VOLVO

19 December 2025

Volvo Group Australia submission to

The Productivity Commission's Inquiry into the Impacts of Heavy Vehicle Reform

F

VOLVO

19 December 2025

Impact of heavy vehicle reform
Productivity Commission
Martin Stokie, Commissioner
Barry Sterland PSM, Commissioner

Submitted via online form

Dear Commissioners,

Volvo Group Australia welcomes the opportunity to provide a submission to the Impacts of HV Reform Inquiry led by the Productivity Commission. We commend the Inquiry as a focused review to addressing key barriers that currently limit the adoption and success of zero emission heavy vehicles and explore opportunities to enhance transport productivity, that ultimately benefit to industry, communities, and the environment.

As a leading provider of sustainable transport solutions, we are committed to supporting Australia's transition to low and zero emission heavy vehicles. Heavy vehicles, such as trucks and buses, in the road transport sector offer a major opportunity for decarbonisation. The fact that the average age of trucks on Australian roads today is over 14 years, and for city buses even longer, draws attention to the fact we cannot afford to wait to start prioritising the decarbonisation of this sector to meet Australia's emission targets. Zero emission battery electric trucks and buses are available today.

The AECOM report (Electrifying Road Freight, 2025) commissioned by the Australian Renewable Energy Agency highlighted a 77% increase in Road Freight to 2050, with road freight accounting for 80% of freight emissions and around one-third of Australia's total transport emissions, equivalent to 36 million tonnes of CO2 annually. Pressure is mounting on the industry to accelerate its decarbonisation journey, with industry and end users actively pushing toward low and zero emission heavy vehicles - achieving this will require a significant step change, supported by decisive government intervention.

Today we are faced with the combined challenges of creating a sustainable transport system whilst maintaining competitiveness at an industry level. Original Equipment Manufacturers are caught between regulatory demands that dictate how we invest to produce sustainable solutions, and regulations that do not support the journey ahead. Regulatory updates represent a practical and immediate opportunity to resolve, to remove unnecessary barriers, provide clarity for investment decisions, and accelerate progress toward low and zero-emission road freight.

This document provides a brief overview of Volvo's comments on, recommendations and input to the Inquiry, focused primarily on Road Access and Curfews of EV Trucks. Volvo notes the significance of all Inquiry items and has provided input to industry associations who are providing an industry position and viewpoints.

Volvo would welcome the opportunity to elaborate on our input and provide supporting data where possible.

Yours sincerely,

Table of Contents

Impacts of HV Reform Inquiry **4**

1.0 About Volvo Group Australia **4**

1.1. Three-pronged approach to decarbonisation – no silver bullet **4**

2.0 Transition to Zero Emission Heavy Vehicles **5**

2.1. Modernising General Access **5**

3.0 Lack of regulation permanency & national harmonisation **7**

4.0 Road and infrastructure funding – all levels of government **10**

5.0 Electric vehicle quality and safety standards **11**

6.0 EV Truck Charging Infrastructure **11**

7.0 Benefits of ZEHVs and Removal of EV Curfews **12**

8.0 Government Procurement **13**

9.0 Global Learnings **14**

References **15**

Impacts of HV Reform Inquiry

1.0 About Volvo Group Australia

Volvo Group Australia (**Volvo**) has more than 1,900 local employees, and manages the manufacturing, distribution and operations of Volvo Trucks, Mack Trucks, UD Trucks, Volvo Bus, Volvo Penta marine and industrial engines, Volvo Construction Equipment and Volvo Financial Services, and including company-owned dealerships Volvo Commercial Vehicles and Truck Centre Western Australia.

Since 1972 Volvo has produced almost 80,000 Australian Made Volvo and Mack trucks, and today are one of Australia's largest vehicle manufacturers. Every truck built at our Wacol, Queensland facility carries official 'Australian Made' certification.

In 2026, Volvo will begin production of heavy-duty electric trucks in Australia, further strengthening truck manufacturing, creating skilled jobs, driving innovation and supporting a local supply chain. Volvo Bus chassis are imported, and local Australian bodybuilders complete the Bus. We have an extensive national dealer network providing ongoing support and maintenance, contributing to the resilience of transport and the Australian economy. Volvo would like to see the Productivity Commission consider the impact of regulatory reform recommendations to local manufacturing and suppliers. These operations proudly support a local supply chain of more than 120 suppliers and injects more than $400m annually into the Australian economy. In 2024, this figure was in excess of $600m.

