



NATIONAL ROAD TRANSPORT ASSOCIATION

**Submission to The House of Representatives Standing Committee
on Climate Change, Energy, Environment and Water**

Inquiry into the transition to electric vehicles

22 March 2024

1. Executive Summary

The Australian economy is delivered on the back of a truck, and this will be no different as we transition to a net zero carbon economy.

Road freight transport is largely a small business industry operating on tight margins, there is no pathway to a low emissions future without ensuring the cost effectiveness of that transition.

The enablers for reducing road freight emissions include:

- Alternative fuels and energy, including electric vehicles, hydrogen and renewable diesel.
- Improved energy efficiency, including improvements to vehicles and fuel efficiency, and increased use of high productivity freight vehicles.

Within a broader transition strategy for reducing road freight emissions, electric heavy vehicles have a critical role to play.

The transition to electric heavy vehicles brings a number of challenges, opportunities and other impacts. This includes:

- A significant upfront financial barrier for vehicles and charging infrastructure
- Lower running costs, lower emissions and reduced noise impacts
- Inconsistent state reforms to steer axle mass limits and road network access
- Potential longer-term implications for competition and road user charging.

Summary of recommendations

Recommendation 1

The Australian Government should deliver a road freight transport decarbonisation transition strategy.

Recommendation 2

The Australian Government should deliver a \$3.5 Clean Transport Fund, including a low emissions freight financing facility and zero emission vehicle incentives.

Recommendation 3

The Australian Government should deliver a strategy and funding for developing low emission truck recharging and refuelling infrastructure.

Recommendation 4

The Australian, state and territory governments should deliver a national plan for zero emission (tailpipe) heavy vehicle road access and higher steer axle mass limits.

Recommendation 5

The Australian Government should develop a national road user charging reform agenda, including both light and heavy vehicles.

2. About NatRoad

The National Road Transport Association (NatRoad) is Australia’s largest national representative road freight transport operators’ association. NatRoad represents road freight operators, from owner-drivers to large fleet operators, general freight, road trains, livestock, tippers, express, car carriers, as well as tankers and refrigerated operators.

3. Towards a cost-effective road freight decarbonisation strategy

In 2023, NatRoad released an industry white paper on Australian road freight transport decarbonisation. **The paper is attached to this submission.**

NatRoad’s industry whitepaper sets out key strategies and enablers for the transition, which will need multiple and complementary reforms to proceed if we are to realise a cost-effective transition.

Most decarbonisation solutions depend on the investment and operational decisions of trucking operators, who are predominantly small businesses running on tight profit margins.

The NatRoad strategy for lowering road freight carbon emissions includes key areas of focus.



Recommendation 1

The Australian Government should deliver a road freight transport decarbonisation transition strategy.

4. Challenges, opportunities and the impacts of transitioning to electric heavy vehicles

The emerging role for electric heavy vehicles

There is no silver bullet for heavy vehicle decarbonisation. Whilst electric heavy vehicles may not suit every transport task, that does not mean they do not have a critical role to play.

Many Australian trucks travel significant distances well beyond the current range and mass capabilities of electric heavy vehicles. Australia's articulated trucks move the majority of our road freight task, operating at mass limits well above the norm for some overseas markets. However, there is a significant and emerging role for electric heavy vehicles. The majority of Australia's heavy vehicles are rigid trucks with a majority of their work based in urban areas, with lower daily travel distances.

We will need different low emission solutions for different parts of the road freight task.

NatRoad members have begun to deploy electric heavy vehicles in limited circumstances:

- Team Global Express is deploying 60 electric vehicles in Western Sydney as part of its Depot of the Future project, with \$20.1 million in Australian Government funding.
- Followmont Transport has deployed one of the first electric prime movers in Australia.

Transport tasks with lower mass and average daily distance requirements are more likely to be within the capability of electric heavy vehicles.

Upfront purchase price barrier

An electric heavy vehicle is likely to cost two to three times the purchase price of a diesel equivalent. This represents a significant financial barrier to trucking businesses.

