



Australian Government

Department of Infrastructure, Transport,
Regional Development, Communications and the Arts

Submission to the House Standing Committee on Electric Vehicle Transition

March 2024

Scope of submission

In regard to the Terms of Reference for this Inquiry, this submission outlines how the Department of Infrastructure, Transport, Regional Development, Communications and the Arts (the department) is establishing resources, systems and infrastructure to support the transition to EVs, addressing the impact of moving away from internal combustion engine (ICE) vehicles, and implementing policies to increase the supply of affordable EVs to Australia's market.

The department worked closely with the Department of Climate Change, Energy, the Environment and Water (DCCEEW) during the development of the National Electric Vehicle Strategy released in April 2023 by the Minister for Climate Change and Energy, Hon Chris Bowen MP, and the Minister for Infrastructure, Transport, Regional Development and Local Government, the Hon Catherine King MP. The key objectives of the Strategy are to increase the supply of electric vehicles (EVs), improve systems and infrastructure to enable rapid EV uptake, and encourage increase in EV demand. The National Electric Vehicle Strategy is available at: www.dcceew.gov.au/energy/transport/national-electric-vehicle-strategy.

Policy initiatives that support the objectives of the Strategy, and the transition to low and zero emissions vehicles for which the department is responsible, include:

1. The key commitment to implement a fuel efficiency standard for Australia through the New Vehicle Efficiency Standard (NVES), which will increase the supply of more efficient vehicles (including EVs) to the Australian market and reduce carbon dioxide (CO₂) emissions across all new light vehicles.
2. The development of the Transport and Infrastructure Net Zero Roadmap and Action Plan - to reduce emissions across all forms of transport.
3. Progressing Australian Design Rules (ADRs) to support the transition to EVs and other lower emission vehicles.
 - a. ADR 113/00 mandating Acoustic Vehicle Alerting Systems (AVAS) for light and heavy quiet road transport vehicles to increase pedestrian safety around EVs.
 - b. ADRs 109/00, 109/01 and 110/00 to improve safety requirements for new electric and hydrogen fuelled vehicles to ensure a national certification pathway for these vehicles and their propulsion systems.
 - c. ADR 80/04 and forthcoming ADRs 79/05, 111/00 and 112/00 implementing more stringent (Euro 6/VI) noxious emissions standards for internal combustion engine vehicles. These include more stringent test procedures to measure fuel consumption and emissions.

4. Supporting better consumer information on low emission vehicles through the Green Vehicle Guide website, and by providing funding to support a real-world emissions testing program, implemented by the Australian Automobile Association.
5. Supporting consideration by the Australian Government Treasury and states and territories on road charging for electric vehicles.
6. Work to facilitate the heavy vehicle industry's move to adopt low and zero emissions vehicles and technologies.

1. The New Vehicle Efficiency Standard (NVES)

The New Vehicle Efficiency Standard Bill 2024 was introduced into Parliament on 27 March 2024. The NVES is an important policy intervention that will gradually improve the fuel efficiency of cars brought to Australia, to reduce CO₂ emissions and save Australians money on fuel. Under the NVES, suppliers need to beat a CO₂ target (the 'headline limit') which is an average target based on a supplier's fleet. Targets are adjusted based on the type of vehicle meaning that light commercial vehicles such as utes get a less stringent target than passenger vehicles, with the weight of the vehicle also being taken into account. The NVES will incentivise the supply of more fuel-efficient petrol and diesel vehicles as well as hybrid vehicles and EVs.

The NVES framework has been designed for Australian conditions and is calibrated to reflect the mix of vehicles Australians need for work and leisure. While all Australian motorists will benefit from fuel savings, larger savings are expected in regional areas. This is because regional Australians tend to be more reliant on their cars and travel greater distances than those in metropolitan areas. The NVES recognises that different parts of Australia reflect different car purchasing and driving behaviours, with more remote areas driving greater distances, having higher rates of vehicle ownership and purchasing larger cars, more 4WDs and utes. Our analysis finds that for all options there are higher benefit cost ratio outcomes for regional and rural locations.

Public consultation carried out during April and May 2023, showed overwhelming support for the introduction of a mandatory standard and a strong interest in decarbonising the light vehicle fleet. Further consultation on a proposed model was carried out from 4 February to 4 March 2024, supported by the *Cleaner, Cheaper to Run Cars: An Australian New Vehicle Efficiency Standard Consultation Impact Analysis* (Impact Analysis).

The framework for the NVES has been designed for Australia and has benefited from the experience of similar frameworks that have been implemented in most other advanced economies. For more information about the NVES, the committee is referred to the Impact Analysis available at www.cleanercars.gov.au and the new Bill package at www.aph.gov.au.

The committee has asked the department about international comparisons with standards in other countries. Information addressing this request is provided at **Attachment A**.