Globally Volvo Group has a target of net zero value chain emissions by 2040 - ten years earlier than the Paris Agreement and Science Based Targets initiatives (SBTi) commitments. This will enable our customers to have zero emission fleets by 2050, which is also essential on the journey for achieving Australia's nationally determined contribution target of 62-70% below 2005 levels by 2030.

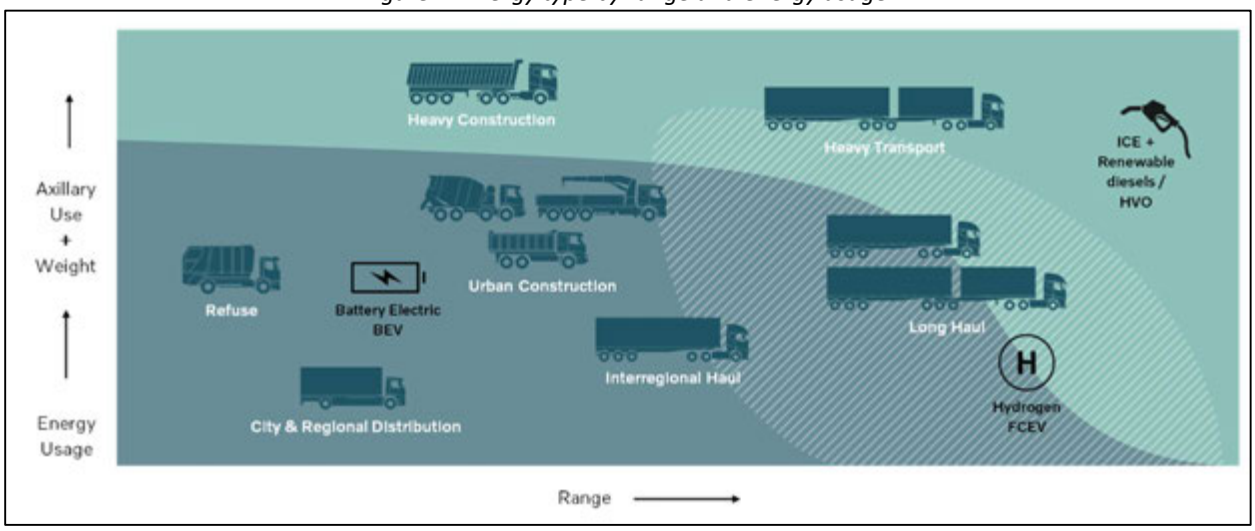
1.1. Three-pronged approach to decarbonisation – no silver bullet

After extensive studies on various technology types and energy efficiencies, the Volvo Group concluded that no single heavy vehicle technology or fuel type will provide the total solution for decarbonisation and increased efficiency. Just as heavy vehicles are used for a diverse range of applications and freight tasks, multiple technologies and fuels will be required for the transport sector's decarbonisation journey, including battery electric, hydrogen fuel cell, hydrogen internal combustion engine and traditional internal combustion engine vehicles operating on renewable fuels such as hydrogenated vegetable oil (HVO).

It is important to understand that no single vehicle or energy technology type should be viewed as the best or only solution, but rather one key and important technology to be used in combination with the others. Each has its own advantages and limitations when it comes to development, infrastructure, cost, productivity and life cycle environmental impact and efficiency.

Figure 1 below illustrates how the energy usage and range required in operation influences the likely best technology type, highlighting that one fuel/energy type will not be the optimal or possible for all.

Figure 1: Energy type by range and energy usage



- **Battery electric** – Available today and suitable for city/regional distribution, intrastate, refuse, some urban construction, and urban, city and school buses.
- **Hydrogen fuel cell and Hydrogen ICE** – Future technologies suitable for applications requiring larger energy usage and range such as interstate and intrastate haul, long distance tourist coaches and some constructions and mining applications.
- **Internal Combustion Engine (ICE) vehicles operating on renewable fuels such as hydrogenated vegetable oil (HVO)** – Continuing importance for some heavy transport, demanding haul, and heavy construction applications where neither battery electric or hydrogen fuelled vehicles will be viable due to their range and energy limitations. They similarly provide a suitable alternative for decarbonisation in locations where required infrastructure is not available.

2.0 Transition to Zero Emission Heavy Vehicles

Low and zero emission heavy vehicles are available in Australia today and have been operating for many years in other countries such as across Europe, Canada and the US. As noted in this inquiry, there are a number of barriers locally that are preventing the acceleration of their uptake. Some of the key barriers and considerations are outlined below.

