and procedures. Retaining the Standard assumes the existing arrangements for its implementation and administration continue.

65. Stage 2 of the review would consider the targets needed to achieve the policy objective. Annual CO2 targets are set in the Land Transport (Clean Vehicle Standard) Regulations 2022.

How will the new arrangements be monitored, evaluated, and reviewed?

66. A monitoring and evaluation framework is already set up and will continue.

67. The Ministry of Transport and Waka Kotahi prepare and publish monthly reports on the policy, to enable public interest and discourse on the policy:

    - www.transport.govt.nz/statistics-and-insights/fleet-statistics/sheet/light-motor-vehicle-registrations
    - www.nzta.govt.nz/vehicles/clean-car-programme/clean-car-standard/clean-car-standard-credit-reports/

68. We would continue with two-yearly reviews of the Standard, with the next scheduled for 2028. This would review both any targets that have been set, enable additional targets to be set for years further into the future, and resolve other matters as necessary.

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Annex 1 – Stakeholder views on retaining the Clean Vehicle Standard

Stakeholder	Support retaining the Standard?	Key reasons
Armstrong Group	**Yes**	Chinese brands will increase competition in our market leading to better quality, lower prices and reduced demand for Japanese used imports. The Standard is needed to provide a strong market signal in support of this change. s 9(2)(b)(ii)
Ateco	**Yes**	Provides the stable long-term signal global manufacturers need to prioritise New Zealand. BYD altered its pipeline of supply to New Zealand because of the Standard. Without the Standard manufacturers divert lower emission models to regulated markets. Removal of the Standard would strand investments, increase fuel costs, and lock in outdated technology.
Better NZ Trust	**Yes**	Prevents NZ becoming a destination for higher-emission vehicles. Supports consumer choice and reduces long-term household fuel costs. Is a cost-effective way to meet emissions obligations through supporting transition to EVs and, in the short term, increasing the efficiency of internal combustion vehicles. Alternative policies lack the same certainty and effectiveness.
Climate Change Commission	**Yes**	The Standard is the last policy lever we have to reduce vehicle CO2 emissions, which heightens its importance. It avoids New Zealand becoming a 'dumping ground' for higher emitting vehicles that lock households into higher vehicle running costs. Transport is expected to contribute about 10% of the net emissions reduction the Government is seeking in the second emissions budget period (2026–2030). Most of this needs to come from reducing emissions of private vehicles. Removal of the Standard will

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Stakeholder	Support retaining the Standard?	Key reasons
		make it more difficult to meet the emissions budget, and greater reductions will be needed elsewhere, either in other parts of the transport sector or in other sectors. This will put further strain on meeting the third emissions budget. Without any policy that encourages greater demand for EVs, New Zealand may struggle to find private sector investment in charging infrastructure to help meet the target of 10,000 charging points by 2030 – the key Government policy for transport in ERP2. A slowdown in EV sales could have significant impacts on EV businesses. For example, businesses investing or specialising in charging infrastructure, battery recycling, or EV servicing may lose confidence in the market having previously experienced growth through 2022-2024 from increasing EV sales. The ETS is not strong enough by itself to reduce transport emissions. In our advice on ETS settings, we have cautioned that by the third emissions budget period the ETS will unlikely be able to be relied upon to drive gross emissions reductions in its current form.
Drive Electric	**Yes**	Prevents NZ becoming a dumping ground for obsolete, high-emission vehicles. Avoids billions in avoidable fuel costs and reduces the health burden from noxious vehicle emissions. Long vehicle life means each high-emission import locks in pollution for 20 plus years. The ETS alone is insufficient as transport is unresponsive to carbon prices and buyers focus on vehicle purchase price, not fuel costs. Achieving equivalent abatement via ETS would require politically unacceptable carbon price levels.
Imported Motor Vehicle Industry Association (VIA)	**Partially** Retain for new vehicles but not for used imports	The Standard should apply to new vehicle distributors because it can influence production, specification, and supply decisions, and therefore has a credible role in shaping future fleet composition. However, it should not be used as the primary CO2 reduction mechanism for used vehicle imports. Used vehicles are already built, and a CO2-at-import standard significantly affects supply, price, and turnover (leading to fleet emissions remaining high) and has no impact on global emissions outcomes.

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Stakeholder	Support retaining the Standard?	Key reasons
		Initiatives to increase the rate of fleet turnover are preferable for used imports.
International Council on Clean Transportation (ICCT)	**Yes**	The Standard is working — cutting fleet-average CO2 emissions, improving fuel efficiency for both new and used imports, and delivering substantial annual fuel savings for consumers. Compared with 2021, average CO2 emissions and fuel use of imported vehicles fell by 18% for cars/SUVs and 10% for utes, vans and light trucks over 2022–2025. Pre-standard performance showed annual reductions of only around 2% for cars/SUVs and 1% for light commercials. Applied over the same period, this would imply total business-as-usual improvements of just 8% and 4% respectively — below what has been achieved under the Standard. Electrification has accelerated, even after repeal of the Clean Car Discount and the introduction of EV road-user charges, the Standard has helped maintain growing EV uptake. Importers can meet the targets, with technology to comply with 2026–2029 targets already being available globally. Comparable markets (e.g. EU, UK, Canada and China) are meeting stricter standards now, demonstrating feasibility. Costs to consumers are low and savings are high. Fuel efficiency standards are highly cost-effective—any vehicle price increases from technology upgrades are far outweighed by lifetime fuel savings. EVs are also rapidly approaching cost parity this decade. Repeal would have significant risks. Removing the Standard would bring more high-emitting vehicles into New Zealand that would increase fuel costs for households, slow EV uptake and harm compliant businesses.
Motor Industry Association	**Yes**	Supports retaining the Standard but with its settings recalibrated to better reflect domestic market conditions, consumer affordability, and realistic vehicle availability. Supports applying the Standard to both new vehicles and used vehicle imports, as excluding used imports would distort competition and slow emission reductions. Removal of the Standard could: • disadvantage imports and distributors that have made substantial compliance and portfolio investments under the current requirements • weaken the policy signal for the fleet to transition to lower and zero emission

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Stakeholder	Support retaining the Standard?	Key reasons
		• reduce New Zealand importers' and distributors' influence in securing supply of low- and zero-emission vehicles from global manufacturers, potentially affecting how many of those vehicles are supplied • distort market competition toward higher-emission vehicles • increase reliance on the ETS to reduce fleet emissions, when evidence suggests it is unlikely, in isolation, to materially influence vehicle purchasing decisions • slow the rate at which older, less efficient vehicles are replaced in the fleet, delaying aggregate emissions reductions • introduce regulatory instability and planning uncertainty in a market characterised by long product lead times and advance volume commitments.
Motor Trade Association	**Yes**	It would be remiss of New Zealand not to have a Standard as it is the last policy lever we have to influence vehicle CO2 emissions. However, its settings need to change to make sure its targets are achievable. The Standard stops New Zealand being a destination for less fuel efficient/high emission vehicles that cost more to run. To date it has successfully shifted the vehicle mix towards hybrids. The Standard should apply to used vehicle imports as they do not need to be treated differently. Alongside achievability the Standard needs to contribute to providing certainty for the industry.
New Zealand Automobile Association (AA)	**Yes**	A regulated standard is the most direct lever to influence the CO2 intensity of vehicle imports. The Standard balances environmental ambition with commercial flexibility. It should apply to used imports as without it, importers will likely shift toward cheaper, higher-emission used stock.
Parliamentary Commissioner	**Yes**	The original rationale for the Standard is clear from the original policy work and still stands. If the Standard were removed, New Zealand will become an increasingly attractive dumping ground for fuel inefficient used vehicles. There is a long emissions shadow that comes with such vehicles.

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Stakeholder	Support retaining the Standard?	Key reasons
for the Environment		A range of outcomes would be negatively affected if it were removed e.g. air quality and health outcomes. Its removal would undermine private investment in EV charging. Refer to note below The Standard was intended to work in concert with the Clean Car Discount (CCD). Given the repeal of the CCD it is not surprising that the Standard is operating as it is. The original intent of the Standard should be revisited to accept that without the CCD it will need to alter prices to favour low-emissions vehicle purchases. If the Government is unhappy with the performance of the Standard, it should slow the reductions required. It is too early to remove the Standard entirely. The ETS is insufficient by itself. For example, it does not impact on vehicle purchase decisions because people place more weight on vehicle purchase price than fuel costs.
Rewiring Aotearoa	**Yes**	A transition to EVs is strongly in New Zealand's interests. The Standard is a low-cost, market-based tool with flexibility mechanisms to maximise consumer choice. Without the Standard vehicle manufacturers will deprioritise New Zealand, slowing the availability of affordable new EVs to reduce household cost of living. Vehicles last 20 years or more. The import of high emission vehicles locks the vast majority of New Zealanders who buy used vehicles into higher transport costs.
Tesla	**Yes**	Fuel efficiency standards are proven and necessary to incentivise cleaner vehicles. The Standard prevents the dumping of older polluting vehicles on our market. Abolishing the Standard signals New Zealand is not serious about new technology. Removal would deter investment in NZ's broader electrification ecosystem (EVs, batteries, solar, and EV charging infrastructure).

Note: PCE has requested additional context be provided for this statement. Removing the CVS would reduce the incentive to import clean vehicles, particularly EVs. If the demand for EVs drops, then there would be less incentive for private industry to invest in public charging infrastructure, which would make it harder for the Government to reach their goal of 10,000 new public chargers.

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Stakeholder	Support retaining the Standard?	Key reasons
Toyota New Zealand	**Yes**	Toyota has long supported the need for the Standard, subject to it striking the right balance between ambition and achievability/affordability. The Standard addresses issues and barriers that the ETS alone cannot. It has succeeded in supporting product accessibility and we are confident that the vehicle fleet is lower-emissions than it would have been in a no-Standard counterfactual. It helped create a more equitable market for distributors that moved early in supplying low emission vehicles. Its repeal would: • reduce Toyota NZ's ability to supply lower emissions/new efficient technologies • see New Zealand being a dumping ground for high-emissions vehicles that lock-in higher lifetime emissions and fuel costs. • disrupt long-term stability and confidence in low-emissions vehicle uptake and could undermine confidence in long-term charging infrastructure investments • reduce energy and fuel security. Used vehicle imports should not be excluded as this would distort competition in favour of used imports. We need to develop regulation that addresses NZ's market and structural challenges. Despite positive actions of vehicle manufacturers, customers have not adopted EVs. Government needs to: • play a role through enabling policies as seen in other markets • accelerate the rollout of charging infrastructure.

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Annex 2 - How developed economies intervene to accelerate vehicle efficiency/lower vehicle CO2 emissions

Carbon pricing (i.e., the New Zealand Emissions Trading Scheme) is the government's key policy for reducing CO2 emissions to meet its emission budgets. Understanding if the ETS alone can drive the desired change in vehicle emissions is a key part of this analysis. We have assessed if countries using a CO2/fuel efficiency standard to drive fleet efficiency improvement also use a carbon pricing mechanism which affects fuel purchasing/use.

The table below shows that vehicle CO2/fuel efficiency standards are the dominant policy lever for accelerating CO2 emission reductions and improving fleet efficiency. This reflects strong evidence that Standards are effective: they incentivise innovation, reduce fuel use, enhance energy security and lower emissions[10]. Research by the International Council on Clean Transportation (ICCT) on Australia's access to advanced efficiency technologies (such as turbocharging and hybrid drivetrains), found a lag of 5-10 years relative to regulated markets[11]. The ICCT concludes that standards are "among the most effective climate-change mitigation measures to have been implemented over the past decade."

Most standards align with, or are modelled on, the US Corporate Average Fuel Economy Standard (CAFE), implemented in 1978. Evaluations estimate that CAFE has been primarily responsible for saving around 2 trillion gallons of gasoline since 1975, reducing greenhouse gas emissions by around 14 gigatonnes, and saving US households an average of $16,000 in fuel costs from 1980 to 2014[12]. In the absence of the standard, estimates suggest that only around 15-20 percent of the increase in fuel economy from 1975 to 2018 would have occurred due to fuel price changes alone[13].

The European Union (EU) adopted CO2 standards for light passenger vehicles in 2009 and for light commercial vehicles in 2011. A 2015 evaluation found the standards had a positive impact on competitiveness and innovation, were beneficial from an equity perspective, and accounted for 65-85 percent of the reductions in tailpipe emissions achieved following their introduction[14]. The EU subsequently strengthened the targets in 2019. Following implementation, average CO2 emissions from new passenger cars registered in Europe fell by 28 percent between 2019 and 2024, and emissions from new vans by 9 percent[15]

[10] https://iea.blob.core.windows.net/assets/ddba54b4-f5af-47e4-8e92-d31a64e41b3f/Transport-FuelEconomyStandards-IEAEnergyEfficiencyPolicyToolkit2025.pdf
11 ICCT Working Paper 2022-31, *Fuel efficiency standards to decarbonise Australia's light-duty vehicles*
[12] https://www.sciencedirect.com/science/article/abs/pii/S0301421520305048
[13] https://www.sciencedirect.com/science/article/abs/pii/S0301421520305048
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Policy in place or soon will be | Policy partially in place | No policy | Awaiting decision

Country / Region	Is there a vehicle specific policy?	Is there carbon pricing of road transport fuels?
European Union (27 countries)	Mandatory CO2 standards.	The European Union's ETS will be expanded to include road transport fuels in 2027. Currently, many member states impose carbon taxes on transport fuels, including France, Sweden, Finland, Denmark, Ireland, Portugal and Luxembourg. Germany's ETS covers transport fuels. This national system will transition to the wider European Union's ETS in 2027.
United Kingdom	Mandatory CO2 standards and a zero emissions mandate. The latter requires that a specified proportion of a supplier's vehicles be zero emission.	The United Kingdom's ETS does not apply to road transport fuels.
United States	Mandatory fuel efficiency and CO2 standards (these were weakened in 2025 to have zero penalties).	There is no federal carbon pricing mechanism. However, California and Washington have emissions trading schemes and states within the Regional Greenhous Gas Initiative have transport carbon pricing[16].
Canada	Mandatory CO2 standards.	The federal carbon tax that applied to transport fuels was removed in 2025.
Japan	Mandatory fuel-efficiency standards	Japan's national carbon tax applies to road transport fuels.
South Korea	Mandatory CO2/fuel-efficiency standards.	Korea's ETS covers road transport fuels.
China	Mandatory fuel-efficiency standards and a new energy vehicles credit system. The latter requires that a specified share of a suppliers' vehicles be EVs, PHEVs or fuel-cell.	China's ETS does not cover road transport fuels.

[16] Participating states: Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New York, Rhode Island, Vermont, and New Jersey.

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New Zealand	Mandatory CO2 standard.	New Zealand's ETS covers all transport fuels.
Australia	Mandatory CO2 standard.	Australia's carbon pricing mechanism does not cover road transport fuels.
Singapore	No mandatory CO2 or fuel-efficiency standard. Has the Vehicle Emissions Scheme, which is a feebate scheme, applied at the point of consumer purchase.	Singapore's carbon tax does not apply to transport fuels.
Switzerland	Mandatory EU-aligned CO2 standards.	The Swiss ETS does not cover road transport
Norway	Mandatory EU-aligned CO2 standards.	Carbon tax on transport fuels and participation in EU ETS
Turkey	Mandatory EU-aligned CO2 standards.	A pilot stage of a national ETS is due to start over 2026-27 but will not cover road transport. It may be included in the full implementation stage from 2028 to match the EU.
Mexico	Mandatory CO2 standards.	Carbon tax on road transport fuels
Chile	Mandatory fuel-economy standards.	Has a one-off vehicle carbon tax that applies to the first sale of new light vehicles based on their fuel efficiency.
Israel	No mandatory CO2 or fuel-efficiency standard but has the Green Taxation Scheme that applies taxes to vehicle purchases based on their emissions.	Carbon tax on road transport fuels

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Cabinet

Minute of Decision

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Outcome of the Stage 1 Review of the Clean Vehicle Standard

Portfolio **Transport**

On 10 August 2026, following reference from the Cabinet Economic Policy Committee (ECO), Cabinet:

1 **noted** that in July 2024, the Cabinet Business Committee agreed that the achievability of the Clean Vehicle Standard's (the Standard) targets be reviewed every two years, given the uncertainties involved in setting targets, and invited the Minister of Transport to report back on the outcome of the next review by 30 June 2026 [CBC-24-MIN-0067];

2 **noted** that in November 2025, ECO agreed that the 2026 review would also consider abolishing the Standard [ECO-25-MIN-0186];

3 **noted** that every inefficient vehicle that is imported locks-in higher fuel costs and higher emissions for up to 20 years;

4 **noted** that:

4.1 retaining the Standard is necessary to ensure New Zealand continues to gain earlier and greater access to the latest efficient, low-emission vehicles, reducing fuel costs and CO2 emissions;

4.2 without the Standard, manufacturers would be incentivised to supply new vehicles with older, less efficient vehicle technologies;

5 **noted** that s 9(2)(h) [redacted]

6 **agreed** to retain the Standard for both new and used vehicle imports;

7 **agreed** that the Standard's CO2 targets for used vehicle imports be separate targets to those applying to new vehicles, reflecting the older technology in used imports;

8 **noted** that the above separate targets will be designed during the upcoming Stage 2 review of the Standard;

9 **invited** the Minister of Transport to report back to ECO by 30 April 2027 on the outcomes of the Stage 2 review.

Rachel Hayward
Secretary of the Cabinet

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Ministry for Cities, Environment, Regions & Transport

Document 4

Clean Vehicle Standard Review 2026

Cost-Benefit Analysis of the Clean Vehicle Standard

Prepared by Ainsley Smith, Principal Economist and Kane Swift, Senior Economist – Ministry for Cities, Environment, Regions and Transport

August 2026

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Executive summary

Overview

The Ministry for Cities, Environment, Regions and Transport (the Ministry) is assessing the effects of retaining the Clean Vehicle Standard (CVS) to inform decisions on whether to retain or abolish it. The CVS is a fuel efficiency and carbon emission (CO2) standard for vehicles entering the fleet, which came into effect on 1 January 2023. The CVS sets annual CO2 targets[1] that tighten over time. Vehicle importers must meet the targets, on average, across the vehicles they import.

Importers may supply any mix of vehicles that meet the minimum safety and other standards. The CVS does not ban vehicles. Instead, vehicles with CO2 value above the relevant target incur charges and those below earn emission credits[2]. Vehicle importers must offset any charges with credits they earn or buy, any net charges are paid to the NZTA[3]. This cost benefit analysis (CBA) report presents the CVS's social costs and benefits to support the decision.

Methodology

This CBA builds on the work of the Ministry's vehicle fleet model (VFM). The VFM uses a total cost of ownership (TOC) approach to model vehicle purchase choices across motor types (petrol, diesel, hybrid, PHEV, and battery electric vehicles (BEVs), assuming consumers seek to minimise total costs of ownership. The VFM is calibrated to historical data to 2025 and projects fuel use, electricity use, greenhouse gas (GHG) emissions, and vehicle purchases to 2060. This CBA combines these projections with other assumptions and valuations to estimate changes in social costs from fuel and electricity use, GHG emissions, and vehicle purchases. Nitrogen oxides (NOx) emissions and costs are estimated separately, outside the VFM.