2. Transport and Infrastructure Net Zero Roadmap and Action Plan

The department is developing the Transport and Infrastructure Net Zero Roadmap which will form one of the six sector plans towards Net Zero 2050.

The Roadmap will build on existing policies and progress made to electrify the transport sector and consider additional technology and fuels to help reach economy wide net zero by 2050.

The Roadmap and Action Plan will provide a clear strategy to:

- reduce emissions across the transport and infrastructure sectors
- support national and international commitments to reduce greenhouse gas emissions
- maximise economic and productivity opportunities
- provide investors with future investment certainty
- deliver a nationally consolidated approach to accelerate decarbonisation for key sectors.

3. Progressing Australian Design Rules to support the transition

a) Protecting Australians with mandatory Acoustic Vehicle Alerting Systems

With increased uptake of EVs, there has been global action to address the pedestrian safety concerns of quiet road vehicles. Most major vehicle markets, including the European Union, United Kingdom, Japan, Korea, China and the United States, have already mandated the fitment of Acoustic Vehicle Alerting Systems (AVAS) to their EVs. These systems are designed to emit a sound external to the vehicle when the vehicle is travelling at low speeds that must be able to be detected by pedestrians.

Quiet road transport vehicles (EVs, hybrids and hydrogen fuel cell vehicles) are difficult for pedestrians and other road users to hear when the vehicle is travelling at low speeds and tyre and wind noise is negligible. This increases the risk of being involved in a collision, which can cause injury and death. The risk is greater for people who are blind or have low vision, who rely on sound to negotiate the road network independently.

In January 2024, the Government adopted ADR 113/00 mandating AVAS for all newly approved quiet road transport vehicles, including light, commercial and heavy vehicles, from November 2025 (with new units of currently approved models required to comply from November 2026). The department estimates the implementation of AVAS will lead to a net benefit of around \$208 million over 35 years and would avoid 68 deaths, 2,675 serious injuries and 2,962 minor injuries over the same period.

b) Accelerating electric and hydrogen vehicle safety

In January 2024, the Government announced new ADRs improving safety requirements for new electric and hydrogen fuelled vehicles. They set a national approach to better protect road users, first responders, technicians and communities, including from direct contact with high-voltage live parts as well as battery electrolyte and compressed hydrogen leakage in the event of a crash involving these vehicles. These new standards ensure a national certification pathway for these vehicles and their propulsion systems.

The new ADRs will apply to electric and hydrogen-fuelled vehicles across the majority of road vehicle types, including cars, SUVs and buses, as well as utility and commercial vehicles. They are aligned with United Nations regulations, to ensure Australian consumers can access the safest vehicles from the global market at the lowest cost. While vehicle manufacturers can meet these standards now, the first compulsory compliance dates will begin to take effect from November 2024.

c) Reducing noxious emissions of new vehicles

Australia currently mandates noxious emissions standards for new light and heavy vehicles based on international vehicle standards adopted by the United Nations, through ADRs made under the *Road Vehicle Standards Act 2018*. These standards set limits on the levels of noxious emissions that affect the quality of the air we breathe (such as carbon monoxide, hydrocarbons, oxides of nitrogen and particulates) produced by new road vehicles supplied to Australia. This is because prolonged exposure to these air pollutants can increase the risk of heart and lung disease, cancer and premature death and the economic impacts of these emissions are borne by the community through the public health system and through reduced productivity due to illness.

As well as reducing noxious emissions, aligning with the latest international noxious emission standards will make it easier for manufacturers to supply their latest petrol and diesel models which are fitted with the latest fuel saving technologies by reducing technical and commercial barriers that would otherwise inhibit their adoption in Australia.

i. Euro VI for heavy vehicles

On 13 October 2022, the Government announced the introduction of tighter noxious emissions standards for new trucks and buses, which will bring Australia into line with Euro VI standards already in place in most other advanced economies, including the European Union, United Kingdom, United States, Japan, China and India. The new ADR 80/04 will be mandated for newly approved models supplied from 1 November 2024, and all new trucks and buses supplied to Australia from 1 November 2025. As Euro VI models are designed to comply with stricter safety and fuel efficiency standards in other advanced economies, this will enable manufacturers to supply new models fitted with advanced safety and fuel-saving technologies already available overseas. This will help improve safety outcomes, and contribute to Australia's emissions reduction targets.

The new ADR is expected to reduce the burden of disease attributable to noxious emissions from heavy vehicles by \$7.4 billion over the period to 2050. These benefits will increase over time as older vehicles are replaced with newer, cleaner vehicles. Truck and bus manufacturers have advised that their latest Euro VI engines are up to 10% more fuel efficient than previous Euro V models.

ii. Euro 6d for light vehicles

On 21 December 2023, the Government announced it will implement more stringent (Euro 6d equivalent) noxious emissions standards for light vehicles (passenger and commercial vehicles with gross vehicle mass up to 3.5 tonnes).