2.1. Modernising General Access

Despite the fast-growing national freight task and improvements in vehicle safety over time, this has not been reflected in expanded general access. Most general access limits have not changed since the 1990s. However, considerable advancements in the heavy vehicle fleet have not only made them safer (e.g. braking, vehicle stability systems, lane departure warnings, emergency braking, adaptive cruise control etc.), but also less impactful on roads, pavements and bridges (e.g. tyre technologies, wider tyre options, road friendly suspension etc.). As the industry continues to advance, and also access new technologies such as Battery Electric, and Hydrogen Fuel Cell Vehicles, progress and advances in modernising General Access and increasing weight limits will be essential.

Volvo supports the proposed heavy vehicle national law (**HVNL**) amendments to further simplify and streamline General Mass Limits across the country. General Mass Limit and Concessional Mass Limit rules can be somewhat confusing and unclear for operators so this change will be welcomed by industry.

Increasing Heavy Vehicle Length

Volvo supports the proposed amendments to the HVNL and the associated Mass, Dimension and Loading Regulations. Increasing heavy vehicle length from 19 metres to 20 metres, as general access without the need for permit, opens a number of benefits including most notably productivity gains that in turn improve efficiency and total cost of ownership calculations for operators.

An additional metre would provide opportunities for enhanced in-cab driver amenities and/or sleepers, which may also assist with driver attraction and retention. One recommendation from Volvo is to ensure flexibility on where and how the additional metre is utilised i.e. cab or trailer, as different operations and applications will have different preferences. For example, city/metro delivery operators and local/regional haul operators will likely place greater value on the trailer length, while interstate and long-haul operators may get more value from an increased cab length.

Battery Electric Trucks

General Mass Limits under the Australian HVNL restrict, and in many cases prevent, the operation of Zero Emission Heavy Vehicles (**ZEHV**) that are required for the decarbonisation journey of the medium and heavy-duty transport sector. Axle mass limits are one of the most immediate and solvable roadblocks facing the rollout of electric heavy vehicles.

Australia faces unique legal constraints regarding axle limits, unlike many other countries globally that permit significantly higher limits to counterbalance the impact of battery tare weight. The European Council Directive 96/53/EC allows 10 tonne on the front axle for example, compared to Australia's 6.5 tonne (7.0 tonne for Euro VI compliant vehicles), and are currently reviewing their policies to increase this further with another 2-tonne concession for some axle configurations.

Front Axle Limits

Australia's current 7.0 tonne steer axle mass (for Euro VI compliant vehicles), otherwise known as Front Axle Limit (**FAL**), is not enough to enable the legal operation of a ZEHV, including both Battery Electric Vehicles and Hydrogen Fuel Cell Electric Vehicles, when carrying the same payloads as done today with internal combustion vehicles. This is due to the increased tare vehicle weight of at least 1.0 tonne of these new technology vehicles. In some models and applications this weight increase can be up to 2.0 tonne.

Today one battery for a ZEHV weighs on average upwards of 500kg. A common specification of a heavy vehicle would require 4 to 6 of these batteries to deliver the required viable power and range capability.

Ideally the current FAL would be increased to 8.5 tonnes, which would future proof for the next generation battery electric, and future Hydrogen Fuel Cell EVs. An increase to 8.0t FAL however would be sufficient for most ZEHVs in the interim today, to enable comparable change from diesel equivalent i.e. optimal efficiency, payload and productivity, including for rigid vehicles such as refuse trucks and up to 16 pallet box bodies as examples.

Rear Axle Limits

In addition to the FAL, ideally the Tandem Axle Drive Group, otherwise known as the Rear Axle Limit (**RAL**) will also be increased at the same time to enable a higher overall Gross Vehicle Mass and payload.

In Australia the current national RAL is 17.0t. Ideally this would be increase to 19.0t, which would again future proof for future generation BEVs and Hydrogen Fuel Cell EVs. An increase to 18.5t RAL however would be sufficient for most ZEHVs in the interim today.

3.0 Lack of regulation permanency & national harmonisation

State Road Access

While we have seen some jurisdictions announce increases to their axle weight limits, these have unfortunately been largely limited to State roads only and in some cases valid for a 1-2 year trial period only.

The lack of long-term certainty and flexibility of routes and operations make investment decisions and business cases for electric trucks difficult for operators and local manufacturers alike, despite the desire for many to accelerate their own decarbonisation journeys.