An independent report by Mov3ment has shown that whilst alternative fuels and energy (including electric vehicles) hold the greatest emission reduction potential over the longer term, these solutions also come with the highest cost premium.¹

Trucking industry revenue is being squeezed by higher costs, with profit margins declining by 1.8 percent over the last five years to now be just 2.3 percent, and industry profit declining by 7.4 percent.² Wafer thin industry profit margins hide that for many businesses, profit margins are non-existent or going backwards.

When combining the electric heavy vehicle cost barrier with a limited industry ability to pay, the likely result is a delayed transition to lower emission solutions.

Overseas markets – from California to Europe – have demonstrated that financial incentives are critical to early adoption.

¹ Mov3ment. September 2023. The Road to Zero: Decarbonising Australian Trucking. 10.

² IBISWorld. March 2023. Road Freight Transport in Australia. 7.

The NatRoad decarbonisation industry white paper (**attached**) proposes establishing a \$3.5 billion Clean Transport Fund to bring forward the road freight decarbonisation transition and recognise the importance of cost-effective decarbonisation options to achieving real reductions in transport emissions and building a secure economic future.

Recommendation 2

The Australian Government should deliver a \$3.5 Clean Transport Fund, including a low emissions freight financing facility and zero emission vehicle incentives.

Charging infrastructure and early adoption challenges

In addition to the upfront financial barrier, the trucking industry faces a number of challenges in adopting electric heavy vehicles. These include:

- Lack of truck accessible fast charging infrastructure
- The majority of operators are owner drivers and small fleets, who may not have the depots or ability to install charging infrastructure
- Increased operational complexity
- Cost and complexity of installing charging infrastructure, including possible electricity grid limitations and costs (depending on power needs and site location)
- Access to relevant skilled staff for maintenance and support
- Possible higher insurance costs, as the market still needs to price and develop knowledge on resale value, repair timelines and costs and other issues
- Access to renewable electricity to ensure lower lifecycle emissions are actually realised.

As an example, the complexity for installing recharging infrastructure at a trucking depot can be prohibitive. This may involve the cost of recharging infrastructure and batteries, site redevelopment (including the need to reinforce building and pavements), installation of solar panels, increased access to the electricity grid and planning approvals. It should be noted that the issues increase as you seek to increase the speed of the charging infrastructure, which improves vehicle use flexibility. Slower charging (such as overnight) has lower power requirements.

The lack of a public fast charging network for trucks limits the use cases for electric trucks and increases the burden for trucking operators wishing to deploy the vehicles.

Similarly, the lack of hydrogen refuelling infrastructure will be a significant barrier for deploying both hydrogen fuel cell electric vehicles and hydrogen internal combustion engine vehicles.

Example: United States National Strategy to Accelerate Deployment of Zero-Emission Infrastructure for Freight Trucks

On 12 March 2024, the United States released its first ever strategy for zero emission infrastructure for freight trucks.

The strategy seeks to guide the deployment of electric recharging and hydrogen refuelling infrastructure from 2024 to 2040. It aims to sequence and accelerate infrastructure deployment in four stages:

- Establish priority hubs based on freight volumes (2024-2027)
- Connect hubs along critical freight corridors (2027-2030)
- Expand corridor connections initiating network development (2030-2035)
- Achieve national network by linking regional corridors (2035-2040).³

Recommendation 3

The Australian Government should deliver a strategy and funding for developing low emission truck recharging and refuelling infrastructure.

Lower running costs and other benefits

Despite the early adoption challenges, electric heavy vehicles bring some significant benefits:

- Lower running costs, by reducing fuel/energy costs and reducing maintenance costs
- Improved driver experience and reduced impacts on urban communities, with lower noise and vehicle vibrations
- Significant reductions to both noxious and carbon emissions.

For transport use cases which can utilise electric heavy vehicles, these benefits hold significant promise. Lower running costs in an industry with tight profit margins will have a significant impact, once the upfront financial barriers are reduced.