The analysis compares two policy states – with CVS and without CVS. Net benefits are estimated as differences in costs and benefits between the two states. A key uncertainty in assessing the consumer welfare effects of the CVS policy is how people choose vehicles. If consumers are fully informed and rational, a policy that changes vehicle choices should not reduce welfare. People would only switch if the alternative left them at least as well off. In practice, however, consumers do not always choose the vehicle with the best lifetime fuel savings. This may reflect limited information, a focus on upfront cost, uncertainty about future fuel prices or ownership duration, or preferences for other features such as size, performance, comfort, reliability, or brand.

This creates two main uncertainties. First, vehicle choices may reflect behavioural frictions, such as incomplete information or short time horizons, rather than fully informed preferences. Second, the policy may change which vehicles are available, and therefore the combination of attributes consumers can choose from, including some that are not directly observed in the data.

These effects could increase or reduce welfare. The policy may help some consumers by shifting them toward options with better long-term value, but it may also harm others by limiting access to preferred features. Because these effects can offset each other and are difficult to measure, any estimate of net consumer welfare would depend heavily on assumptions. The analysis, therefore, focuses on impacts that can be estimated with confidence, such as changes in vehicle prices, fuel costs, and emissions, and treats broader consumer welfare effects as unquantified uncertainty.

Assumptions

The analysis relies on a set of explicit assumptions within the VFM that affect the policy impacts:

- Vehicle buyers are assumed to face CVS charges or credits passed through by importers, consistent

[1] Fuel use and CO2 have a constant relationship with targets reducing CO2 also reducing fuel use by the same percentage.

[2] Credits can be used to offset charges and can be traded but do not have a value themselves, credits expire after four years.

[3] Importers have the option to pay charges at the time of import or via consolidated net payment at year end.

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with the pricing signals created by the scheme[4].

- Vehicle motor-type choice is driven mainly by the TCOs, but also by monetised and non-monetised factors such as range anxiety and model availability.
- Because New Zealand is a small player in the international vehicle market, the VFM assumes no overall supply constraint, while allowing for limited vehicle variety, especially for BEVs in the near term. The VFM assumes the CVS affect motor-type choice rather than the total number of registrations.

Scenarios

The analysis compares two policy states: with CVS and without CVS. Within each state, six scenarios are modelled by combining two TCO periods with three energy-price assumptions. The Monte Carlo analysis adds further variation in the shadow price of carbon and NOx.

The six scenarios within each policy state reflect sensitivity to the TCO period and energy prices.

- **TCO periods**: We used six-year period as the best estimate, reflecting average first ownership of imported vehicles. A three-year period is included as a sensitivity test, reflecting evidence that consumers may underweight future operating costs relative to upfront prices[5].
- **Energy-price**: Low and high fuel and electricity resource prices[6] are set at +/- 20% the central case.

Combining these assumptions gives six scenarios within each policy state. The Monte Carlo analysis separately varies the shadow price of emissions and NOx values.

Findings and conclusions

Table 1 shows that retaining the CVS delivers net benefits to New Zealand. By increasing the share of lower-emissions vehicles, the CVS reduces fuel use and greenhouse gas (GHG) and harmful emissions. These benefits are partly offset by higher electricity use from a larger EV fleet and higher upfront vehicle costs, resulting in positive net present values (NPVs). The findings support retaining the CVS, with 95% confidence intervals (based on Monte Carlo simulation) indicating substantial NPVs.

Limitations and caveats

The main limitations and caveats of the modelling are set out below.

- Results are indicative and subject to significant uncertainty in key inputs and assumptions, particularly consumer behaviour, vehicle availability, technology costs, and energy prices. This is reflected in the wide range of estimates.
- This is the first time applying the new VFM for policy application, the inherent limitations with its modelling capabilities will affect the estimated effects of the CVS policy.
- The analysis quantifies only impacts that can be robustly modelled within the VFM. Omitted items include administration and compliance costs, lifecycle vehicle costs such as battery disposal, wider system effects, maintenance and repair savings, particulate matter emissions, fuel security benefits and consumer welfare impacts (see *Table 2* for summary and section *3.6* for detailed discussions of these effects.
- Quality assurance was undertaken on both the VFM and CBA models, including checks of the code and outputs, with additional validation and sensitivity testing in higher-risk areas.

[4] A 75% pass on scenario was run to estimate the effect of a lower pass on. This analysis estimated reduced effects across the assessed costs and benefits ranging from 6% to 18%. However, the effect on net benefits was small -4% and 1%.

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Table 1. Estimated CBA results of the CVS (2025 prices) relative to no CVS (95% confidence intervals)

Estimated effects of the CVS (2026 to 2060)		Discount rate	
		SRTP (2%)	SOC (8%)
Benefits $ billion	Reduced fuel costs	7.7 to 13.0	3.3 to 5.0
	Greenhouse gases abated	0.6 to 6.0	0.3 to 2.2
	Nitrogen oxides abated	1.6 to 4.6	0.7 to 2.0
Costs $ billion	Increased vehicle purchasing cost	1.4 to 3.0	1.0 to 2.0
	Increased electricity cost	5.3 to 7.7	2.3 to 3.1
Key results	Benefit to cost ratio	1.5 to 2.2	1.3 to 1.8
	Net present values ($ billion)	3.3 to 12.8	1.0 to 4.1
Marginal Abatement Cost (MAC) per tonne of CO2 abated ($)		-176 to -269	-45 to -87

Notes:

1. The results above exclude NZTA administrative costs of $159 million in present value terms. Including these costs would only have a minor effect on the summary results.
2. If we were to exclude GHG savings from the benefit calculation, the BCR would still be above 1, estimated at 1.4-1.7 (using 2% SRTP) and 1.2-1.4 (using 8% SOC).
3. Monte Carlo simulation (10,000 runs) was used to assess uncertainty in the level of cost internalisation, energy prices, and the valuation of CO2 and NOx emissions.
4. The negative MAC results suggest that for every tonne of GHG reduced there is a benefit (negative cost) to NZ of the given amount e.g. in the low SRTP scenario NZ saves $176 for every tonne of GHG reduced.

Table 2. Summary of non-quantified effects likely effect size

Effect class	Non-quantified effect	Expected direction of change	Expected size of effect[5]
Costs	Industry compliance	Reduce net benefits	Low
	Vehicle end of life[6]	Reduce net benefits	Low
Benefits	Safety[7]	Increase net benefits	Low
	Pollution[8]	Increase net benefits	Low
	Energy security[9]	Increase net benefits	Low
	Maintenance[10]	Increase net benefits	High
Unknown impacts	Policy uncertainty and gaming	Unclear	Low
	Electricity system effects[11]	Unclear	Low
	EV charging effects[12]	Unclear	Low
	Consumer welfare effects	Unclear	Low

[5] We approximate the effect sizes to be <$0.3b for low, $0.3b – 1.0b medium and +$1b for high.

[6] This depends on the value of EV batteries which will be influenced by their ability to be repurposed or recycled.

[7] Fuel efficient vehicles tend to be newer with improved crash reduction technologies, so incentivising their uptake would reduce road safety risks.

[8] From carbon monoxide, hydrocarbons, sulphur dioxide and particulate matters. There are lower social harms from these air pollutants in light vehicle travel compared to NOx.

[9] Reduced reliance on fuel from shifting to more efficient vehicles and EVs.

[10] Maintenance and repair cost of EVs has been estimated by other studies to be cheaper.

[11] Additional required investment in electricity generation, distribution and storage to accommodate increase demand.

[12] Increased demand for EV charging may improve the profitability and coverage of EV charging services.

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Contents

1 Introduction and background 10
1.1 The existing CVS settings 10
1.1.1 How does the scheme work? 11
1.1.2 How are the charges are determined? 11
1.2 Past cost benefit analysis of the CVS 12
1.3 Scope of policy 12
2 Methodology 13
2.1 Approach 13
2.1.1 Modelling and valuation processes 13
2.1.2 Effects assessed 13
2.2 Data collection and preparation 13
2.2.1 Data and inputs 13
2.3 Vehicle fleet model 15
2.3.1 High level forecasts 15
2.3.2 Detailed attribute breakdowns 17
2.3.3 Vehicle kilometres travelled 18
2.3.4 Fuel, electricity and emissions 19
2.4 Sensitivity and uncertainty analyses 19
2.4.1 Approaches considered 19
2.4.2 The Two-stage process 20
2.5 Assumptions and limitations 20
3 Analysis and results 21
3.1 Monetised costs 21
3.1.1 Estimating the increase in vehicle purchase costs 21
3.1.2 Estimating the increase in electricity costs 21
3.2 Monetised benefits 21
3.2.1 Estimating the fuel savings 21
3.2.2 Estimating the reduction in carbon dioxide emissions 22
3.2.3 Estimating the reduction in NOx emissions 22
3.3 Probabilistic simulation 22
3.3.1 Inputs varied in the Monte Carlo simulations 22
3.4 Cost-Benefit Analysis 23
3.4.1 CBA reporting matrices 23
3.4.2 CBA results 23
3.4.3 Implications for policy 24
3.5 Other quantified effects 24
3.5.1 Effects on fuel, electricity use and GHG emissions 24
3.5.2 Changes in administration costs 25
3.6 Non-quantified effects 25
3.6.1 Omitted costs 25
3.6.2 Omitted benefits 26
3.6.3 Omitted effects with unknown impacts 26
4 Assumptions and Limitations 27
4.1 Assumptions 27
4.2 Caveats and limitations 27
5 Annexes 29
References 48

PROACTIVELY RELEASED BY THE MINISTRY FOR CITIES, ENVIRONMENT, REGIONS & TRANSPORT

List of tables

Table 1. Estimated CBA results of the CVS (2025 prices) relative to no CVS (95% confidence intervals) 5
Table 2. Summary of non-quantified effects likely effect size 5
Table 3. Headline emissions targets and charge rates under existing CVS settings (as of January 2026) 11
Table 4: Summary of the quantitative effects assessed 13
Table 5. Key data and inputs used in the analysis 14
Table 6. Input values for the Monte Carlo analysis 23
Table 7. Monetised policy effects - cumulative total for the years 2026 to 2060 (all dollar values are discounted at the 2% and 8% rates) 24
Table 8. Vehicle energy use and emissions change from the policy - cumulative totals for the years 2026 to 2060 25
Table 9. Repair and maintenance costs ($/km) by vehicle class and motive power 46
Table 1. Updated CBA results of the CVS (2025 prices) relative to no CVS (95% confidence intervals) 46

List of figures

Figure 1. Light passenger vehicle registrations by import status – actual and projected 37
Figure 2. Light commercial vehicle registrations by import status – actual and projected 38
Figure 3. Light passenger vehicle registrations by motive power and import status – actual and projected 38
Figure 4. Light commercial vehicle registrations by motive power and import status – actual and projected 39
Figure 5. Light passenger fleet model comparisons – actual and projected 39
Figure 6. Light passenger fleet model comparisons by motive power – actual and projected 40
Figure 7. Light commercial fleet model comparisons – actual and projected 40
Figure 8. Light commercial fleet model comparisons by motive power – actual and projected 41
Figure 9. Light passenger VKT model comparisons – actual and projected 41
Figure 10. Light passenger VKT model comparisons by motive power – actual and projected 42
Figure 11. Light commercial VKT model comparisons – actual and projected 42
Figure 12. Light commercial VKT model comparisons by motive power – actual and projected 43
Figure 13. Light passenger fuel efficiency model comparisons by motive power – actual and projected 43
Figure 14. Light commercial fuel efficiency model comparisons by motive power – actual and projected 44
Figure 15. Light passenger fuel use model comparisons by motive power – actual and projected 44
Figure 16. Light passenger electricity use model comparisons by motive power – actual and projected 45
Figure 17. Light passenger CO_2e model comparisons by motive power – actual and projected 45

List of annexes

Annex 1. Vehicle subgroup classification 29
Annex 2. Distribution graphs of CBA outputs 30
Annex 3. Tornado plots showing the effect the variable inputs have on the key results 33
Annex 4. Consumers welfare of the CVS 36
Annex 5. Comparison against past modelling 37
Annex 6. Policy effect on maintenance and repair costs. 46

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Glossary

Term	Acronym	Definition
Autocorrelation of error terms		The error terms (variance) of a model depend on themselves over time. This results in reduced model precision and can indicate a misspecified model.
Battery electric vehicle	BEV	A vehicle powered by an electric motor and battery.
Benefit-Cost Ratio	BCR	Indicates the economic effectiveness of an option. Estimated as the present value benefits divided by the present value costs.
Carbon dioxide	CO_2	A chemical compound that is gaseous under normal conditions. It is a major greenhouse gas as it traps heat in the atmosphere and a key driver of climate change.
Discounting/discounted		Estimating the present value of a monetary stream over time.
Dimensionality reduction		A process used in regression analysis where new predictor variables for a model are estimated out of an initial set of variables. This reduces multicollinearity between variables and overfitting of models.
Greenhouse gases	GHG	Greenhouse gases (GHGs) are atmospheric gases that trap or absorb heat and contribute to climate change.
Gross vehicle mass	GVM	The maximum safe operating weight of a vehicle as specified by the manufacturer, including the vehicle's tare weight, fluids, accessories, passengers, and cargo.
Heteroscedasticity of error terms		The variance of error terms in a model differs across observations. This can make insignificant variables appear statistically significant.
Hybrid vehicle		A vehicle powered by a mix of a fossil fuel engine and electric motor that can't be plugged in to charge its battery.
Internal combustion engine vehicle	ICE	A vehicle powered by a fossil fuel engine.
Import status		The name of the variable classifying vehicles to new or used vehicle groups.
Light vehicle		Motor vehicle (excluding motorcycles) that has a Gross Vehicle Mass (GVM) of 3500kg or less.
Light commercial vehicle	LCV	Motor vehicle used for carrying goods that has a Gross Vehicle Mass (GVM) of 3500kg or less.
Light passenger vehicle	LPV	Motor vehicle (excluding motorcycles) used for carrying passengers that has a Gross Vehicle Mass (GVM) of 3500kg or less.
Marginal Abatement Cost	MAC	The net cost/benefit of a policy (excluding emissions reduction benefits) per one tonne of CO_2e abated.
Motor type (powertrain)		How the vehicle is powered, at a high level this is split into four groups ICE, hybrid, PHEV and BEV. Can be split further by fuel type e.g. ICE petrol, hybrid petrol etc.
Motor Vehicle Register	MVR	A system that stores data on vehicles currently registered in NZ.
Motorcycle		A motor vehicle running on two wheels, or not more than three wheels when fitted with a sidecar.
Multicollinearity		When multiple predictor variables are highly correlated with each other. This can make the model coefficients unstable and overfitted.
Net benefit / net cost		The overall welfare gain. A net benefit means the total benefits exceed the total costs and vice versa for net cost.
Net Present Value	NPV	The difference in present value benefits and present value costs. It is equal to the net benefit/cost.
Nitrogen oxide/dioxide	NO_X	Harmful gas primarily emitted by fossil fuel combustion, especially from diesel motor vehicles.

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Term	Acronym	Definition
Nominal (values)		The face value of a monetary value without adjusting for purchasing power or the time value of money.
Ordinary Least Squares	OLS	A statistical method that estimates a linear relationship between variables based on the best fit of the data point.
Overfitted		An issue in regression analysis where the model is too complex resulting in poor performance when introducing new data.
Plug in hybrid vehicle	PHEV	A vehicle powered by a mix of a fossil fuel engine and electric motor that can be plugged in to charge its battery.
Present value		The current value of a future monetary stream after accounting for the time value of money – a dollar received today is worth more than a dollar received in future.
Real (values)		A monetary value adjusted for inflation.
Registrations		Vehicles that are registered to the Motor vehicle register during the period.
Scrappage		Vehicles that have been deregistered (removed) from the motor vehicle register and no longer have a licence to be driven on public roads.
Stationarity		The statistical properties of a timeseries variable are the same throughout the series.
Structural Equation Modelling	SEM	Statistical technique that uses multi-regression and factor analysis to test how variables interact within an integrated model.
Tare weight		The unladen weight of a vehicle, which includes all standard equipment, fluids, and a full tank of fuel, but excludes passengers, cargo, or luggage.
Vehicle Fleet Model	VFM	Model developed by the Ministry to project the composition of the future motor vehicle fleet on the road, its travel, energy use and greenhouse gas emissions.
Vector Error Correction Model	VECM	An econometric model that analyses the relationship of multiple cointegrated, non-stationary timeseries variables over time.
Vehicle group		This high-level classification of road vehicles is made of seven vehicle categories including light passenger, light commercial, motorcycle, medium truck, heavy truck, campervan, and bus.
Vehicle subgroup		This is a lower-level classification of road vehicle specific to each vehicle group. The classification is based on the either tare weight, GVM or body type characteristics.
Vehicle Kilometres Travelled	VKT	A measure of vehicle travel.
Weibull distribution		A continuous probability distribution frequently useful valued for modelling different types of failure rates using just a few parameters.
Zero emissions vehicle	ZEV	Any vehicle that produces no internal combustion exhaust or greenhouse gas emissions while operating.

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1 Introduction and background

The Ministry is assessing the effects of retaining the Clean Vehicle Standard (CVS) policy. The primary goal of this analysis is to quantify the social costs and benefits of the CVS to inform decisions on retaining or abolishing the CVS. This report summarises our assessment of the possible effects in ranges on social costs and benefits to support policy decisions.

The CVS is a carbon dioxide (CO_2) standard for vehicles entering the fleet, which came into effect on 1 January 2023. It encourages the supply and purchase of more energy-efficient vehicles by setting annual CO_2 targets[13] that progressively tighten over time, reducing fuel costs and CO_2 emissions.

Importers may supply any mix of vehicles they choose, as the CVS does not prohibit the import of any vehicle. Instead, vehicles with CO_2 emissions above the relevant target incur financial charges, while vehicles with CO_2 emissions below the relevant target earn emission credits. The level of charges or credits depends on how close or far the vehicle is from the target. To meet the targets, vehicle importers must offset any charges with credits, either earnt themselves or purchased from other importers. Where there are any net charges, these must be paid to the NZTA.

The CVS is estimated to deliver economic benefits through increased uptake of lower-emission vehicles, contributing to fuel savings and reductions in GHG and harmful emissions. These benefits are partly offset by higher electricity costs associated with greater EV uptake, and higher upfront vehicle purchase costs as more energy-efficient vehicles typically carry a price premium.

1.1 The existing CVS settings

The CVS came into effect on 1 January 2023, with significant revisions applied from 1 January 2025 and 1 January 2026. Its aim is to incentivise vehicle importers to improve energy efficiency and reduce CO_2 emissions of the vehicle they supply.

In 2024, the Government reviewed the CVS and concluded that the 2025–27 targets - except for the 2025 passenger vehicle target - were too stringent and unlikely to be achieved if unchanged. Targets out to 2027 were subsequently eased to ensure the CVS remained effective and that vehicles remained available, affordable, and varied for consumers. Targets for 2028 and 2029 were also added at this time.