Example regulation announcements include –

- Low and Zero Emission Heavy Vehicle Trial Scheme in South Australia
- Towards Net Zero Emissions Freight Policy in New South Wales
- Pre-approved Low or Zero Emission Network Map in Victoria
- Zero Emission Heavy Vehicle Network Map in Queensland

In addition to the above challenges related to mass limit regulations is the lack of national consistency. The national harmonization of heavy vehicle standards, weights and dimensions is critical to ensure the maximum efficiency, productivity and decarbonisation of the industry. The freight and logistics industry by its very nature is not bound by borders or boundaries, but as a result of the differing regulations between the jurisdictions unfortunately we are creating them. Again, this significantly hampers the productivity potential of electric heavy vehicles, which in turn impacts the commercial viability for many operators.

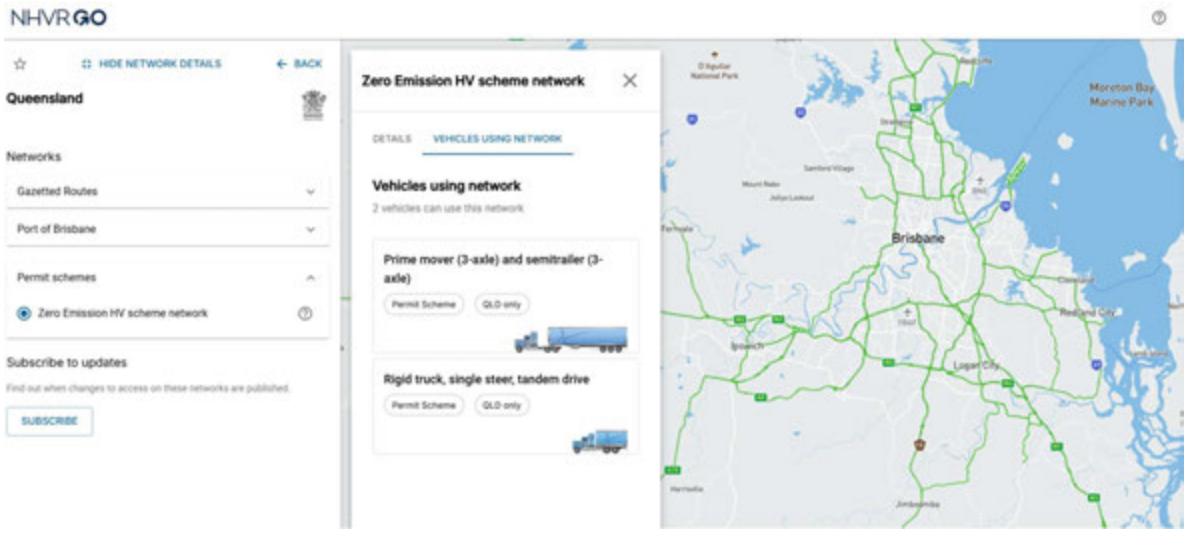
Table 1 - Current Axle Weight Limits for ZEHV Road Access

State & Territory Roads	ZEHV Network Map	Front Axle Load	Rear Axle Load
VIC	✓	7.5t	17.0t
QLD	✓	8.0t	18.5t
NSW	✓ (trial)	8.0t	18.5t
SA	✓ (trial)	7.5t	18.5t
ACT	×	7.0t	16.5t
NT	×	7.0t	16.5t
WA	×	7.0t	16.5t
TAS	×	7.0t	16.5t
Local Government Area	×	Varies by permit application	Varies by permit application

Additional requirements apply by state for Telematics and Onboard Mass monitoring

Figure 2 displays the Zero Emissions HV Scheme Network on NHVR GO, and the Volvo ZEHVs eligible to use the network. The State roads highlighted in green display the State Road access for a truck at 8t FAL (a welcomed development for Queensland). However, for a truck to make its final delivery, approval is required for each council. Many permit applications are refused, and even in the instance where council access is approved at 7.5t FAL, the State Road mass limit of 8t FAL is unusable. Further inconsistencies exist nationally, for rear axle loads and general mass limits.

Figure 2 – NHVR GO Zero Emission HV Scheme Network for Queensland



Council Road Access

Nationally, for 'final mile' deliveries, Local Government Area council roads are **not included** in the Network Map and are applied by exception, via permit application.

We understand many State transport departments are working with local government areas to encourage proactive action to update this network map. However, today, over two years since the introduction of the first ZEHV network maps, we do not have alignment across local government areas, nor any council roads added to the network maps.

In many jurisdictions the department responsible for freight and transport is not the department responsible for infrastructure and roads, which again adds further complexity to getting alignment of key regulations and policies.