At the same time, improving the driver experience may play an important role in addressing the long-term driver shortage and improving the diversity of the workforce.

The Grattan Institute calculated the public benefits from the uptake of zero emission trucks to be approximately \$4.2 billion, including avoided health costs, avoided CO2 emissions and reduced noise. However, these benefits would require \$9.6 billion in costs to business, including infrastructure, vehicles and a time and weight penalty.⁴

³ US Department of Energy. 12 March 2024. Biden-Harris Administration Releases First-Ever National Strategy to Accelerate Deployment of Zero-Emission Infrastructure for Freight Trucks.

⁴ Grattan Institute, 2022, The Grattan truck plan. The modelling also includes \$15.7 billion in benefits for business, but \$12.5 billion is the result of avoided fuel costs. The model assumes all zero emission trucks will be electric, overstating this benefit and failing to account for the higher fuel costs of both green hydrogen and renewable diesel. This also means that the benefits cannot be assumed to apply across the industry equally, and longer distance and heavier transport operators are unlikely to receive the full scale of projected savings. It should also be noted that as Grattan utilise current carbon offset prices, it is possible that the carbon savings will be greater over time.

Road network access

A critical issue for the adoption of electric heavy vehicles is access to the road network, and in particular approval to use higher axle mass limits. This is important to ensure that electric heavy vehicles make economic sense – and can still carry freight once accounting for the additional weight of the battery.

Whilst NatRoad welcomes reforms from the states and territories to remove this barrier, the delivery of these reforms is inconsistent:

State and territory mass exemptions for electric trucks		
Jurisdiction	Steer axle mass limit	Reform scope
NSW	Up to 8 tonnes	State roads, 2 year trial. Up to 18.5t on the drive axle.
VIC	Up to 7.5 tonnes	Defined network, permanent reform, selected truck models only.
QLD	Up to 8 tonnes	Defined network only (South East QLD) on state roads.
SA	Up to 7.5 tonnes	State roads, trial scheme only.
TAS / ACT / WA / NT	No reforms announced	

Australian steer axle mass limits are 6.0 tonnes increasing up to 6.5 tonnes for Euro IV or later emission standards. Road trains (meeting tyre width requirements) can have 6.7 tonnes on the steer axle, with up to 7.0 tonnes accessible in the NT (with a fee structure).⁵

A proposal for 7.0 tonnes for Euro VI vehicles is currently being progressed, which would also apply to electric heavy vehicles.

Recommendation 4

The Australian, state and territory governments should deliver a national plan for zero emission (tailpipe) heavy vehicle road access and higher steer axle mass limits.

⁵ Austroads. 2016. National Steer Axle Mass Limits. 4.

Longer term impacts – competition and road user charging

There are other impacts from the introduction of electric heavy vehicles which need to be considered.

Competition

With the complexity and higher upfront costs for introducing electric heavy vehicles and related infrastructure there is a real risk that this transition will be inaccessible to smaller trucking businesses for the foreseeable future.

At the same time, the lower running costs of electric heavy vehicles may provide a competitive advantage to larger operators in the medium to long term, once the vehicles are deployed and initial adoption barriers are overcome. This is a clear reason to improve the provision of financial incentives and charging infrastructure, to make electric heavy vehicles more accessible for smaller operators.

Road user charging

Australia needs national reform of road user charging, to build a fair and sustainable system for funding the safety and maintenance of the road network. The projected collapse of fuel excise revenue over time currently represents a significant future budget blackhole.

The differences in electric vehicle adoption, which will be more significant in Australian cities and suburbs, raises a significant question of equity and fairness over how the road network is funded if electric vehicles remain outside of the road user charging system.

Incentives for low and zero emission (tailpipe) vehicles could still be incorporated into a fair system, such as NatRoad's recommended \$3.5 billion Clean Transport Fund.

Recommendation 5

The Australian Government should develop a national road user charging reform agenda, including both light and heavy vehicles.