In late 2025, the Government made further changes to the CVS settings, taking effect on 1 January 2026:

- The charge per gram of CO_2 was reduced from $67.50 to $15 for new vehicles and from $33.75 to $15 for used vehicles
- The lifespan of credits was extended from three to four years, or at least to 31 December 2028
- Credit transfers were permitted between new and used vehicle groups

Under the 2026 CVS settings, importers are charged per gram of CO_2 by which each vehicle exceeds its applicable target (see Table 2). The targets are headline figures by vehicle class — the actual target each vehicle faces are weight-adjusted using the formula in section 1.1.2. Charge rates for used vehicles are half those applied to new vehicles.

[13] Fuel use and CO2 have a constant relationship with targets reducing CO2 also reduce fuel use by the same percentage.

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Table 3. Headline emissions targets and charge rates under existing CVS settings (as of January 2026)

Year	Emissions targets (g/km)		Rates for exceeding targets ($ per g/km)	
	Light Passenger (Cars/SUVs)	Light Commercial (Utes/Vans)	New vehicles	Used vehicles
2023	145.0	218.3	$36	$18
2024	133.9	201.9	$36	$18
2025	112.6	223.0	$54	$27
2026	108.0	207.0	$12	$6
2027	103.0	175.0	$12	$6
2028	76.0	144.0	$54	$27
2029	65.0	131.0	$54	$27

1.1.1 How does the scheme work?

Importers pay charges on a net basis across all their imports, offset by credits they have earned or purchased. The market value of credits will never exceed the Government charge rate — since importers would simply pay the charge rather than pay more for a credit — but may approach it when demand for credits is high.

If there are excess credits, it is likely that the value of a credit will fall below the Government fee and reduce the effective charge rate importers face for any vehicles over the target. Credits can also be held for up to four years so that importers can stockpile credits for future use (offsetting or trading).

1.1.2 How are the charges are determined?

The following formula determines whether a vehicle's CO_2 emissions are above or below the target, adjusted for vehicle weight.

Weight Adjusted Target = Annual Fleet Target + L x (Vehicle Weight – Mean Fleet Weight)

Where:

- L is a factor to allow for the higher CO_2 values of heavier vehicles[14].
- Weight refers to the tare weight of the vehicle.

Both the slope of the line (L) and the Mean Fleet Weight can be found on the NZTA website[15].

Values beyond the end of the series are held constant into the future, except for Annual Fleet Targets. Annual fleet targets are implicitly reduced in the model overtime.

The charge or credit applied to each vehicle is calculated as:

Total Charge or credit = (Weight Adjusted Target – Vehicle CO_2 emissions value) x Charge per gram

Where:

- Vehicle CO_2 emissions value are independently tested estimates of CO_2 emissions against the 3P-WLTP[16] standard.

[14] As heavier weights require more energy from fuel to move, which translates to higher fuel consumption and emissions from combustion.

[15] NZTA website - Clean car programme (New Zealand Transport Agency Waka Kotahi, 2026)

[16] 3P-WLTP stands for Three-Phase Worldwide Harmonised Light-Duty Vehicles Test Procedure

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1.2 Past cost benefit analysis of the CVS

The Ministry has previously undertaken CBA analysis of the CVS prior to its implementation in 2019/2020 and again for the 2024 review. These assessments were based on more limited data and market knowledge, and we have since learned considerably more about consumer and importer behaviour, vehicle technology trajectories, and cost trends. This informed the redevelopment of the Ministry's vehicle fleet model (VFM), incorporating improved behavioural assumptions, updated cost data, and a more robust projection framework.

The redeveloped VFM model has been used to estimate the policy effects for this CBA. Direct comparison between past and present estimates is complicated by changes to policy settings, modelling assumptions, and underlying data. However, they all show significant net benefits to New Zealand.

1.3 Scope of policy

In scope of this analysis are:

- Light vehicle imports from 2026 inclusive including light passenger (car/SUV) and light commercial (van/ute) groups
- Effects from 2026 to 2060 inclusive.

Out of scope of this analysis are:

- Vehicles other than light vehicles - including motorcycles, buses, campervans, and heavy goods vehicles - as these fall outside the CVS boundary
- The existing vehicle fleet
- Effects beyond 2060, which are expected to be greatly reduced by this point but are excluded by design.

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2 Methodology

2.1 Approach

2.1.1 Modelling and valuation processes

The analysis is made up of two distinct parts:

1. The VFM is where the policy effects of the CVS on motor type are modelled. This model uses a total cost of ownership (TCO) framework to estimate the effect of the CVS on motor type choice, and the downstream effects on fuel and electricity use, vehicle purchase volumes, and GHG emissions, modelled by detailed vehicle cohort. All behavioural responses from the CVS are estimated within the VFM.
2. The CBA component is where the volume outputs from the VFM are combined with unit values and discounted to produce final estimates of the social costs and benefits in monetary terms. Additionally, volume and value estimates of harmful emissions (NOx) are calculated in this part.

While we aim to use common set of assumptions across these two processes, where justified, we alter the assumptions for behavioural modelling to better reflect consumer responses. For example, the VFM includes taxes and charges to reflect the actual cost burdens faced by consumers but exclude them in the CBA.

2.1.2 Effects assessed

This CBA focuses on the five social costs and benefits: fuel use, electricity use, vehicle purchases, GHG emissions and harmful emissions (*Table 3*). The effects assessed are considered the most significant, with other effects not estimated due to modelling and evidence constraints.

Table 4: Summary of the quantitative effects assessed

Effects	Measures (changes in quantity and
Consumer cost changes	Fuel used
	Electricity used
	Vehicle purchases
Environmental impacts	GHG emissions
	Harmful emissions

2.2 Data collection and preparation

2.2.1 Data and inputs

Table 4 summarises the key data inputs and their sources. For practical purposes, we summarise some inputs at a high-level though the analysis uses their disaggregated values.

Modelling requires forecasts of inputs to 2060; we derive these mainly using econometric and trend analyses as part of the VFM modelling process. More information is provided as part of the TCO discussion in Section 2.3.2.

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Table 5. Key data and inputs used in the analysis

Dataset/input	Detail	Values	Source
Motor vehicle register (MVR)	Detailed historical data on vehicle registrations, scrappage, VKT, Road use charge (RUC) licences and vehicle attributes. This is a primary input into the VFM.	Various	(NZ Transport Agency Waka Kotahi, 2026)
Energy prices ($/kwh)	Historic energy prices for petrol, diesel (retail and commercial), and electricity used to calculate energy expenditure. Prices including taxes and levies were used as financial costs in the TCO calculations to determine motor type. Prices excluding taxes, levies and margins were used as resource prices to calculate economic effects in the CBA.	Low/medium/high timeseries	Ministry of Business, Innovation and Employment The Treasury Te Tai Ōhanga
Vehicle prices	Vehicle prices used in the calculation of weighted vehicle purchase prices. Prices are predominantly for new vehicles but implicitly inform used vehicle prices, which are based on lagged new prices. Prices are differentiated by year, vehicle type, fuel type and import status (new or used).	Various	Optifleet
Price indices	Consumer and capital goods price indices used to convert values to real prices or change to relevant prices. The VFM applies 2023 prices, whereas the CBA applies 2025 prices.	Various	(Stats NZ Tatauranga Aotearoa, 2026)
Macro-economic variables	Macro-economic variables including GDP, population, unemployment, interest rates, TWI, USD & Japan exchange rates, and tourism arrivals are used in VFM model to estimate vehicle registrations and VKT.	Various	(Stats NZ Tatauranga Aotearoa, 2026) (Reserve Bank of New Zealand Te Pūtea Matua, 2026)
Real world fuel efficiency	Real world fuel efficiency data from recently produced research by Emissions Impossible. This is used in the calculation of fuel use per km in the TCO part of the VFM model that determines motor type and used to calculate total fuel use by vehicle cohort.	Various	(Kuschel, Metcalfe, & Peeters, 2025),
Control totals	Published fuel use (by fuel type) and GHG emissions are used as control totals to align the outputs of VFM model with published high-level totals by year.	Various	Ministry of Business, Innovation and Employment Ministry for the Environment
Shadow emissions price to 2060	The shadow emissions price represents New Zealand's marginal cost of reducing a tonne of GHG emissions in line with domestic emissions reduction targets. This is used to value GHG emissions.	Low/medium/high timeseries	(The Treasury Te Tai Ohanga, 2025)
VEPM's NOx emission factors	NOx emissions factors by vehicle group and powertrain used to calculate nitrogen oxides (NOx) emissions from VKT. Factors assume a gradual reduction over time.	Light commercial diesel: 1.12 g/km (2026) to 0.51 g/km (2050) Light passenger petrol: 0.14 g/km (2026) to 0.05 g/km (2050)	NZ Transport Agency Waka Kotahi Emissions Impossible

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Dataset/input	Detail	Values	Source
Exhaust standards	Regulatory NOx emissions limits by vehicle group used in combination with VEPM figures above to calculate NOx emissions from VKT.	Light passenger petrol: max 0.06 g/km Light commercial diesel: Euro 5 max 0.28 g/km; Euro 6 max 0.125 g/km Heavy diesel: Euro 5 max 0.46 g/km	European Union (Wikipedia, 2026)
Harmful emissions prices	Social cost per tonne of NOx emissions used to value harmful emissions. Values adjusted for inflation from 2021 to 2025 prices.	Low: $349,149 Medium: $429,284 High: $509,419	(Kuschel, et al., 2016)
Discount rate (%)	Rate used to convert future monetary values to present values (today's dollars).	SRTP: 2% (real) SOC: 8% (real)	(The Treasury Te Tai Ōhanga, 2025)
Battery price per kwh	Battery prices per kwh are used in the TCO calculation to determine motor type choices.	Various	Goldman Sachs

2.3 Vehicle fleet model

The VFM has been redeveloped since previous modelling of the CVS. The redeveloped model incorporates methodological improvements including updated behavioural assumptions, improved vehicle cohort granularity, and better integration of real-world fuel efficiency data.

The VFM is organised into six modules. This overview summarises the modules that describe the modelling methodology (rather than data processing).

- Module 0 - Set Up
- Module 1 - Process Inputs
- Module 2 - High Level Forecasts
- Module 3 - Detailed Attribute Breakdowns
- Module 4 - Location breakdowns (deferred pending further investigation)
- Module 5 – Vehicle kilometres travelled (VKT)
- Module 6 – Fuel, electricity and emissions

2.3.1 High level forecasts

The high-level forecasts (by vehicle group) of registrations and scrappage are calculated in four parts described below.

This part of the model uses regression analysis forecast vehicle registrations. Model selection prioritises economic plausibility (expected coefficient signs), stability across sample periods, well-behaved residuals, reasonable short-term performance, and long-run projections that remain credible over the forecast horizon.

Heteroscedasticity and autocorrelation in the variance of a model can reduce the reliability of the model. We used the Newey-West HAC covariance matrix to obtain more reliable variance estimates of the coefficients, aiding in model selection and interpretation.

All high-level forecasts described in this section use quarterly data from 1994, data prior to 1994 is not considered robust.

2.3.1.1 Light passenger vehicles (LPV) registrations

New and used LPV registrations are modelled using separate Ordinary Least Squares (OLS) regressions in levels (i.e. original series rather than differences). This specification was selected after testing several

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models.

The registration models are split into new and used imports. A broad set of candidate drivers across vehicle costs, household income, and demographics were assessed (including prices, exchange rates, interest rates, fuel prices, GDP, unemployment, and population).

Many of these series are highly correlated with each other which can introduce multicollinearity and overfitting to the model. Careful variable selection and principal components analysis was used to reduce the number of predictor variables used in the model.

The final approach[17] uses level models where cointegration evidence supports a stable long-run relationship, aligning with the objective of projecting long-run equilibrium rather than short-run changes.

2.3.1.2 Light commercial vehicles (LCV) registrations

LCV registration projections considered both demand-side drivers (such as economic conditions, demographics, and preferences) and supply-side constraints (such as production and import availability and pricing), enabling forecasts to respond to plausible market scenarios.

The final approach uses OLS[18] and, for the variable specification, Principal Component Regression (PCR). OLS supports transparency and ease of interpretation, while PCR is used to manage multicollinearity among predictor variables and improve model stability. The preferred LCV registration model meets key diagnostic checks (including stationary residuals and no evidence of heteroskedasticity or autocorrelation).

2.3.1.3 Heavy goods vehicles (Medium and Heavy Trucks) registrations

The models use quarterly MVR registrations data (excluding COVID-19 impacts in estimation) and include drivers such as GDP, unemployment, diesel prices, and the trade-weighted index, alongside policy indicators for the 2008 brake rule changes.

Registrations are estimated using OLS in levels to support interpretation and to capture longer-run relationships. Overall, the registrations model shows broadly strong statistical significance and evidence consistent with cointegration (stationary residuals), although some used-vehicle segments exhibit heteroskedasticity and outliers.

Alternative differenced OLS specifications were not adopted due to weaker fit, implausible coefficient signs, or unrealistic projections.

2.3.1.4 Bus, motorbikes, and campervans registrations

Buses, motorcycles, and campervans are modelled as “small groups”. These vehicle types account for a small share of the overall fleet, and their registrations can be volatile because low volumes are more sensitive to occasional spikes. As a result, these series have a relatively small influence on aggregate results.

Econometric modelling was less reliable for these series due to volatility, so a simpler trend-based approach is applied. Registrations are projected by extrapolation using population growth as an indicator. To reduce sensitivity to the most recent observations, the approach uses the average quarterly registrations over the previous 10 years, assigns that average to the quarter five years after the projection start date, and then applies the population-growth rate from that point.

[17] As most timeseries variables are non-stationary (i.e., their characteristics change over time), differenced models were tested but performed poorly.

[18] Structural Equation Models (SEM) and Vector Error Correction Models (VECM) were tested but were not adopted due to instability and weak or implausible results.

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2.3.1.5 All vehicle groups scrappage

Scrappage (deregistration) is modelled separately as a function of age using a Weibull distribution[19], consistent with the approach used for other vehicle classes.

All high-level projections are subsequently combined annually for input into Module 3.

2.3.2 Detailed attribute breakdowns

Detailed vehicle attribute forecasts are produced by disaggregating the high-level (by vehicle group) registrations and scrappage projections into cohorts based on vehicle subgroup (a disaggregation defined by size/weight/type characteristics), import status, and year of manufacture.

- ***Registrations*** **-** Registrations are disaggregated across cohorts using a multinomial extrapolation based on historical shares. The extrapolated values are dampened by taking the arithmetic mean of the extrapolation and the most recently observed shares. The dampening is applied to constrain the amount of change to the shares of each cohort in the long-term.
- ***Scrappage*** **-** The scrappage module uses historical registration and deregistration data to estimate how long vehicles remain in the fleet before deregistration. It produces two outputs: (1) an estimated distribution of in-fleet lifetimes for newly registered vehicles, and (2) annual estimates of the number of vehicles in the existing fleet expected to deregister.

Scrappage is modelled using a censored Weibull "time-to-failure" distribution, fitted by vehicle group, subgroup and import status using registrations from 1 January 1994 onwards (from when MVR date quality is considered reliable). The model estimates time in the fleet. It is applied conditionally to the existing fleet and as year-by-year probabilities for future registrations. The implementation includes checks to ensure projected scrappage does not exceed the projected fleet in any cohort.

Registrations are then further split by motor type (ICE, hybrid, PHEV, and BEV) using the TCO approach. This approach identifies VKT thresholds at which a more efficient motor type becomes cost-effective by comparing upfront and fixed costs with ongoing per-kilometre costs.

The TCO includes several key components:

- The TCO calculation covers the first six years of ownership and applies an 8% discount rate[1]. It includes financial and non-financial costs. Financial costs include vehicle depreciation[2], fuel, electricity, road user charges (RUC), and policy costs such as the CVS charge or credit, assumed to be fully passed through by the importer.
- Fuel prices are projected from their three main components: resource (base fuel) costs, taxes, and ETS costs. Base fuel costs use Treasury and MBIE forecasts; taxes reflect confirmed legislative changes; and ETS costs follow MfE projections. Electricity prices (in marginal terms) are projected using MBIE forecasts and RUC changes based on confirmed legislated changes.
- Vehicle purchase prices are held constant in real terms for ICE vehicles. Hybrid, PHEV, and BEV prices (excluding battery) are modelled as declining ratios of the ICE price over time. Battery costs are added separately for PHEVs and BEVs and are projected using a combination of cost-per-kWh forecasts and projected battery capacities.
- Non-financial costs include range (only for BEVs) and variety penalties. For BEVs, the range penalty reflects range-related constraints for typical daily travel and less frequent longer trips. The variety penalty reflects differences in makes and models availability and other practical barriers. These penalties do not represent financial costs directly borne by consumers but rather capture behavioural barriers that reduce the likelihood of choosing these vehicle types.

[19] The Weibull distribution is a versatile continuous probability distribution frequently used in survival analysis. It is highly valued for its ability to model different types of failure rates using just a few parameters.

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Projected registrations are allocated across powertrains by applying an observed distribution of VKT. The share of vehicles between successive thresholds determines expected uptake share for each powertrain. For example, hybrids are those above the hybrid threshold but below the PHEV and BEV thresholds. The process first estimates uptake based on cost-effectiveness[20], then applies adjustments for range and variety penalties, and finally calibrates results to recent observed uptake to ensure calibrated results match observed patterns as close as possible. This process is then benchmarked to the latest observed data over a ten-year adjustment period, gradually phasing out the adjustment over time.

2.3.3 Vehicle kilometres travelled

VKT is first projected at the vehicle group level (i.e. high level VKT projections) and then disaggregated to detailed vehicle cohort groupings (i.e. detailed VKT projections). All VKT projections use annual data, as historical quarterly VKT information by vehicle group is unavailable.

High level VKT

High-level VKT projections are formed using OLS regression, relating vehicle group VKT to key explanatory variables. Historical VKT estimates are typically available with a lag of up to one year relative to other VFM inputs; accordingly, the VKT projection horizon begins one year earlier than other model components (projections start 2024 for VKT).

The explanatory variables applied for each vehicle group are summarised below. Variable selection followed the same diagnostic principles described in the registrations section, prioritising economic plausibility, statistical robustness, and forecast stability:

- Medium truck VKT is fit as a linear combination of the unemployment rate and fleet size
- Heavy truck VKT is fit as a linear combination of the unemployment rate and population
- Light commercial VKT is fit as a linear combination of the size of the fleet and CPI
- Light passenger VKT is fit as a linear combination of the size of the fleet, the unemployment rate, and the proportion of the population that works from home
- Bus VKT is fit as a linear combination of the size of the fleet and tourism arrivals
- Campervan VKT is fit as a linear combination of tourism arrivals, the unemployment rate, and the proportion of the population that works from home
- Motorcycle VKT is fit as a linear combination of fleet-weighted cost per km of travel, the size of the fleet, tourism arrivals, and the proportion of the population that works from home.

Detailed VKT

The VKT disaggregation step works by looking at the latest average VKT per vehicle for each cohort, holding that constant over time, and multiplying out by future fleet values. These form VKT estimates which are then prorated to equal to the high level VKT totals produced in the previous step.

However, this simple approach does not produce sensible results for emerging technologies and merits a different approach.