Increased axle weight regulations in most jurisdictions are reliant on increased funding for road infrastructure, but in some jurisdictions no single department has control over both, or the scope to do the total cost benefit analysis:

Cost of increased road maintenance ***Vs.*** ***Benefits of LZEHVs (health, environment, productivity)***

Recommendation

Accordingly, Volvo recommends higher weight limits are applied, nationally. Improving road access would provide confidence to the industry and open the possibility to more operators, to invest in new technologies and for local manufacturers alike to invest and strengthen local capabilities.

Table 2 – Recommendation – Axle Weight Limits for ZEHV Road Access

State, Territory and Local Council Roads	Interim Solution for Today	Allowing for Future Technologies
Front Axle Load	8.0t	8.5t
Rear Axle Load	18.5t	19.0t

Permits and Customer Segments

Higher axle mass limits would open up ZEHVs to higher-payload customer segments, unlocking a significant decarbonisation opportunity.

To further elaborate on the permit process and impact to customer segments, turn-by-turn or road-by-road permits are often required because general (open) access is refused. This is an extremely cumbersome requirement and is only feasible for a specific type of operator, typically those with fixed, well-defined delivery contracts and return-to-base operations. Even for these operators, current mass limits necessitate operating with a reduced maximum payload.

For other operators, including those with return-to-base operations, that would otherwise be well suited to ZEHVs, there is regular variance in their daily route paths to service their customer base. As a result, incorporating ZEHVs into their fleets is currently impractical.

An AECOM report commissioned by ARENA found that the average profit margin for freight operators is approximately 2%, and that 98% of operators are small to medium enterprises owning only a small number of vehicles. In this context, payload impacts, regulatory complexity and administrative burden act as major deterrents. This extends to road access, infrastructure and to obtain funding. The investment of time and resources to work within the regulations is further exacerbated for small business and smaller operators. These barriers substantially limit the pool of potential adopters and constrain broader uptake.

The National Automated Access System would be a positive step forward to reduce the administrative burden of permit approvals. However, proactive steps need to be taken by each level of government for harmonised road access.

There are hundreds of permit applications in place today that could be applied on a permanent basis to allow certainty of access and importantly to apply access at optimum weights as explained in this report.

Volvo Buses

In addition to trucks, one of the most significant challenges for OEMs introducing electric buses is compliance with existing vehicle weight limits. Battery electric buses are inherently heavier than their diesel counterparts due to the weight of battery packs.

Current axle and gross vehicle mass limits can restrict the passenger capacity or operational range of electric buses, making it difficult to offer competitive products while maintaining safety and performance. Without regulatory flexibility, OEMs may be forced to reduce seating or standing capacity, undermining the business case for operators and limiting the environmental benefits of fleet electrification.

We strongly recommend that the inquiry consider a review of vehicle weight limits for zero-emission buses, in line with international best practice, to enable the safe and efficient introduction of electric buses without penalising operators or manufacturers. There are various Bus configurations and weight concessions to consider in optimising performance, and we would welcome further engagement with the Productivity Commission.

4.0 Road and infrastructure funding – all levels of government

One of the barriers inhibiting permit approvals is the concern around the impact increased axle weights will have on road infrastructure and pavements, and the associated costs.

Pavement wear is a common concern worldwide, and significant testing and studies have been conducted. Most countries have many years of experience allowing higher axle weight limits, long before new technologies were introduced, that we could learn from. Volvo Group globally has conducted studies, as road pavement wear is a concern for EU government to increase weight limits, however noting the higher current front axle limits of 10 tonne.

Importantly, while there is increased pavement wear, studies and experience indicate the impact is relatively low and that the additional cost would be negligible if thoroughly compared to the far greater economic, environmental and social costs of failing to reduce carbon emissions. The cost of repairing roads and infrastructure following severe weather events alone is just one clear example of this, including the associated costly impacts to freight and supply chain networks during such events.

Concerns of pavement wear and structural impacts is resulting in some jurisdictions restricting access to key freight routes and assets such as toll roads, bridges and tunnels, which again has a major impact of the operational productivity, commercial viability and attractiveness of ZEHVs. Regarding such ZEHV restrictions, we are not currently aware of any restrictions put on electric trucks, buses or cars, in terms of driving through tunnels or over bridges that are open for general traffic, outside of Australia. Most notably we would like to draw attention to the operation of ZEHVs in what can be considered the European ‘tunnel countries’ of Norway, Switzerland, Austria and France, among others, where normal general traffic operation is permitted with vehicles complying to EU regulations. There are also examples of ZEHVs operating in underground mines in some countries.

Road Pavement Studies

Austroads concluded in their report “2016 Austroads Report AP-R505-16” that a front axle load of 7.1t shows no increased road damage with a wide tyre. Volvo has undertaken its own simulations and concluded the same.