To enable the supply of cleaner vehicles meeting the Euro 6d standards, improvements to fuel quality standards to reduce aromatics in 'premium unleaded' (95 RON) petrol will also be implemented by DCCEE from December 2025.

The new ADRs (79/05, 111/00 and 112/00) for light vehicle noxious emissions will apply to newly approved light vehicles models supplied to Australia for the first time from December 2025. Newly manufactured units of currently approved models will not need to comply until July 2028. Vehicles sold and registered before these dates will not be affected by these standards. These standards, in conjunction with the changes to fuel quality standards, are expected to reduce the burden of disease attributable to noxious emissions from cars, sport utility vehicles and light commercial vehicles (vans and utes) by \$6.1 billion over the period to 2040. These benefits will increase over time as older vehicles are replaced with newer, cleaner vehicles.

4. Consumer information

The Government's Green Vehicle Guide (GVG) (www.greenvehicleguide.gov.au) is Australia's national guide to vehicle fuel consumption and environmental performance, using data sourced from the laboratory tests required by ADRs so that consumers can directly compare the performance of all vehicles supplied to the Australian market. The website also includes information on the benefits of EVs and hybrid vehicles as well as a range of calculators so motorists can estimate home charging costs and time, annual fuel costs and CO₂ emissions, and fuel lifecycle emissions.

To supplement the information available on the GVG, the Real-World Testing program is compiling more detailed information on the real-world emissions of the most popular light vehicles on the Australian market. Funding of \$14 million over four years is being provided to the Australian Automobile Association to implement the program and provide consumers with better information to help them buy a fuel-efficient car that suits their needs. Twenty-two vehicles have already been tested and results are available at www.realworld.org.au.

5. Supporting work on road user charges for zero emission vehicles

Uptake of more fuel-efficient vehicles, including EVs, is an important part of decarbonising the transport sector, but over time it is expected to slow the growth in fuel excise receipts and result in a future decline in fuel excise revenue. Modelling undertaken for the 2023 Intergenerational Report, shows that fuel excise collections are projected to decline as a share of GDP as the uptake of EVs increases under a range of plausible scenarios. Governments are considering the impact of moving away from internal combustion engines, including fuel excise loss. The Treasury is responsible for modelling of fuel excise revenue.

The Low and Zero Emission Vehicles Road User Charging Working Group was established in June 2021 to promote information sharing and national coordination on heavy vehicle road user charging. This working group comprises officials from the Australian, state and territory governments.

At the 1 December 2023 Council on Federal Financial Relations meeting, Treasurers discussed the implications of the Vanderstock High Court decision. The department will continue to support considerations by the Treasury and states and territories on long term options for road charging for electric vehicles.

6. Reducing emissions from the heavy vehicle industry

Decarbonising buses and trucks will reduce noxious and greenhouse gas emissions, improve public health, and enhance energy security.

According to the Truck Industry Council, members of its association sold 44,379 trucks in 2022, but only around 100 of these were Low and Zero Emission Vehicles (LZEVs). By 2030, the Council expects approximately 25% of all new truck sales will be LZEVs and predicts there will be over 18,000 low and zero emissions trucks in the Australian fleet. This would equate to 2% of Australia's truck fleet being LZEVs by 2030. The projected uptake and complexity of operations within the trucking industry means there is a need to explore other decarbonisation measures to support decarbonisation of heavy vehicles.

The Government has already made changes to the national road vehicle standards to make it easier to supply safer and lower emissions trucks based on models available overseas to the Australian market through the Safer Freight Vehicles package. This package increases the overall width limit from 2.50 to 2.55 metres for new trucks that are fitted with a number of additional safety features that are not yet mandated.

Industry stakeholders have advised nationally consistent reforms to front axle mass limits will also be needed to enable the wider adoption of zero emission trucks available in other markets. As a first step towards reforming mass limits, the department is working with the National Transport Commission to progress amendments to heavy vehicle regulations adopted by the states and territories to allow a 500kg increase in mass limits for trucks meeting Euro VI noxious emission standards to offset the weight added by Euro VI emission systems (such as particulate filters). This reform, which is intended to take effect by the time Euro VI becomes mandatory for new heavy vehicles in November 2024, would enable zero emission trucks with a steer axle mass up to 7.0 tonnes to operate without additional permits. However, additional increases to mass limits prescribed in the Heavy Vehicle National Law will be needed to facilitate the broader roll out of the heavier LZEV trucks.

Four states are already trialling the use of heavy LZEVs on limited access networks and this will provide some information on the likely impact of these vehicles. The Queensland and Victorian Governments have allowed trucks with heavier front axle mass (up to 8.0 tonnes in QLD and up to 7.5 tonnes in Victoria) on specific routes detailed in their own LZEV network maps. Both South Australia and New South Wales have trials in place for battery electric trucks with higher front axle masses.