For emerging motor technologies, the initial adopters of a technology might not represent the average future user, or the early vehicle models might not reflect future vehicles. For example, early BEV registrations were dominated by short-range models with atypically low VKT. There may be no existing VKT

[20] The procedure can be iterated to balance charge and credit settings, which if useful in situations where the targets are exceeded and total credits outweigh charges. When this is the case the cost of CVS charges and credits applied in the TCO are reduced until total charges and cost are balanced, reducing the effect of the policy. In practice this charge/credit balancing was not undertaken for this analysis because the modelling assumes that targets continue to be set and reduced in the future at levels where there is not a substantial over supply of credits.

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data for emerging motor technologies, the full time series is constructed from model assumptions.

We classify a technology as being "established" if there have been at least 10 vehicles of a given cohort with that motor technology in the fleet for at least 15 years[21]. This allows enough time for power train technology to become mainstream and used by a more representative sample of users, not just early adopters. The purpose of this condition is to ensure their observed VKT values are representative of the general population for use in projections. If this 10-vehicles-for-15-years condition is not met, the technology is classified as being "emerging", and we do not consider their observed VKT values as being representative.

To resolve issues with emerging technologies, we produce an average VKT per vehicle by all desired breakdowns *except* motor technology. Then we scale this new average using a motor technology factor. This factor is currently provided as a model assumption, one factor per motor type. Then for BEVs, we also reduce VKT per vehicle by the range penalties.

The current power train relative VKT factors are:

- ICE: 1
- Hybrid: 1.02
- PHEV: 1.02
- BEV: 1.05

These represent the assumed theoretical long-term differences in VKT per vehicle as caused by the power train. Moving to a more efficient powertrain means it is cheaper to travel and would incentivise increased VKT. These factors suggest moving from ICE to Hybrid or PHEV will encourage a user to drive 2% more, and moving from ICE to BEV will encourage them to drive 5% more - at least after range penalties are resolved.

2.3.4 Fuel, electricity and emissions

Energy use is calculated using estimates of fuel and electricity consumption that are applied at cohort level. Fuel efficiency inputs are primarily drawn from recent research from Emissions Impossible (Kuschel, Metcalfe, & Peeters, 2025), while electricity consumption inputs are based on a targeted review of available evidence.

Energy use is calculated as the product of energy use per km and VKT. Greenhouse gas (GHG) emissions are calculated by multiplying fuel use by fuel-specific emission factors.

Our calibration process found the patterns of the fuel use and GHG emissions estimates track well with that of historic observations. However, the scale differs somewhat especially for petrol use. Fuel use (by fuel type) and GHG emissions are therefore scaled to published control totals from MBIE and MfE respectively, to ensure consistency with national-level estimates.

2.4 Sensitivity and uncertainty analyses

This CBA includes inputs that cannot be known with certainty at the time of analysis. Rather than presenting a single estimate, we use structured scenarios and Monte Carlo simulation to show the range of plausible outcomes, consistent with good practice under uncertainty.

2.4.1 Approaches considered

We considered and rejected two alternative approaches to probabilistic sensitivity analysis. The first was a continuous Monte Carlo model applied to the VFM with uncertain input parameters assigned a continuous distribution and sampled independently. Although this would account more effectively for uncertainty, the VFM would need to be evaluated analytically within the simulation and to vary smoothly with parameter

[21] This is an assumption of the model

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changes.

That is not feasible because the VFM includes discrete structural choices, such as ownership horizon. Fitting a response function across the required dimension spaces would also be computationally complex compared to the small marginal gain.

The second option was stratified sampling, which can explore higher-dimensional uncertainty with fewer model runs than a full factorial design. This is useful when there are many uncertain dimensions. In our case, we limited the analysis to two key discrete parameters; TCO and energy prices. This produced 6 scenarios[22].

Stratified sampling would reduce runs further but leave some combinations untested, weakening the analysis. We therefore chose the discrete two-stage approach as the most transparent and auditable option.

2.4.2 The Two-stage process

Stage one: scenario design and sensitivity screening

Stage one identifies which assumptions materially affect the CBA results. Following consultation with the policy team and external peer reviewers, four assumptions were identified as the main sources of uncertainty: the vehicle cost internalisation period (for the TCO calculation), energy prices, the policy options, shadow price of carbon, and social cost of NOx emissions. Of these four dimensions, shadow price of carbon and social cost of NOx sit outside the VFM and are therefore excluded from stage one.

A full factorial design was applied to the remaining three dimensions, producing 12 outputs (six scenarios sets each for with and without the CVS policy). The VFM was run separately for each scenario to generate a corresponding set of time-series outputs.

Stage two: Monte Carlo simulation

For the with CVS and without CVS cases, stage two treats the six sets of VFM outputs as a discrete joint probability distribution and uses Monte Carlo simulation to derive a distribution of CBA results. Equal-probability mass functions were assigned to cost internalisation period, energy prices and shadow prices of carbon reflecting the lack of a stronger basis for weighting and the time varying nature of these assumptions. A continuous function was added for social cost of NOx, which has the same valuation per unit of NOx over time. A summary of the low, central, and high assumptions is provided in Table 5.

Across 10,000 iterations, one value was drawn independently from each of the four parameter distributions for both the with-CVS and without-CVS runs. This enables the presentation of the NPV, BCR and related results as distributions and ranges.

2.5 Assumptions and limitations

This approach has two main limitations. *First*, the combination of scenarios in stage one covers only the discrete values specified, so it does not capture intermediate or more extreme outcomes. *Second,* the equal probability weights are not evidence-based because the likelihood of each assumption is unknown.

[22] The VFM technically produces 12 scenarios as it considers the counterfactual and policy as separate scenario parameters. However, to ensure like-for-like comparisons between the policy options, only the TCO and energy prices vary in the sensitivity analysis

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3 Analysis and results

The outputs from the previous sections are used to estimate the effects of the policy. These include the monetised economic effects included in the CBA and other quantitative or qualitative policy effects that are not included in the CBA.

A discount rate of 2%[23] is applied in the calculation of the costs and benefits with an 8% rate applied as part of the sensitivity testing.

Range and variety penalties affecting consumer decisions as part of the TCO are excluded from these calculations as they are not considered to influence social costs and benefits. CVS charges and credits are also excluded as these are considered transfers between parties (suppliers and Government).

All monetarised figures are in 2025 prices.

3.1 Monetised costs

The monetised economic costs estimated are the increased cost to consumers from the policy. These include:

a) the increased vehicle purchase costs of lower emitting vehicles and,

b) the increased electricity costs associated with higher EV use

3.1.1 Estimating the increase in vehicle purchase costs

Projections of vehicle purchase prices obtained from the VFM model are converted into 2025 prices with all taxes removed.

Multiplying these by the annual number of first registrations and sum across all vehicle types give the estimated total annual vehicle purchase cost. The differences between the with and without CVS states give the estimated increase in vehicle purchase costs.

3.1.2 Estimating the increase in electricity costs

Electricity prices used in the VFM model are converted into 2025 prices with all taxes removed.

Multiplying these by the estimated change in electricity consumed give the estimated change in total annual electricity costs.

3.2 Monetised benefits

The monetised economic benefits of this policy are the reduction in the costs from using less fuel and producing less emissions. These include the:

a) consumer costs of fuel use

b) social costs of GHG emissions generated from fuel use

c) social costs of NOx generated from fuel use

3.2.1 Estimating the fuel savings

Fuel prices used in the VFM model are converted into 2025 prices will all taxes removed, which include GST, fuel excise duty (FED) and the emissions trading scheme (ETS) components.

These prices are then multiplied by the reduction in fuel litres used to estimate the fuel savings.

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3.2.2 Estimating the reduction in carbon dioxide emissions

GHG emissions (in CO_2e) are monetised using the shadow emission prices from the Treasury[24]. These values are consistent with the national GHG emissions targets and represent the marginal cost (or benefit) of reducing (or not having to reduce) emissions elsewhere in the economy instead to achieve our targets.

The CVS can reduce the ETS price through reducing fuel use and the subsequent demand for NZ units. As the number of NZ units is capped, reduced demand lowers the ETS price. Consequently, the ETS does not need to drive more expensive emissions reductions elsewhere in the economy. The cap - and the emission budgets - are met with a lower overall cost.

The total GHG reduction is estimated by calculating the tonnes CO_2e reduced associated with the fuel use savings and then multiplying this by the shadow price of carbon for each year. This is consistent with current best practice, and it better reflects their broader long-term social value of emissions reductions than the prevailing market price of emissions units.

3.2.3 Estimating the reduction in NOx emissions

NOx grams per km were estimated using values from Vehicle emissions prediction model (VEPM) and the European Union (EU) regulations (Wikipedia, 2026). These values were on two different bases, and neither provides an estimate fully consistent with real world NOx per km on a registration (vehicle year of manufacture basis).

The VEPM values are real world but are for the entire fleet and would substantively overstate NOx per km, whereas the EU values are limits that manufacturers must meet under different EURO standards so are likely to understate real world emissions. It seems likely that the EU values provide a better estimate of NOx per km given NZs upcoming shift from EURO5 to EURO6 and the VEPM values being much higher. For this reason, the EU values have largely been used except where the VEPM values are lower.

The NOx grams per km values are multiplied by VKT data to calculate the NOx emissions and multiplied by the social cost of NOx to calculate the NOx cost in 2025 prices.

3.3 Probabilistic simulation

To test how varying some inputs affects the results, we conducted a Monte Carlo simulation that runs the CBA model 10,000 times with randomised inputs in Table 5. This approach captures most possible input value combinations, rather than requiring the explicit definition and modelling of each specific combination.

3.3.1 Inputs varied in the Monte Carlo simulations

Table 5 shows which inputs were varied in the Monte Carlo simulation. The chart name column shows the model names used in *Annex 3*.

The values are fitted to a Programme Evaluation Review Technique (PERT) probability distribution. Each iteration will randomly select a value for each input within their own distributions.

Discrete distributions choose only the low, medium (if provided) and high values with an equal probability. This is used for variables with a specific scenario or timeseries track.

Continuous distributions fit the low, medium and high to a triangular probability distribution and then randomly choose any value between the low and high. The minimum and maximum reflect the least to most optimistic possible values while the mode is the most likely value.

[24] Treasury guidance https://www.treasury.govt.nz/sites/default/files/2025-11/cbax-tool-climate-environmental-impacts-oct25.pdf

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Table 6. Input values for the Monte Carlo analysis

Input	Chart name	Distribution	Values		
			Min	Mode	Max
VFM energy use scenario	energy_scenario	Discrete	Low	Medium	High
TCO years	toc_scenario	Discrete	3 years		6 years
Shadow price of carbon series	carbon_price_track	Discrete	Low	Medium	High
Social cost of NOx	nox_price	Continuous	$349,148.70	$429,283.90	$509,419.20

3.4 Cost-Benefit Analysis

A social CBA provides a structured way to compare the economic benefits and costs of a proposed intervention. This helps decision-makers to identify the most efficient options (in terms of outputs produced relative to inputs) and allocate resources to areas with the greatest net benefit.

This CBA compares two policy options; with CVS and without CVS, to determine whether they would provide net incremental benefits to the nation. Costs and benefits are presented from the perspective of the CVS as an active policy, with positive values representing benefits and negative values representing additional costs.

3.4.1 CBA reporting matrices

We report two main CBA measures, the Benefit-Cost Ratio (BCR) and the Net Present Value (NPV), as well as the average Marginal Abatement Cost (MAC).

The BCR is the present value benefits divided by the present value costs. The NPV is the present value benefits minus the present value costs. The MAC is the NPV (excluding the GHG effects) divided by the tonne CO_2e reduction. A BCR over 1, a NPV greater than 0 and a MAC less than 0 all indicate net benefits.

The BCR compares the relative effectiveness of different options (noting we are only testing a single option in this analysis) while the NPV shows their total net benefit to society.

The NPVs are sensitive to the size of the vehicle groups but they do not show the relationship between costs and benefits. In addition, NPVs can vary greatly with the choice of discount rate, whereas the BCRs tend to be more stable across different discount rates.

The MAC indicates the net benefit gained (if negative) or net cost incurred (if positive) from reducing GHGs by one tonne. A negative MAC suggests that the cost of the GHG emissions reductions is cheaper than reducing them elsewhere in the economy.

Current estimates of the BCRs, NPVs and MACs only reflect items monetised in the CBA.

3.4.2 CBA results

The estimated policy effects are summarised in *Table 7* and *Table 6*, which shows the 95% confidence interval for each effect in a Monte Carlo simulation as totals for the years 2026 to 2060. The numbers do not sum to the totals as each range is generated from running the model 10,000 times with randomised inputs (see Table 5) to derive the confidence interval estimates.

Table 6 shows the monetised effects along with the BCRs, NPVs and MAC per tonne CO_2e reduced. These estimates were discounted to present value terms using Treasury's Stated Time Preference (SRTP) discount rate of 2% and Social Opportunity Cost rate of 8%.

Reduced fuel costs account for the largest proportion of benefits, which reflects a reduction in fuel use and associated resources (such as labour) that could be allocated elsewhere. Accordingly, the largest monetised cost is the increase in electricity costs.

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Table 7. Monetised policy effects - cumulative total for the years 2026 to 2060 (all dollar values are discounted at the 2% and 8% rates)

Effects (95% confidence intervals)		Discount rate	
		SRTP (2%)	SOC (8%)
Benefits ($b)	Reduced fuel costs	**7.7 to 13**	**3.3 to 5.0**
	GHG savings	**0.6 to 6.0**	**0.3 to 2.2**
	Reduced air pollution harm	**1.6 to 4.6**	**0.7 to 2.0**
	Total benefits	**10.0 to 23.2**	**4.4 to 9.0**
Costs ($b)	Increased vehicle purchase	**1.4 to 3.0**	**1.0 to 2.0**
	Increased electricity costs	**5.3 to 7.7**	**2.3 to 3.1**
	Total costs	**6.7 to 10.5**	**3.3 to 5.0**
NPV ($b)		***3.3 to 12.8***	***1.0 to 4.1***
BCR		***1.5 to 2.2***	***1.3 to 1.8***
MAC ($/tonne CO_2e)		***-269 to -176***	***-87 to -47***
BCR when excluding GHG savings[25]		***1.4 to 1.7***	***1.2 to 1.4***

Annex 2 shows the full distribution of the CBA outputs in *Table 6* based on the probabilistic simulation of the variables in *Table 5*. As most of the simulation inputs are discrete scenarios, the results tend to be distributed around several peaks. *Annex 3* shows how each of the simulation inputs affects the CBA outputs.

3.4.3 Implications for policy

Results suggest that **retaining the policy would deliver net incremental benefits to society** relative to ending the scheme. As some uncertainties can cause large changes in the scale of effects, NPVs vary considerably across simulation runs. By contrast, BCR largely removes this scale effect, making it a more informative measure.

3.5 Other quantified effects

3.5.1 Effects on fuel, electricity use and GHG emissions

Table 7 shows the effects of the policy on energy resources and emissions. The fuel savings are the result of a shift away from less fuel-efficient vehicles to more fuel-efficient vehicles and EVs. This is reflected by the increase in electricity use.

One of the key outcomes of the CVS is that it incentivises fuel efficient vehicles and leads to lower fuel use and lower fuel costs. When considering our base policy scenario against the equivalent no policy scenario our estimates show that total transport fuel use will be up to 360 million litres lower (eight percent) per annum with the CVS, with the maximum effect in coming in the late 2030s.

The CVS increases electricity demand as it incentivises EVs that draw on electricity for their propulsion. Our estimates show that total energy consumption of transportation would be expected to almost double (increase by 94%) with the policy by 2032. However, the peak increase to electricity consumption of around 1,400 GWh per annum doesn't occur until the late 2030's, that equates to about 4% of current total electricity consumption in New Zealand in 2025.

[25] The BCR excluding GHG savings has been provided to show that the benefits of the policy still outweigh costs even when not account for GHG emissions.

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The reduction in fuel use directly reduces GHG emissions, these reduce by up to 900 kilo tonnes of CO2e per annum (or eight percent of total transport emissions) by the late 2030's.

The new modelling results suggest with the CVS, the baseline transport emissions outlook[26] would be a projected shortfalls (based on central assumptions) are 0.16 million tonnes for the second Emission Budget (EB2) and 21.6 million tonnes for EB3. Without the CVS, the EB3 shortfall increases further to 22.3 million tonnes.

Table 8. Vehicle energy use and emissions change from the policy - cumulative totals for the years 2026 to 2060

Effects		Amount
Benefit impacts	Fuel saved (billion litres)	5.4 to 12.6
	GHGs abated (mega tonnes)	13.3 to 31.5
	NOx abated (kilotonnes)	5.2 to 12.9
Cost impact	Electricity increase (gigawatt hours)	20,677 to 44,829

3.5.2 Changes in administration costs

The NZ Transport Agency administers the CVS on behalf of the Government. Recent amendments to CVS policy apply a small charge on CVS transactions paid by vehicle importers subject to the scheme to cover Government administration costs. Previously costs were borne by Government.

This administration charge has not been included in the Monte Carlo simulation and hence the summary of results but adds $6.4 million per annum to the total cost. The total discounted 2026 to 2060 cost of administering the CVS administration is estimated to be $159 million in 2025 prices. This does not include compliance costs of importers. This cost while relatively small would reduce the net benefits of the CVS by $159 million.

3.6 Non-quantified effects

There are several other policy effects not included in the CBA results. This is because:

a) the effect does not reflect a change in economic resources that have not already been captured by the CBA and/or,

b) the effect was not quantified due to limitations on time and data.

There are several policy effects that we have identified but not quantified. While the analysis focussed on effects considered to be the most substantive some of these non-quantified effects may have the potential to affect the quantitative results. They were not quantified due to modelling and evidence constraints.

3.6.1 Omitted costs

- *Industry compliance costs -* The costs to importers of complying with scheme have not been calculated due a lack of data in this area. These compliance costs may result from administrative cost associated with the scheme or higher costs associated with the process of sourcing lower emissions vehicles on top of the cost of the vehicles). If included, this would reduce the net benefits.
- *Vehicle end of life costs -* Increases to EV numbers from the policy will be expected to increase the future volumes of EV batteries requiring disposal. There may be additional costs from the disposal of the non-recoverable or reusable parts of these batteries that may reduce net benefits.

[26] Under the 2024 VFM, emissions were projected to overachieve the EB2 target by 2.4 million tonnes and fall short of the EB3 target by 19.2 million tonnes.

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3.6.2 Omitted benefits

- *Safety costs* - Because newer vehicles tend to be more fuel-efficient, increasing their uptake could also improve safety through better standards or technologies, at least in the short term. If so, including this effect may increase the net benefits.
- *Pollution costs* - The analysis estimates the effect of the policy on NO_X but no other pollutants such as fine particulate matter (PM2.5). A higher share of BEVs in the fleet would reduce other pollutants such as PM2.5. If included, this would increase the net benefits.
- *Energy security benefit* - The analysis does not attempt to estimate the effect of having a larger low emission fleet on domestic energy security. Increasing the share of BEVs in the fleet would reduce our fuel use and our reliance on imports of fossil fuels. If included, this would increase the net benefits.
- *Maintenance costs* - Vehicle maintenance costs are expected to differ between vehicles with different motor types. This is particularly the case with BEVs, which have fewer moving parts and require less maintenance compared to other motor types. While omitted from the initial CBA, a subsequent update included this effect in the results. The results of their inclusion are summarised in *Annex 6*.