We conducted further simulations to examine the impact of higher mass limits, using a typical Australian road profile (a “less maintained” road as used by the NHVR to determine roads that have restrictions or conditions imposed due to their maintenance status). While we acknowledge for any study there are many variables to consider, such as vehicle types and configurations, for a ZEHV equipped with optimised specifications such as wide tyres and road friendly suspension, the effect on pavement wear is not as great as perceived, when analysed from a static and dynamic loading perspective. As an OEM of ZEHVs, we recognise the importance of independent review to assess existing findings and studies, and to draw robust conclusions that can inform future road maintenance funding requirements.

We would also stress the importance to consider whether any potential increase in road wear justifies the significant delays and access barriers currently faced by heavy vehicles, particularly when weighed against the substantial health, environmental, and safety benefits delivered by modern trucks.

Volvo would also like to note with the current ZEHV's on our roads today, running at lower than optimum payloads, more heavy vehicles are required to perform the same task, thereby increasing road maintenance needs by volume. With the current axle limits in place today we are unable to decarbonise segments requiring a higher payload. Enabling greater productivity across all heavy vehicles, including internal combustion engines, we can consider the potential to reduce road damage while preserving payload and commercial viability for operators.

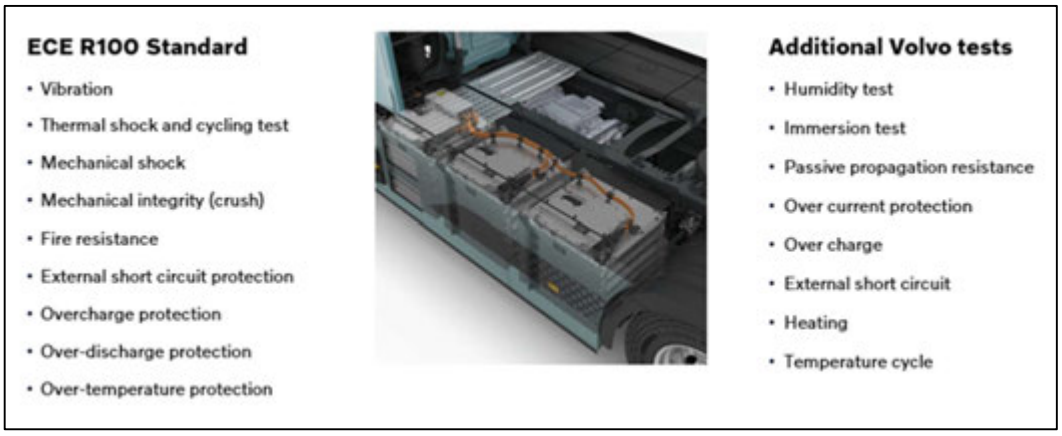
5.0 Electric vehicle quality and safety standards

Australia has always taken its operating, safety, ADRs and design standards extremely seriously, resulting in a safe and high-quality freight, logistics and transport industry. Currently, we are not aware of any electric heavy vehicle specific quality standards or regulations that are mandated in Australia for the purpose of increasing battery electric vehicle safety. In Europe for example they require UN ECE R100 standard for the approval of road electric vehicles. The regulation specifies all tests that must be carried out on lithium propulsion batteries.

Volvo's Solution

From Volvo's perspective, we have put a lot of effort and investment into the quality and safety of the lithium-ion batteries, including a high focus on the battery and cell design, Battery Management Systems (BMS) and battery monitoring systems. As shown in Figure 3, Volvo's electric vehicle ranges adhere to not only the UNECE R100 standard mandated in Europe, and many other places around the world, but also undertake additional testing on top of this international standard.

Figure 3: Volvo battery electric testing



Volvo recommends mandating the UNECE R100 standard, which is currently legislated in Europe and other parts of the world, for the approval of road electric vehicles. This regulation would promote and ensure battery quality and safety standards and eliminate the risk of having untested solutions operating on Australian roads. It is critical for this standard to also be linked to road, asset and tunnel access to avoid restricted network maps reducing EV productivity and commercial viability.

6.0 EV Truck Charging Infrastructure

On the topic of EV charging infrastructure, Volvo makes the following brief contribution and reference to other papers.

The transition to battery electric buses and trucks requires significant investment in charging infrastructure, depot upgrades, and grid capacity. Many operators face uncertainty around infrastructure planning, funding, and

regulatory approvals. There are also challenges with the availability and standardization of charging connectors, as well as the need for high-capacity charging to support operational requirements.