3.6.3 Omitted effects with unknown impacts

- *Policy uncertainty and gaming* -There have been substantial changes to the CVS policy and other related policies since its implementation. It is unclear what effect this and continued political uncertainty will have on vehicle suppliers and consumers decisions and how this will affect vehicle supply and demand.
- *Electricity system effects* - Increased EV use will lead to higher electricity consumption, there would require earlier or additional investment from the electricity sector to meet demand. However earlier EV uptake may also reduce peak demand spikes. The net effect is unclear.
- *EV charging effects* - Increased EV uptake would increase demand for public EV charging infrastructure. This would bring forward financial viability of public charging and may lead to a more comprehensive network but could also lead to more people waiting to charge. The potential effect is unclear. This dynamic is partly captured in the range anxiety assumptions, which phase out over time to reflect not only improvements in vehicle range but also greater ease of access to public charging infrastructure.
- *Consumer welfare effects* - The CVS could reduce welfare if consumers are unable to purchase vehicles with the features they value most, such as size, towing capacity, or a lower upfront cost. However, vehicle choices may not always reflect welfare-maximising preferences, due to imperfect information, behavioural biases, or financial and choice constraints (Gillingham & Houde, 2018). There is a possibility that consumers who switch vehicles may experience offsetting benefits, including improved safety, greater reliability, lower operating costs, and access to newer technology. Because vehicle choice involves bundles of attributes, both welfare losses and offsetting gains are ultimately empirical matters that should be assessed consistently, rather than assumed to operate in only one direction. In the absence of such evidence, the overall net welfare effect remains uncertain.

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4 Assumptions and Limitations

4.1 Assumptions

The analysis includes a set of explicit assumptions within the VFM which affect estimates of the costs and benefits of the CVS.

- Vehicle buyers are assumed to face the full CVS charge or credit as passed through by importers, consistent with the price signals the scheme creates[27].
- Consumers choice of vehicle motor type is driven mainly through TCO and is influenced by both monetarised and non-monetarised vehicle costs such as range anxiety and variety availability. Key TCO parameters are varied across scenarios to test sensitivity to different consumer assumptions (see section 2.4).
- Given New Zealand is a small player in the international vehicle market, the VFM assumes no binding supply constraint, though vehicle variety limitations — particularly for EVs in the near term — are built into the model. As a result, the CVS affects motor type decisions but not the total number of vehicles entering the fleet.
- The VFM calibrates the vehicle fleet using historic patterns and macroeconomic variables to estimate scrappage, VKT, and vehicle attributes (such as whether vehicles are new or used, and their type, size or weight). These are areas where the VFM could be further developed in future iterations.

4.2 Caveats and limitations

The CBA quantifies five policy costs and benefits. Several other costs and benefits have not been quantified and may affect the results, although some effects may offset each other (see section 3.6).

The fleet modelling underpinning the CBA is also subject to significant uncertainty in key inputs and assumptions, particularly those relating to consumer purchasing behaviour, importer and supplier responses, technology costs and development, and energy prices. This is especially true when modelling behaviour over a 30-year period. To improve objectivity, the new VFM reduces reliance on shared mobility and autonomous vehicle scenarios. As a result, it produces major updates to projected vehicle registrations and VKT, along with related projections for fleet size, fuel use, electricity use, and GHG emissions. While we consider the new model more robust than earlier approaches, material uncertainty remains, and comparisons with previously published figures should be made with caution.

As this is the first time when the newly developed VFM is applied to policy analysis, the following limitations should be considered when interpreting the results, and the VFM requires further refinement to address them.

- *Rebound effects* - The current VFM projects VKT by vehicle type and does not have the functionality to estimate how changes in vehicle operating costs change total VKT. Due the inverse relationship between cost and demand, the amount of travel could increase with increased adoption of low emission vehicles.
- *Fuel price effects on VKT* - The VFM does not currently capture the direct effects of fuel prices on light passenger or light commercial travel. However, it does reflect fuel prices indirectly through their influence on fleet size, high-level registration projections, and therefore total VKT.
- *Fuel consumption estimates* - As a bottom-up model, the VFM does not fully align with MBIE's top-down projections of transport fuel use, particularly for petrol consumption, with VFM estimates being

[27] A 75% pass on scenario was run to estimate the effect of a lower pass on. This analysis estimated reduced effects across the assessed costs and benefits ranging from 6% to 18%. However, the effect on net benefits was small -4% and 1%.

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higher. We have therefore scaled the VFM projections to match MBIE's totals. This implicitly assumes that MBIE's projections are correct. Further work is needed with MBIE's projections team to validate the fuel use estimates. Any inaccuracy in these estimates would affect the estimated benefits of the CVS.

- *Limited substitution behaviour* - The VFM only allows for substitution between motor types, where in practice consumers are likely in many cases to substitute between different vehicle cohorts, such vehicle groups (light passenger and light commercial), vehicle subgroups (small, medium, large, extra-large, ute, van) and import status (new and used). It is likely that this would influence the costs and benefits of the policy, but the direction is unclear.
- *Supply constraints* - The VFM does not explicitly account for vehicle supply constraints, which remain highly uncertain. It therefore assumes importers can continue to supply consumers with vehicles across different cohorts. This may overstate the future availability of used EVs, particularly given low EV uptake in Japan, the main source of New Zealand's used vehicle imports. The model partly addresses this through the variety penalty, which reduces demand for vehicles with limited market availability, including used EVs. However, this only partially addresses the issue and uncertainty remains.
- *Future technologies* - The VFM has not accounted for potential changes to future technologies (such as automated vehicles) that may disrupt future vehicle ownership and travel demand. The model does assume gradual improvement to technology associated with energy efficiency of vehicle and battery capacities but does not account for the substantial uptake of technologies not already widely available.

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5 Annexes

Annex 1. Vehicle subgroup classification

The table shows the breakdown of vehicle subgroup applied in the analysis. This in combination with import status, motor type, fuel type and year of manufacture is used to group vehicles into detailed cohort groupings.

Vehicle group or class	Vehicle subgroup	Description
Light passenger vehicle	Small	Tare weight < 1,300kg
	Medium	1,300kg =< Tare weight < 1,500kg
	Large	1,500kg =< Tare weight < 1,800kg
	Extra large	1,800kg =< Tare weight
Light commercial vehicle	Truck/Ute	Light commercial vehicle of MVR vehicle type “Utility” or “Truck”
	Van	Light commercial vehicle of MVR vehicle type “Van”, “Campervan” or “Bus”
Motorcycle	Motorcycle	Motorcycle with MVR body type of “Motorcycle” or “Other motorcycle”
	Moped	Motorcycle with MVR body type of “Moped”
Medium truck	Under 7.5t	GVM < 7.5t
	7.5 to 10t	7.5t =< GVM < 10t
Heavy truck	10t to 20t	10t =< GVM < 20t
	20t to 25t	20t =< GVM < 25t
	25t to 30t	25t =< GVM < 30t
	Over 30t	30t =< GVM
Bus	Under 10t	GVM < 10t
	Over 10t	10t =< GVM

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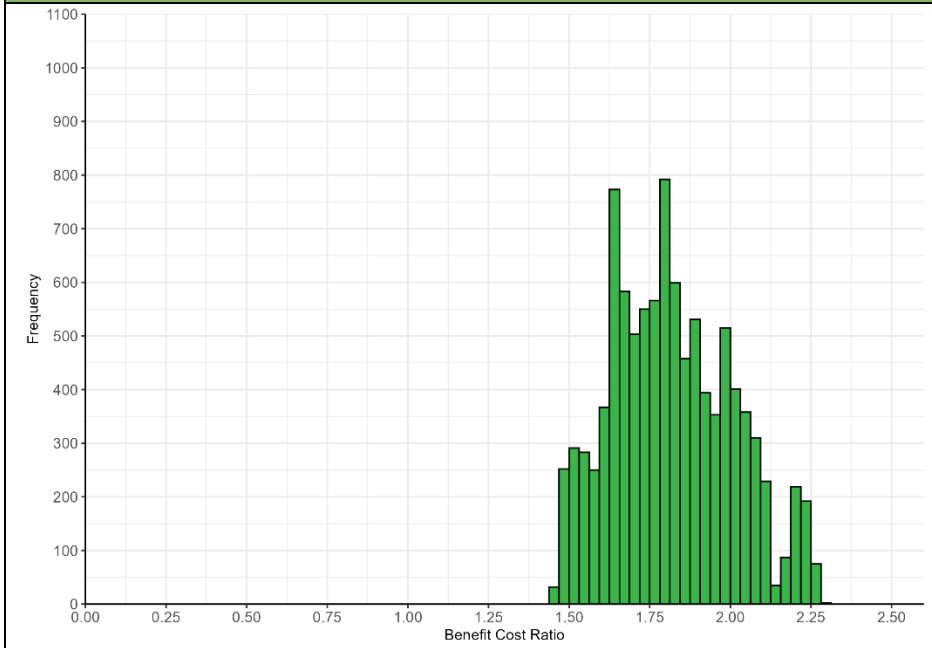
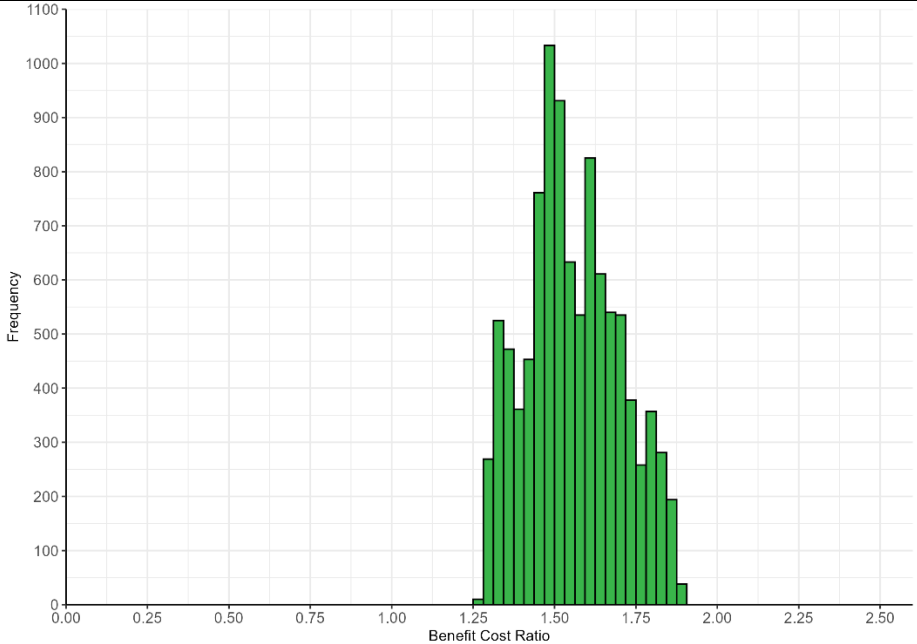
Annex 2. Distribution graphs of CBA outputs

SRTP	SOC
	

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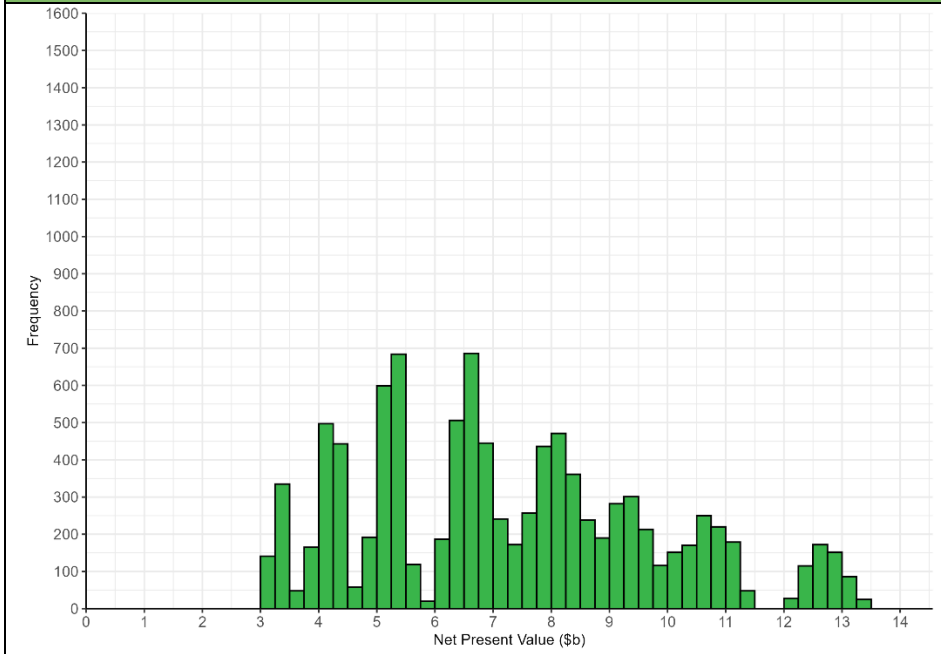
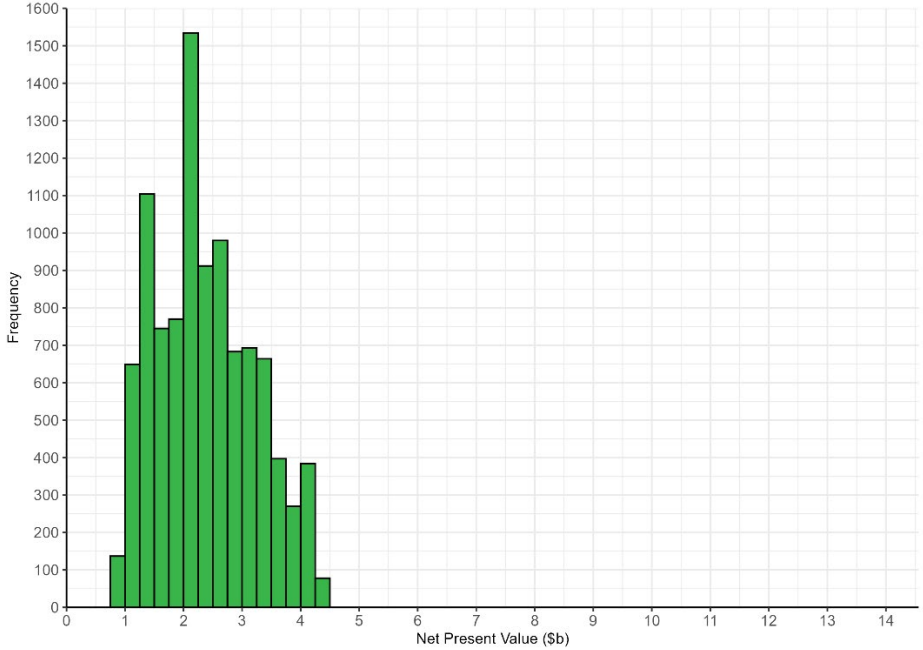
SRTP	SOC
	

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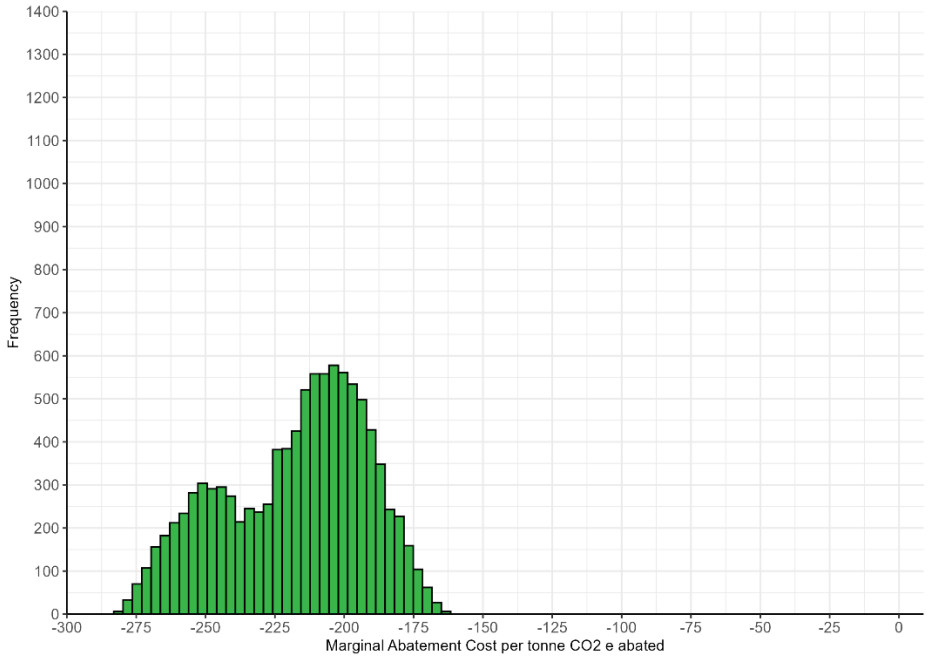
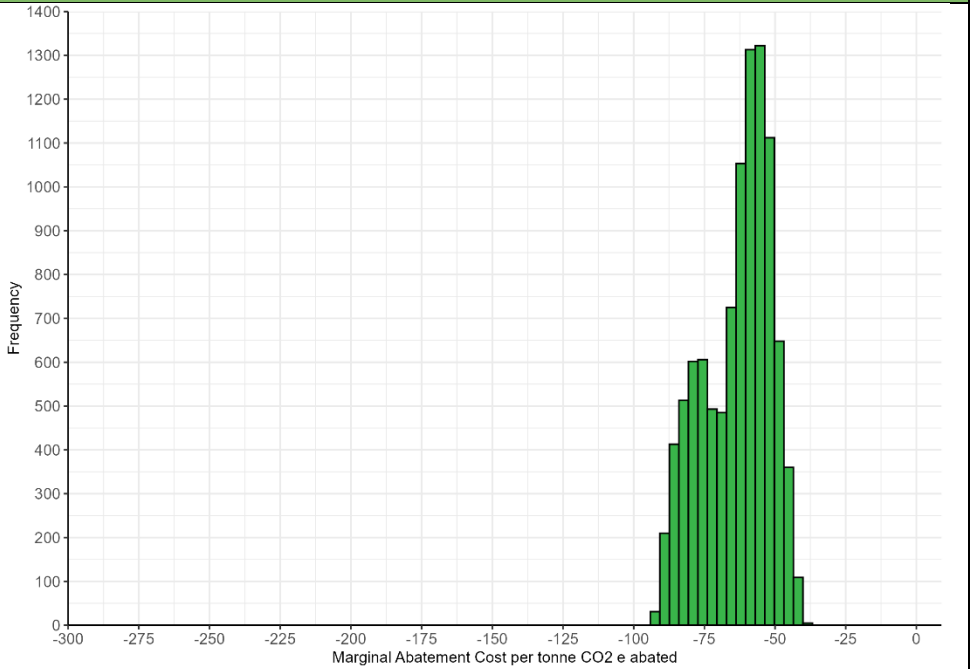
SRTP	SOC
	

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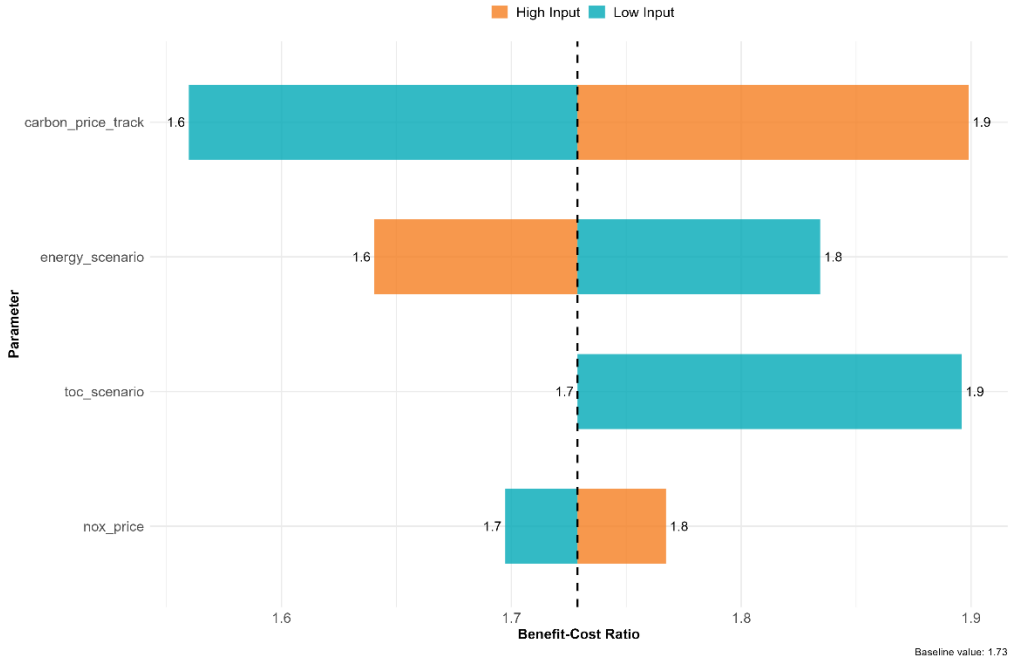
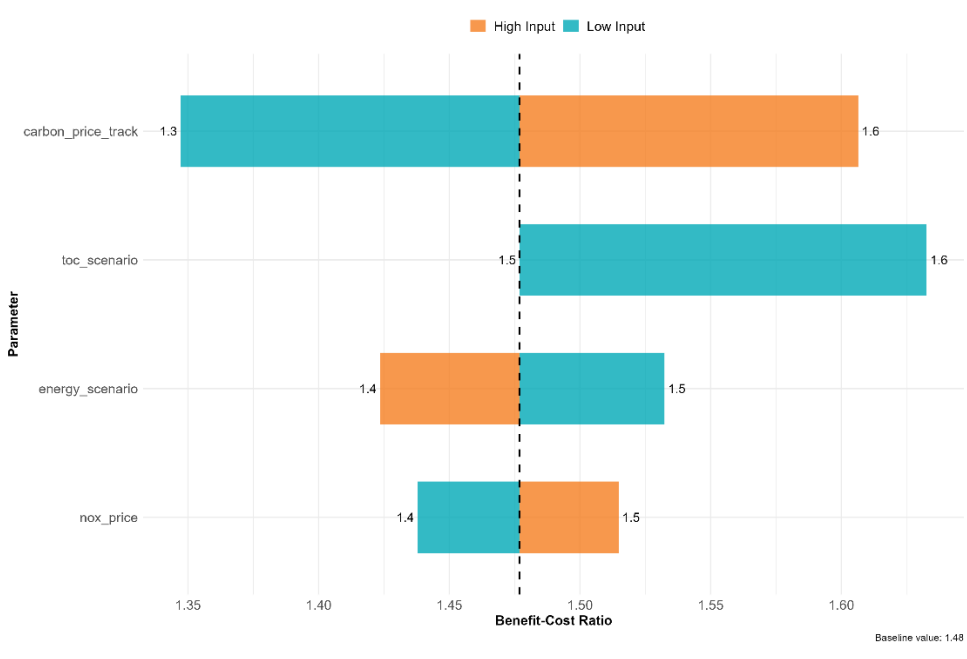
Annex 3. Tornado plots showing the effect the variable inputs have on the key results[28]

SRTP



SOC



[28] The variables referenced in the chart are described in *Table 5*

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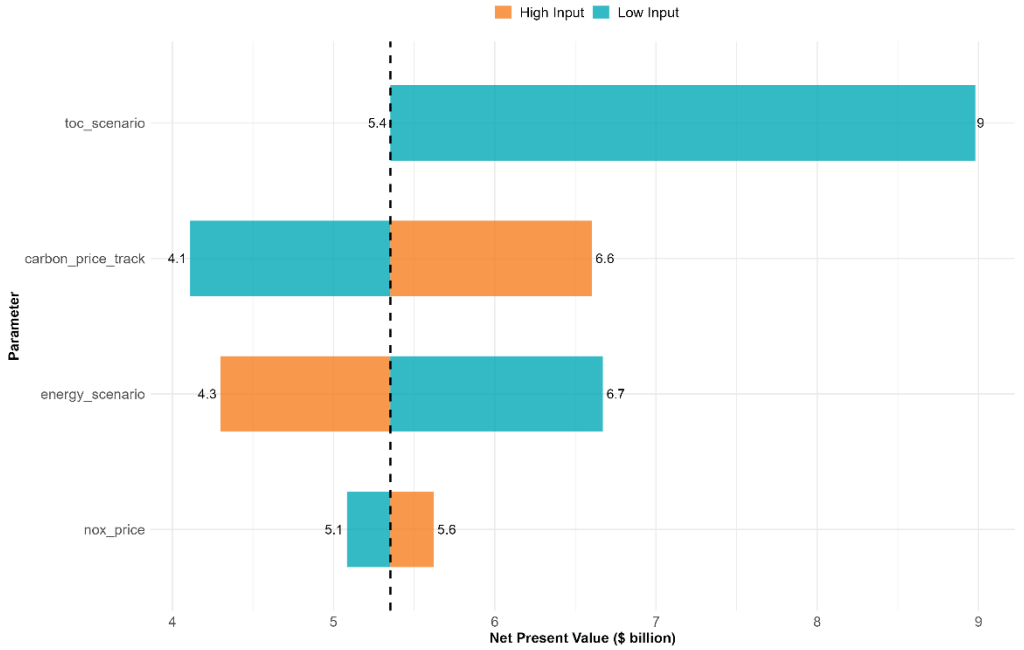
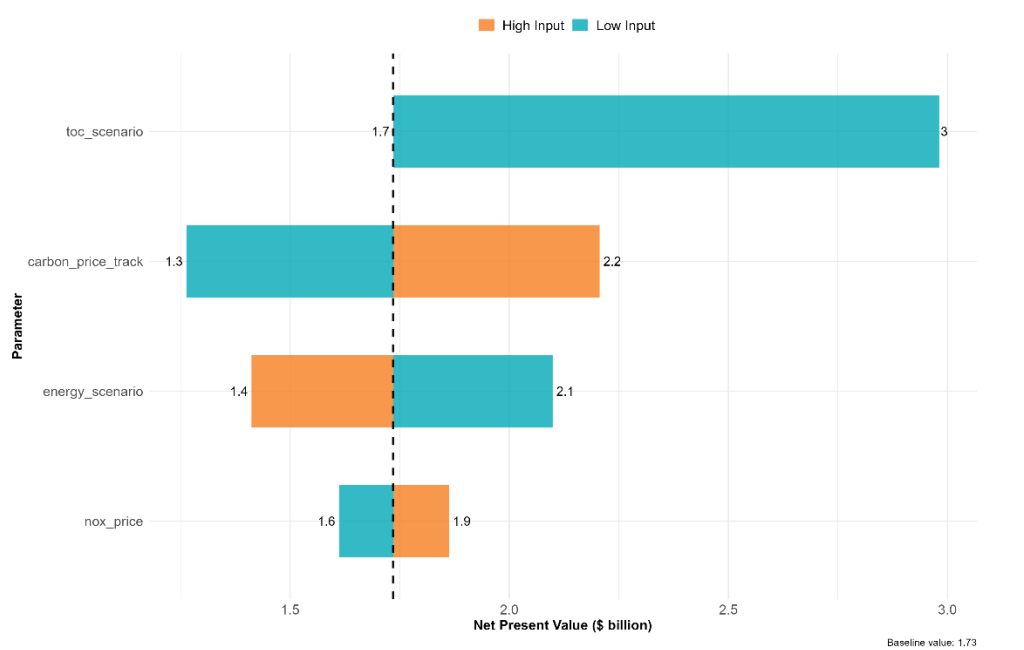
SRTP	SOC
	

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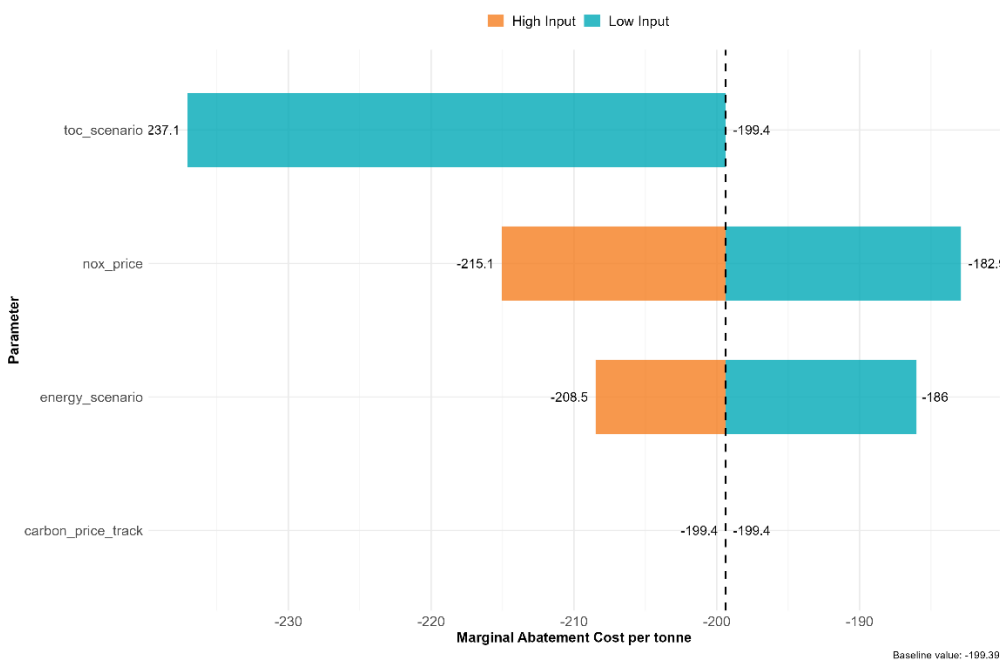
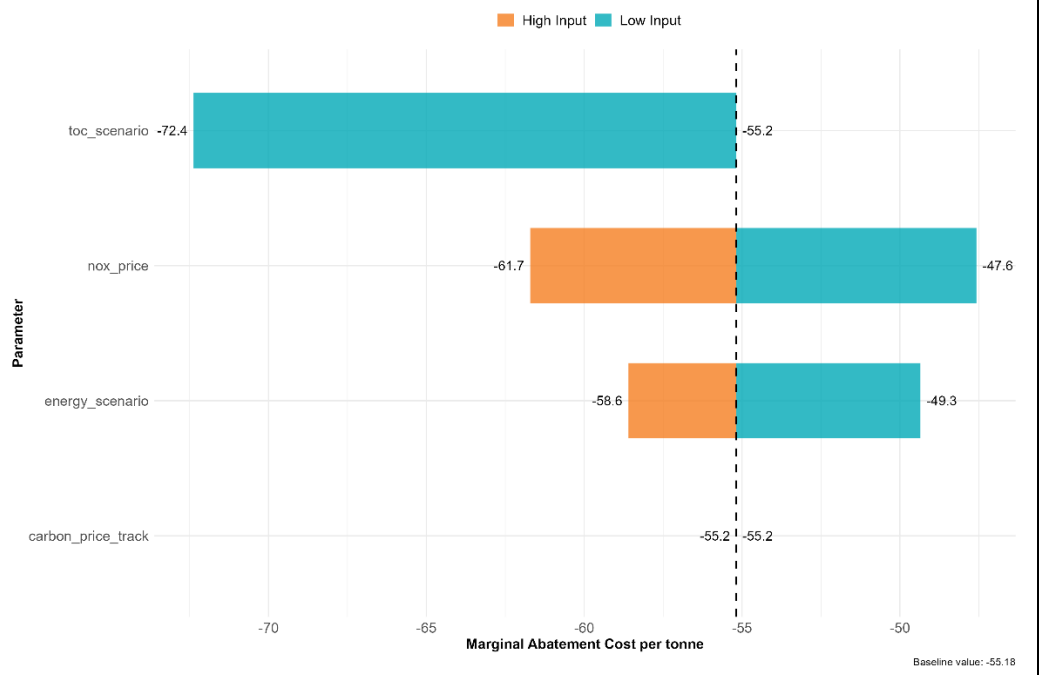
SRTP	SOC
	

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Annex 4. Consumers welfare of the CVS

A key uncertainty when determining the consumers welfare effect of the CVS policy is how consumers make vehicle purchase decisions, which shapes both the policy problem and the assessment of impacts. If consumers are fully rational, a policy that changes vehicle choices should not affect their welfare: they would only switch vehicles if doing so leaves them at least as well off as before. However, real-world behaviour suggests that consumers do not always choose vehicles with the best fuel-savings payback, even when the financial benefits appear clear. This pattern could arise for many reasons, including limited information about lifetime costs, heavy discounting of future fuel savings, uncertainty about how long they will own the vehicle or what fuel prices will be, or strong preferences for other attributes such as size, performance, towing capacity, comfort, reliability, styling, or brand.

This creates two types of uncertainty when interpreting vehicle choices:

- *Behavioural uncertainty* – whether consumers' choices reflect fully informed, forward-looking preferences, or whether they reflect incomplete information, short planning horizons, uncertainty, or other behavioural frictions.
- *Bundle effects uncertainty* – the policy changes which vehicles are available, which in turn changes the mix of attributes consumers can choose from, including features that are not directly observed in the data.

These uncertainties matter because the policy could either reduce or increase consumer welfare. If pre-policy choices already reflect consumers' true preferences, then forcing a shift in vehicle purchases could reduce welfare by pushing consumers away from what they prefer. But if choices are distorted by information gaps or behavioural biases, the policy could improve welfare by nudging consumers toward options with better long-term value.

Changes in vehicle attributes and model availability add further ambiguity. Consumers may lose access to some preferred features but gain access to new technologies or combinations of attributes (Dumortier, et al., 2015) and (Bhagat, et al., 2024). When these gains and losses move in opposite directions and cannot be separately identified, the net welfare effect is unknown.

In practice, these different channels often offset each other. A policy might help some consumers by correcting behavioural frictions while harming others by restricting access to preferred attributes. Similarly, changes in available vehicle models may create both benefits and losses that cannot be disentangled. When these opposing effects cannot be reliably identified, any estimate of a net consumer welfare effect becomes highly assumption-dependent.

Given these limitations, the most defensible approach is to quantify only the impacts that can be estimated with reasonable confidence—such as changes in vehicle prices, fuel costs, and emissions externalities—and treat broader consumer welfare effects related to behaviour, preferences, and model availability as unquantified uncertainty unless strong evidence is available.

This avoids giving a false sense of precision. Estimating any additional consumer welfare effect would require strong assumptions about consumer information, preferences, and the value of unobserved attributes. Because these assumptions cannot usually be validated, a credible cost-benefit analysis should acknowledge that the existence, size, and direction of any further consumer welfare effect are fundamentally uncertain.

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Annex 5. Comparison against past modelling

The VFM model underlying this analysis has recently been redeveloped, resulting in significant revisions to previously published estimates. The graphs below compare results from the last published estimates with those from the new model. Both use base case scenarios: the central EV uptake scenario for the previous modelling and the medium energy prices/six-year TCO period scenario for the current analysis. Comparisons are limited to light vehicles, as other vehicle groups fall outside the scope of the CBA.

Registrations

New light passenger and light commercial vehicle registrations have been revised up strongly. Revisions to used light passenger vehicles are relatively small, and used light commercial vehicles represent only a minor share of the fleet. The new VFM uses improved econometric techniques and data to estimate vehicle registrations.

For motor type shares, the new VFM shows stronger EV uptake in new light passenger and commercial vehicles, offset by weaker hybrid and ICE uptake, alongside stronger ICE uptake in used passenger vehicles offset by weaker BEV uptake. The key methodological change here is a shift from price elasticities to a TCO-based approach for projecting motor type shares, supported by more recent data.