We recommend the government establish clear guidelines and funding mechanisms for public and private sector investment in charging infrastructure, with a focus on interoperability and future-proofing.

Further information is included in Volvo's submission to the Victorian Parliamentary Inquiry into EV charging, to elaborate on charging infrastructure needs for heavy vehicles: 101.-volvo-group-australia_redacted.pdf

We would also like to draw attention to Toll Group's Infrastructure Design Report: Toll-Group-Project-Truckvolt-Infrastructure-Design-Report.pdf. Toll Group secured funding from the Australian Renewable Energy Agency (ARENA) to support the deployment of 18 Volvo FE electric rigids and 10 Volvo FM electric prime movers. In their Infrastructure Design Report, they share and examine the regulatory hurdles faced to decarbonise their fleet including with charging infrastructure.

7.0 Benefits of ZEHVs and Removal of EV Curfews

In addition to the well documented environmental benefits of electric vehicles, such as their zero tailpipe emissions and for the life of a ZEHV, a very low total climate impact when electricity from renewable sources is used, ZEHVs also offer a range of other less widely discussed benefits and opportunities. Some of these are detailed below and as connected to the consideration for removal of EV Curfews.

Removal of curfews

Volvo supports the removal of operating time curfews for ZEHV and low noise vehicles. This regulatory update would allow operators to increase productivity of their vehicles and in-turn reduce the payback period of their capital investment.

Health benefits

- Electric vehicles produce no tailpipe emissions (NOx, PM), which has significant health benefits for people and society. This positive outcome is heightened for vehicles operating in urban and densely populated environments.
- Diesel exhaust emissions are classified as a Group 1 carcinogen by the International Agency for Research on Cancer, meaning they are definitively linked to an increased risk of lung cancer in humans. Beyond the profound personal toll on individuals and families who may be affected, associated healthcare costs place a significant burden on the nation's healthcare system.
- ZEHVs are also far quieter than regular heavy vehicles, which again according to the World Health Organisation (WHO) and European Environment Agency positively, impacts people's health and wellbeing (European Environment Agency, 2022).
- The Truck Industry Council's National Truck Plan examines the community health costs of an aging national truck fleet in Australia: 67636cd8e9e1152a9657ad76_2025 Truck Industry Council National Truck Plan.pdf. Notably they report "The forecast annual community health cost of the operation of the national truck fleet is forecast to increase by an estimated $44M to $812M between 2025 and 2030. This will occur despite the introduction of the most stringent emission standard in Australia for the sale of all new trucks from 1 November 2025 (i.e. ADR 80/04)."

Reduced congestion in urban areas

- Electric trucks and buses can be used in urban environments that are subject to strict noise and emission regulations and can even operate indoors. For example, electric trucks and buses could move into logistics centres, warehouses, shopping centres, hospitals and retirement villages.

- Their low noise level allows goods to be transported early in the morning, late in the evening and at night-time, which can reduce congestion during peak hours.
- Reduced trucks on the roads during the daytime also reduces the risk of accidents during the hours when there are most road users. Further, during the night there are presumably fewer vulnerable pedestrians on the road.

Driver attraction

- Currently there is a severe driver shortage nation-wide. The transport industry has identified battery electric vehicles to be a key enabler in improving the image of truck drivers via providing state of the art, technology advanced workspaces. Electric trucks are more comfortable and quieter to drive, with the absence of low-frequency noise, vibrations and tailpipe emissions leads to a significant improvement in the driver's working environment, which may help to attract and retain drivers.
- There is an opportunity to encourage people who previously never considered joining the industry, to give it a go. A contributing factor could include allowing for night-time deliveries, to open up a new talent pool for those where night-time operations meet their personal needs.
- A higher purpose of having a positive impact on the environment and the world we live in, is showing to strongly resonate with the younger generation starting to enter the workforce.

Driver support

- Volvo appreciates the Productivity Commission's thorough safety considerations in reviewing curfews and consideration of the long hours and constant attention required of truck drivers.
- An electric truck is indeed so quiet that it may not be heard coming. This is why Volvo added sound to its trucks. To hear the sounds of a ZEHV please see this link: https://youtu.be/snrUarZQWGI
- Further, Volvo has upgraded its Driver Alert Support system with an eye-tracking camera, with the objective to better support truck drivers and increase road safety. This upgrade is available in Volvo's ZEHV's from December this year. This alert system is one example of safety innovation found in Volvo products, and relevant to this query, which enables an ability to detect and alert drivers who show signs of inattention or drowsiness. It uses two cameras to detect signs of drowsiness or inattentive driving. It alerts the driver with a pop-up message and a warning sound. A forward-facing camera, which is part of the current Driver Alert Support, monitors driving behavior and the position of the truck in relation to the lane and the roadside. Thereby detecting the typical characteristics of a drowsy or distracted driver.