Figure 1. Light passenger vehicle registrations by import status – actual and projected

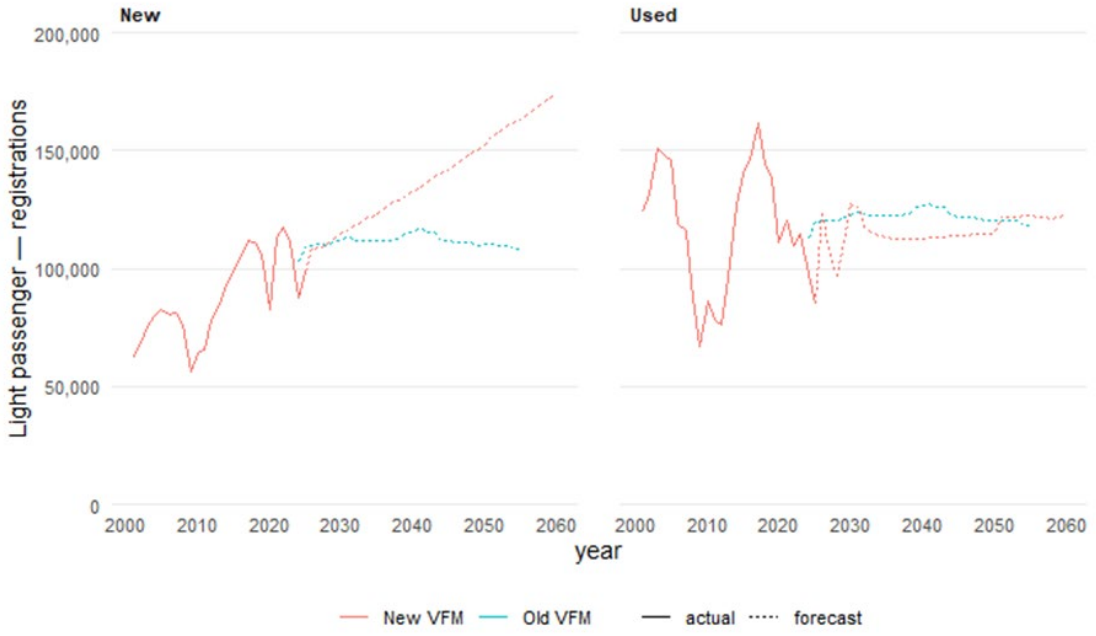

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Figure 2. Light commercial vehicle registrations by import status – actual and projected

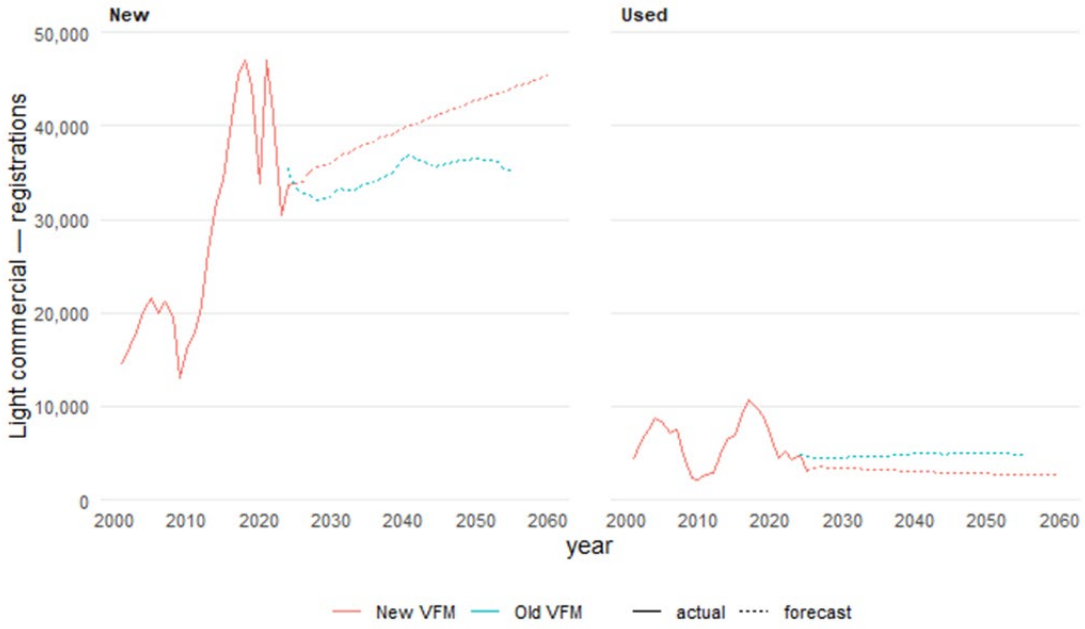

Figure 3. Light passenger vehicle registrations by motive power and import status – actual and projected



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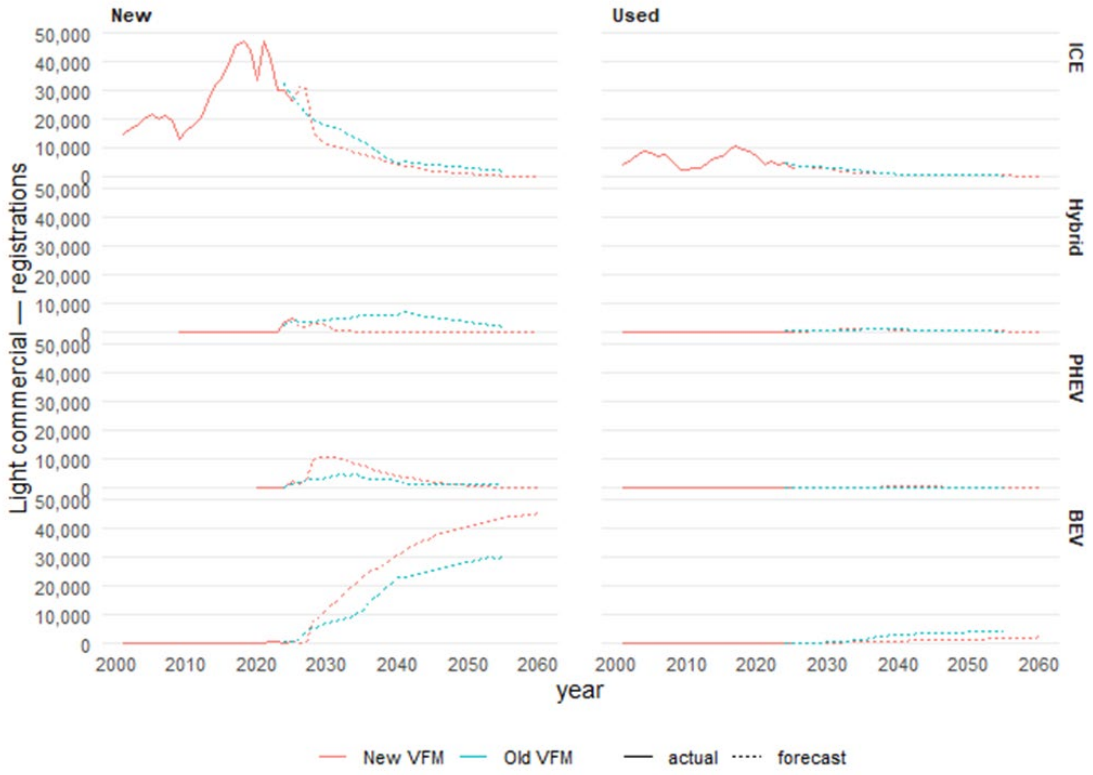
Figure 4. Light commercial vehicle registrations by motive power and import status – actual and projected



Fleet size

Fleet size is expected to grow more strongly for both light passenger and commercial vehicles, driven by the higher registration estimates. The EV share of the fleet is also projected to grow faster than previously forecast, though this effect is somewhat muted by the slow rate of fleet turnover in New Zealand.

Figure 5. Light passenger fleet model comparisons – actual and projected

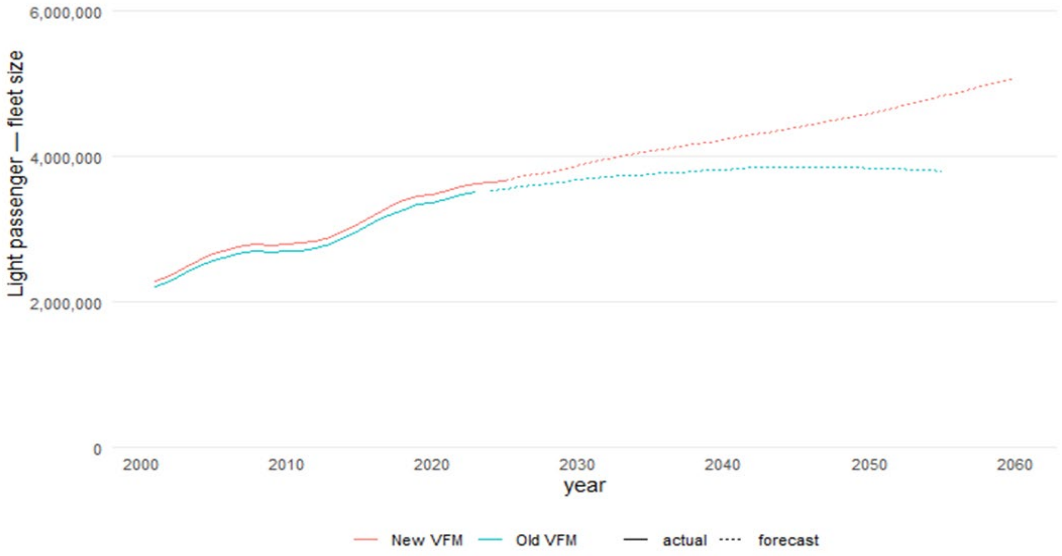


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Figure 6. Light passenger fleet model comparisons by motive power – actual and projected



Figure 7. Light commercial fleet model comparisons – actual and projected

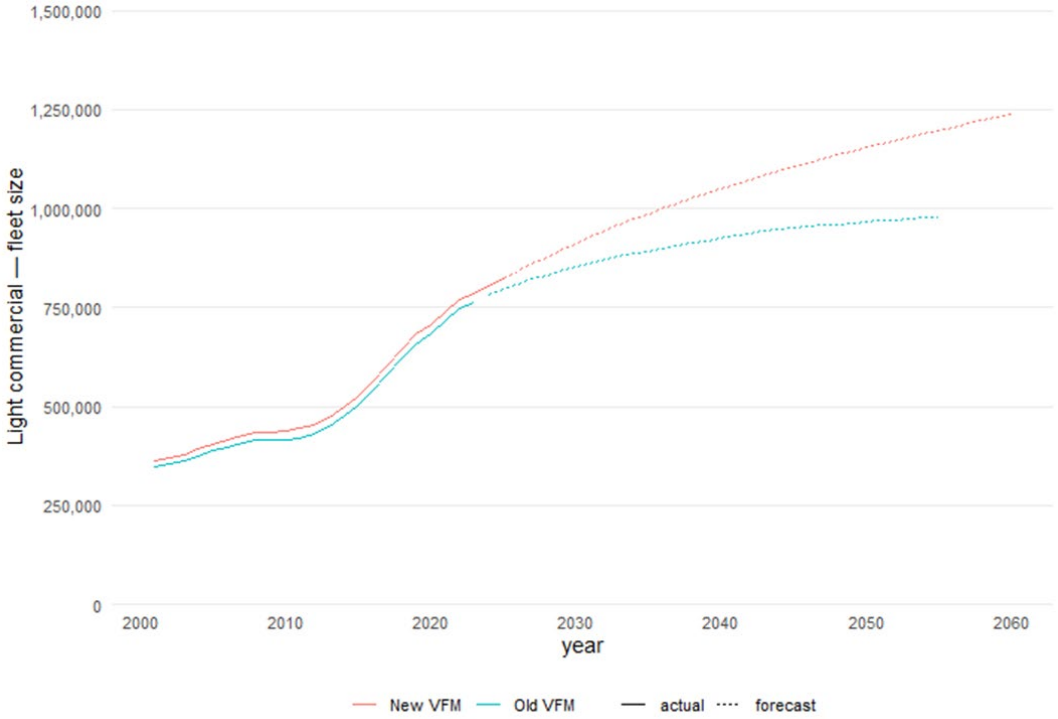

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Figure 8. Light commercial fleet model comparisons by motive power – actual and projected



VKT – Vehicle kilometres travelled

Light passenger vehicle VKT is projected to be lower than previously estimated, while light commercial vehicle VKT is now projected higher. The methodology underpinning VKT projections has been substantially revised since the previous estimates were produced.

Within light passenger vehicles, hybrids show the largest downward revision, with BEV VKT also lower over the longer term. For light commercial vehicles, PHEV and BEV VKT are both higher, while ICE and hybrid VKT are substantially lower - particularly hybrid.

Figure 9. Light passenger VKT model comparisons – actual and projected

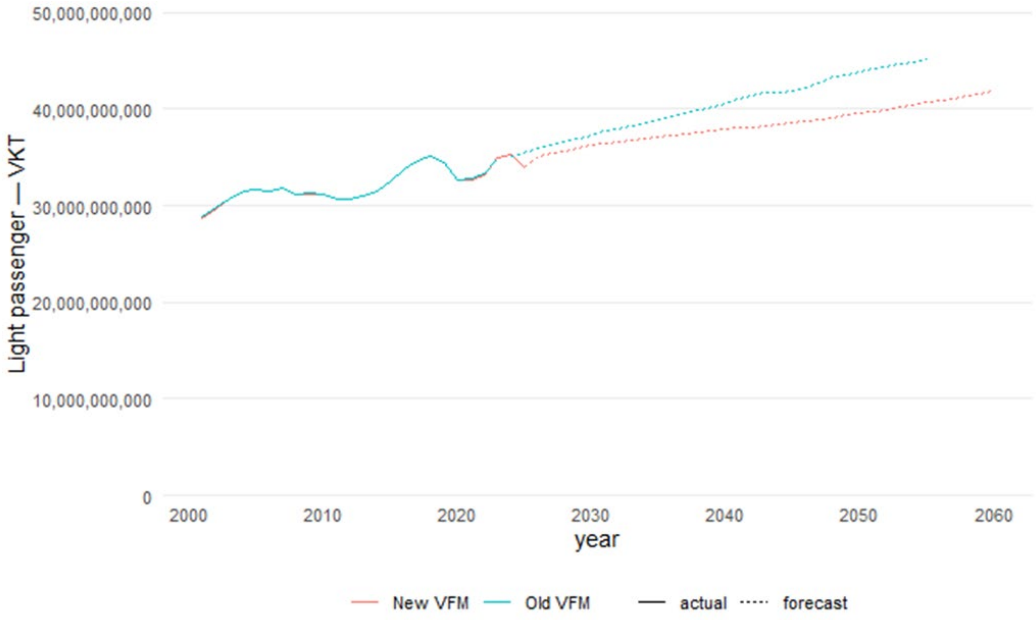

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Figure 10. Light passenger VKT model comparisons by motive power – actual and projected

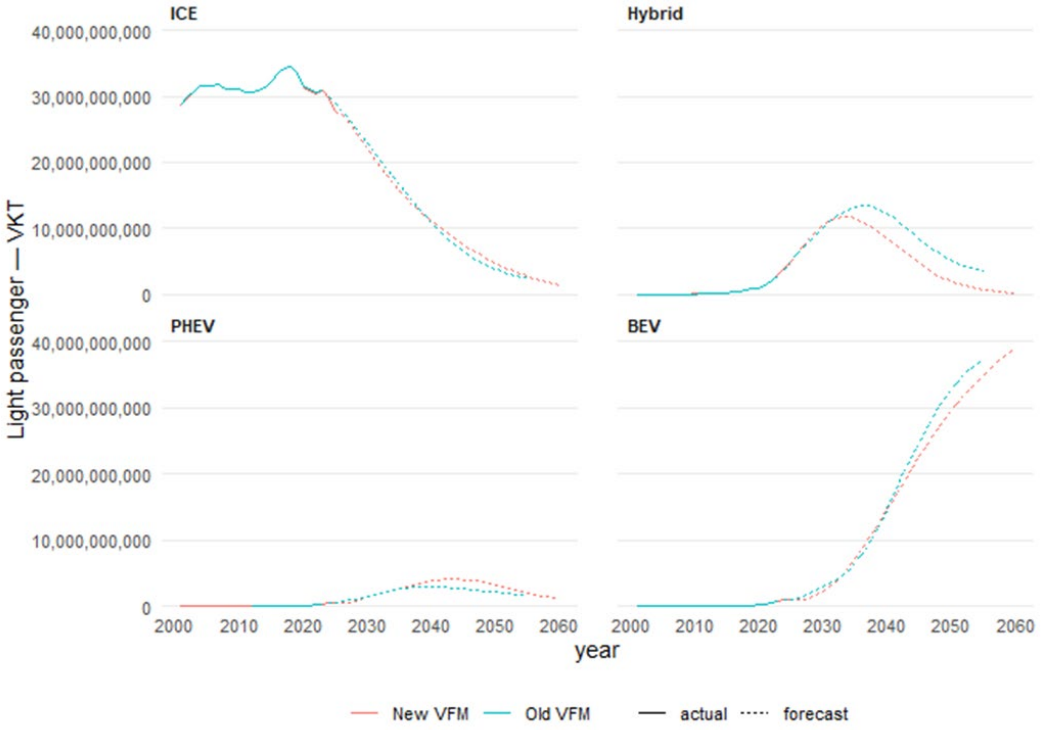

Figure 11. Light commercial VKT model comparisons – actual and projected

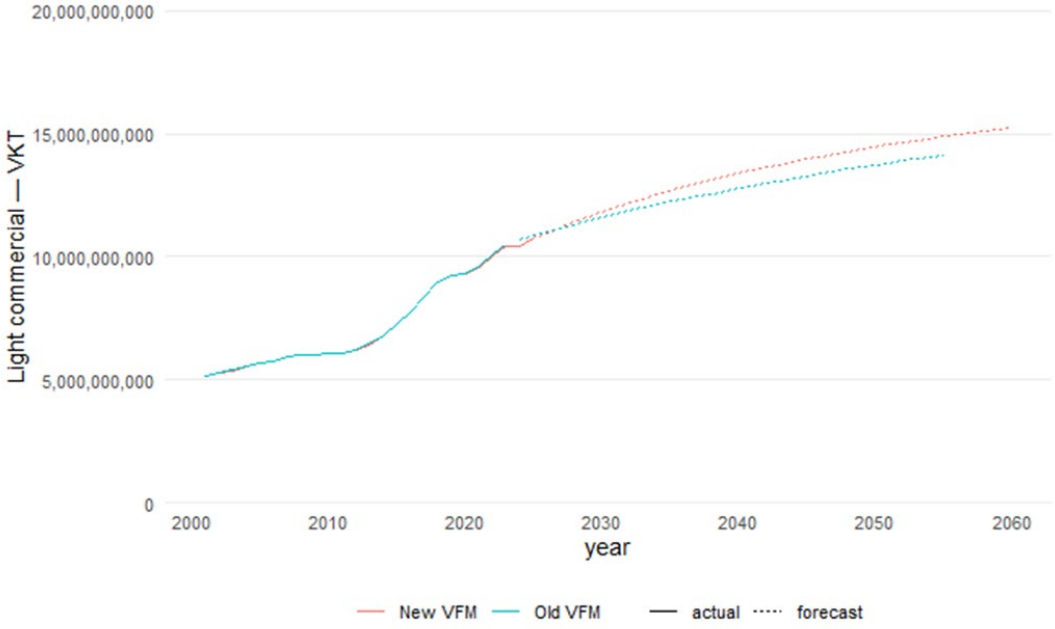

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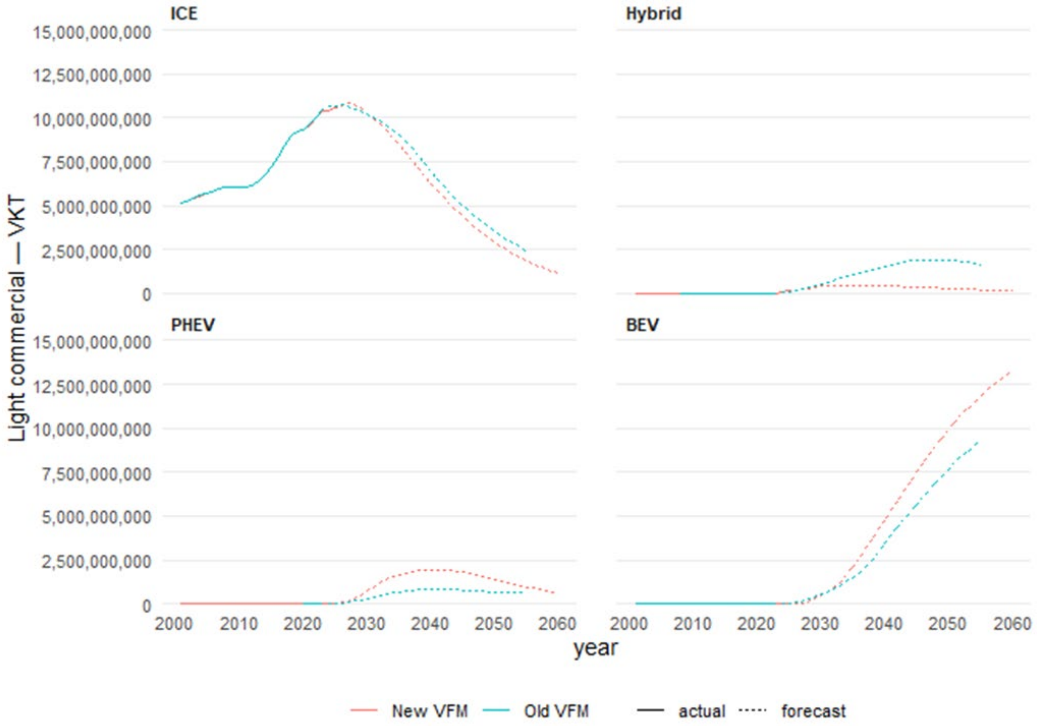
Figure 12. Light commercial VKT model comparisons by motive power – actual and projected



Fuel efficiency

Fuel efficiency for both light passenger and commercial vehicles is projected to be worse than previously estimated (except for hybrids). The revisions primarily reflect the incorporation of recent evidence-based research from Emissions Impossible (Kuschel, Metcalfe, & Peeters, 2025). Some variability in fuel efficiency in historic years reflects scaling of fuel use to MBIE control totals. Fuel efficiency is also calculated at the detailed vehicle cohort level, so aggregate figures are influenced by shifts in the composition of cohorts within each group.