8.0 Government Procurement

In our endeavours to decarbonise transport, Volvo sees an opportunity for government to lead in this respect, in prioritising sustainability and local industry.

For example, with Volvo Bus Australia, there are significant challenges in government tenders due to stringent "local content" requirements. Volvo Bus import bus chassis and we partner with local bodybuilders to complete the bus, here in Australia. While we wholeheartedly support the intent to bolster local industry, there is a need for greater consideration and collaboration toward Australian bus body building capabilities whilst balancing the need to incorporate advanced electric vehicle technology (which is predominantly fully imported materials where there are no local Australian suppliers, such as for batteries, motors and electronics).

Through current government procurement processes, the lowest price is often prioritised over the broader sustainability objectives, such as climate action, social impact, and resource efficiency. The focus on upfront cost can disadvantage electric buses, which typically have higher initial purchase prices but deliver significant savings and environmental benefits over their lifecycle.

As an adjacent matter to this inquiry, we value the Productivity Commission's role in considering the sustainability and lifecycle cost criteria of tender evaluations, ensuring that decisions reflect Australia's climate commitments and the long-term value of investing in zero-emission vehicles, and local industry body builders and supporting local dealership networks.

We recommend policies that incentivise local assembly, local manufacturing and supply chain participation, while recognising the global nature of advanced vehicle technology and the need for international collaboration.

9.0 Global Learnings

Australia's environmental conditions, topography and vast distances makes for a unique operating environment and unique considerations. At the same time, there are learnings from other countries around we can draw on, including, but not limited to –

- Policies and incentives
- Business models, funding and green financing initiatives
- Vehicle maintenance
- Battery life and charging hygiene
- Charging infrastructure
- EV quality and safety standards
- EV fire safety, studies, tunnel safety and suppression systems
- Emergency response team protocols
- Battery repurposing and recycling
- Axle weight pavement wear and bridge analysis

There is an opportunity for Australia to draw on learnings from abroad as many countries are well progressed on their decarbonisation of transport journeys. Volvo therefore also encourages the Productivity Commission to look at examples abroad to gather a greater volume, and depth, of learnings and information on best practice examples and learnings. Being a global organisation operating in 190 countries, Volvo would be happy to facilitate connections with operators, industry and policy makers abroad if this is of interest to the Productivity Commission.

Volvo is committed to working with government and industry stakeholders to overcome the barriers outlined in this inquiry. We believe that targeted reforms will accelerate Australia's transition to sustainable transport and deliver lasting benefits for communities, the economy, and the environment.

Volvo would welcome the opportunity to comment further and elaborate on studies and provide data, as may be beneficial to this Inquiry.

References

AECOM's Electrifying Road Freight Report. (2025, July). Retrieved from the Australian Renewable Energy Agency: https://arena.gov.au/assets/2025/07/AECOM-%E2%80%93-Electrifying-Road-Freight-Report.pdf

Department of Climate Change, Energy, the Environment and Water. (2023, September 29). Retrieved from National Greenhouse Gas Inventory Quarterly Update: September 2023: https://www.dcceew.gov.au/climate-change/publications/national-greenhouse-gas-inventory-quarterly-update-september-2023

Department of Infrastructure, Transport, Regional Development, Communication and the Arts. (2023, August 16). *Review of the National Freight and Supply Chain Strategy - Discussion Paper.* Retrieved from www.infrastructure.gov.au/department/media/publications/review-national-freight-and-supply-chain-strategy-discussion-paper

European Environment Agency. (2022, July 18). *Health impacts of exposure to noise from transport.* Retrieved from European Environment Agency: https://www.eea.europa.eu/en/analysis/indicators/health-impacts-of-exposure-to-1

National Heavy Vehicle Regulator. (2016, July). *National heavy vehicle mass and dimension limits.* Retrieved from National Heavy Vehicle Regulator: www.nhvr.gov.au/road-access/mass-dimension-and-loading/general-mass-and-dimension-limits

Truck Industry Council. (2025, October). *National Truck Plan.* Retrieved from Truck Industry Council: https://cdn.prod.website-files.com/5cbe46bce3c2320cf45d2b62/67636cd8e9e1152a9657ad76_2025%20Truck%20Industry%20Council%20National%20Truck%20Plan.pdf