Figure 13. Light passenger fuel efficiency model comparisons by motive power – actual and projected

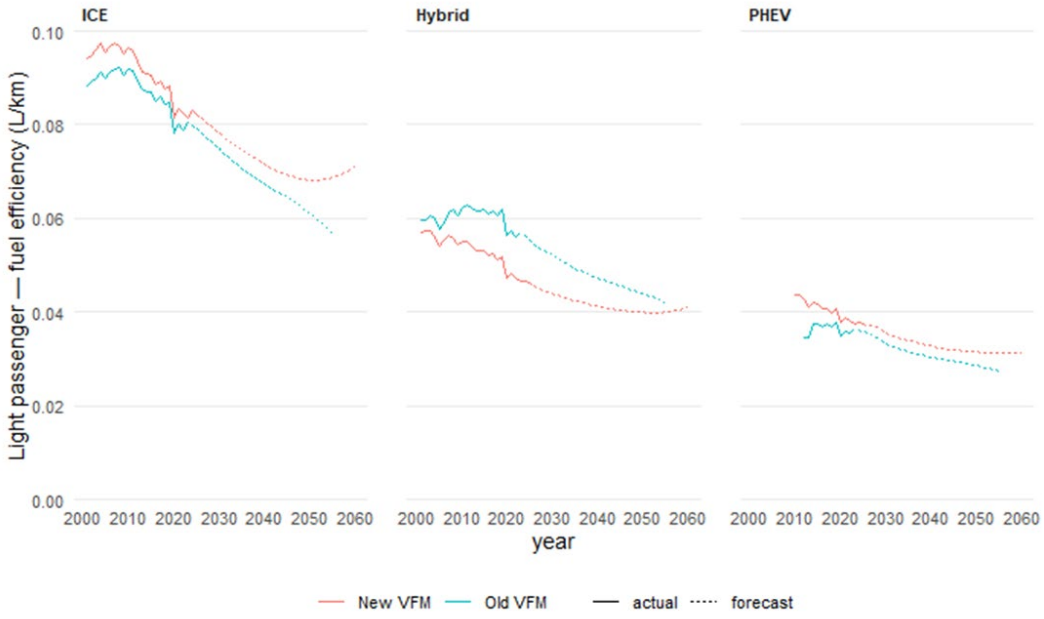


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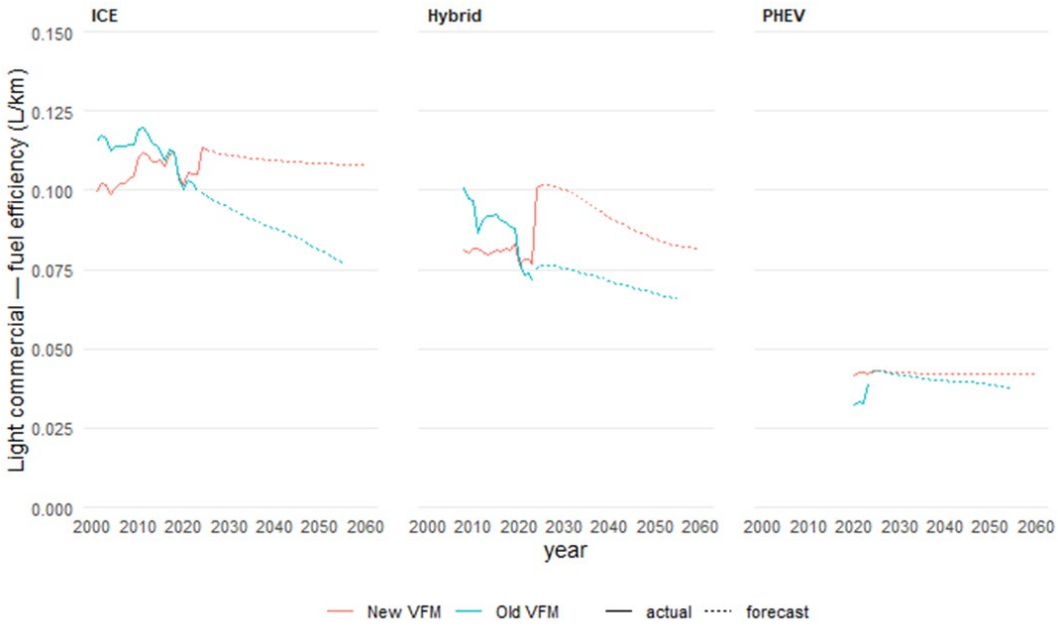
Figure 14. Light commercial fuel efficiency model comparisons by motive power – actual and projected



Fuel and electricity use and GHG emissions

Light passenger fuel use is slightly lower than previously projected, though the difference is modest. Light commercial fuel use is substantially higher and is expected to exceed previous projections for around 15 years before converging to similar levels. GHG emissions follow the same pattern as fuel use, as they are derived by applying emissions factors directly to fuel use estimates.

Light passenger electricity use is largely unchanged from previous projections, with a slight increase in the medium term and a slight decrease over the longer term. Light commercial electricity use shows considerably stronger growth than previously forecast, with little narrowing of the gap even over the longer term.

Figure 15. Light passenger fuel use model comparisons by motive power – actual and projected

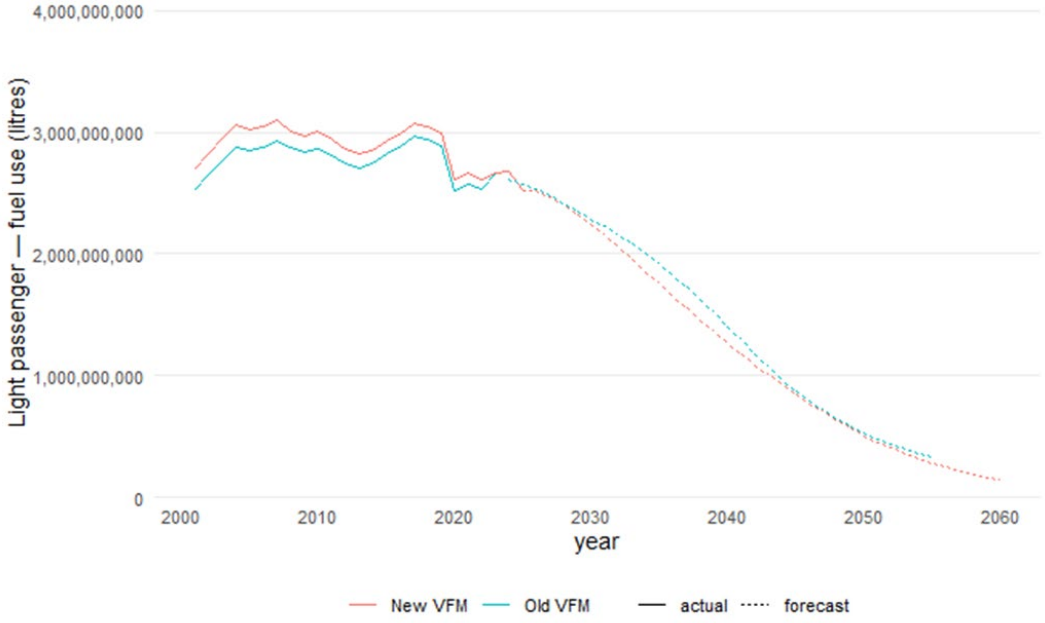


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Figure 16. Light passenger electricity use model comparisons by motive power – actual and projected

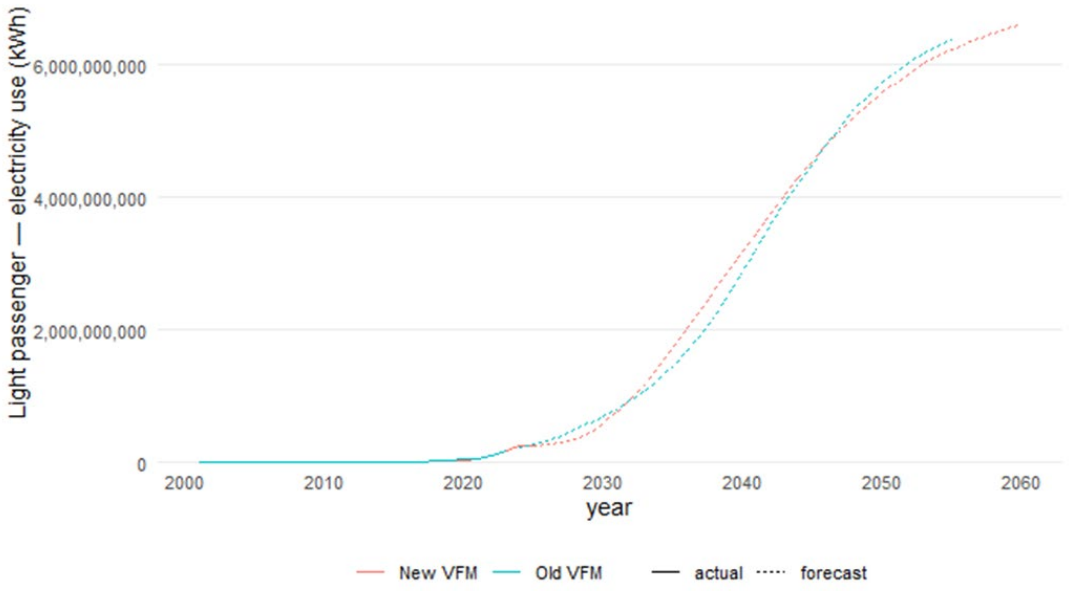
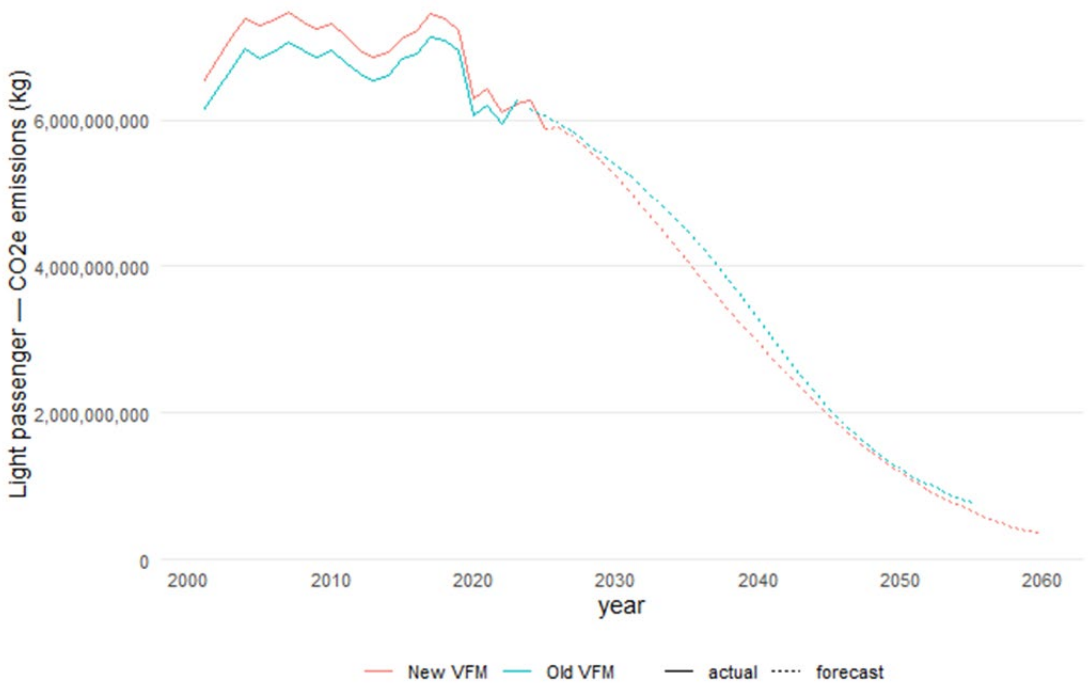


Figure 17. Light passenger CO_2e model comparisons by motive power – actual and projected



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Annex 6. Policy effect on maintenance and repair costs.

The original CBA did not include policy effects on vehicle repair and maintenance costs. This annex presents supplementary results showing how including these effects would change the CBA results. Vehicle owners bear repair and maintenance costs, which reflect the economic resources used, such as labour, tools, parts and materials.

The Domestic Transport Costs and Charges (DTCC) Study estimated that vehicle maintenance costs, typically vary with vehicle use, differ between vehicle class and motive power (Paling, 2023).

We adjusted the DTCC estimates (*Table 9)* to 2025 prices using the Consumer Price Index for vehicle servicing (approximately a 27% increase).

The supplementary calculation follows the same overall structure as the original CBA. We first calculated the annual difference in total repair and maintenance costs[29] between the with-CVS and without-CVS cases, by vehicle type. Once this calculation was set up, we applied the same Monte Carlo simulation approach used in the original CBA, using a +/- 10% range to reflect uncertainty in the repair and maintenance cost estimates (as continuous parameters).

Results

These costs indicate that electric and fuel-efficient vehicles have relatively lower maintenance costs compared to an average ICE vehicle. By encouraging higher uptake of electric and more fuel-efficient vehicles, the CVS policy would reduce maintenance costs for vehicle owners. This is an economic benefit of the policy.

Table 9. Repair and maintenance costs ($/km) by vehicle class and motive power

Vehicle class	Motive power	Repair and maintenance costs ($/km)	
		2019 prices	2025 prices
Light passenger	ICE	0.080	0.091 to 0.111
	Hybrid	0.060	0.076 to 0.084
	PHEV	0.060	0.076 to 0.084
	BEV	0.040	0.046 to 0.056
Light commercial	ICE	0.100	0.114 to 0.140
	Hybrid	0.075	0.086 to 0.105
	PHEV	0.075	0.086 to 0.105
	BEV	0.028	0.032 to 0.040

The CBA results with reduced vehicle maintenance costs included are summarised in *Table 10*. The overall effect of this inclusion is that the results of the policy are stronger but do not change the overall conclusions that **retaining the policy is expected to deliver net incremental benefits to society.**

Table 10. Updated CBA results of the CVS (2025 prices) relative to no CVS (95% confidence intervals)

Estimated effects of the CVS (2026 to 2060)		Discount rate	
		SRTP (2%)	SOC (8%)
Benefits $ billion	Reduced fuel costs	7.7 to 13.0	3.3 to 5.0
	Greenhouse gases abated	0.6 to 6.0	0.3 to 2.2
	Nitrogen oxides abated	1.6 to 4.6	0.7 to 2.0
	Reduced maintenance costs	2.6 to 6.9	1.1 to 2.7
Costs $ billion	Increased vehicle purchasing cost	1.4 to 3.0	1.0 to 2.0
	Increased electricity cost	5.3 to 7.7	2.3 to 3.1

[29] Inclusive of general repairs and maintenance, tyre and oil costs

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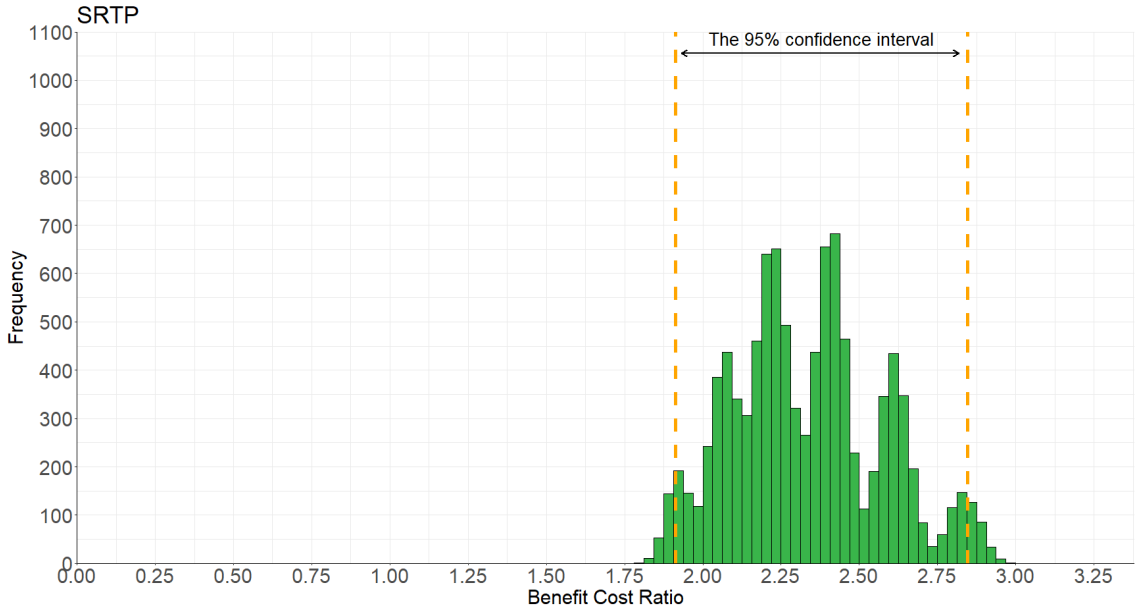
Estimated effects of the CVS (2026 to 2060)		Discount rate	
		SRTP (2%)	SOC (8%)
Key results	Benefit to cost ratio	1.9 to 2.8	1.7 to 2.4
	Net present values ($ billion)	6.1 to 19.3	2.3 to 6.7
Marginal Abatement Cost (MAC) per tonne of CO2 abated ($)		-482 to -373	-176 to -127

The incremental change in the key results compared to the main analysis are summarised in *Table 11.* It also shows that the gap between the low and high results has widened compared to the main analysis. This is demonstrated in *Figure 18* which shows that there is a slightly wider spread in the BCR simulation results compared to the equivalent figure in *Annex 2*.

Table 11. Incremental changes in key results compared to main analysis

Estimated effects of the CVS (2026 to 2060)		Discount rate	
		SRTP (2%)	**SOC (8%)**
Without maintenance benefits	Benefit to cost ratio	1.5 to 2.2	1.3 to 1.8
	Net present values ($ billion)	3.3 to 12.8	1.0 to 4.1
With maintenance benefits	Benefit to cost ratio	1.9 to 2.8	1.7 to 2.4
	Net present values ($ billion)	6.1 to 19.3	2.3 to 6.7
Incremental difference	Benefit to cost ratio	+0.4 to +0.6	+0.4 to +0.6
	Net present values ($ billion)	+2.8 to +6.5	+1.3 to +2.6

Figure 18. Updated BCR distribution plot (using the SRTP 2% rate)



Limitations and caveats

The maintenance costs are based on general repair, tyre and oil costs that were averaged across vehicle class, fuel type. There may be other underlying factors in these vehicle groups that influenced the average costs such as vehicle age and size.

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