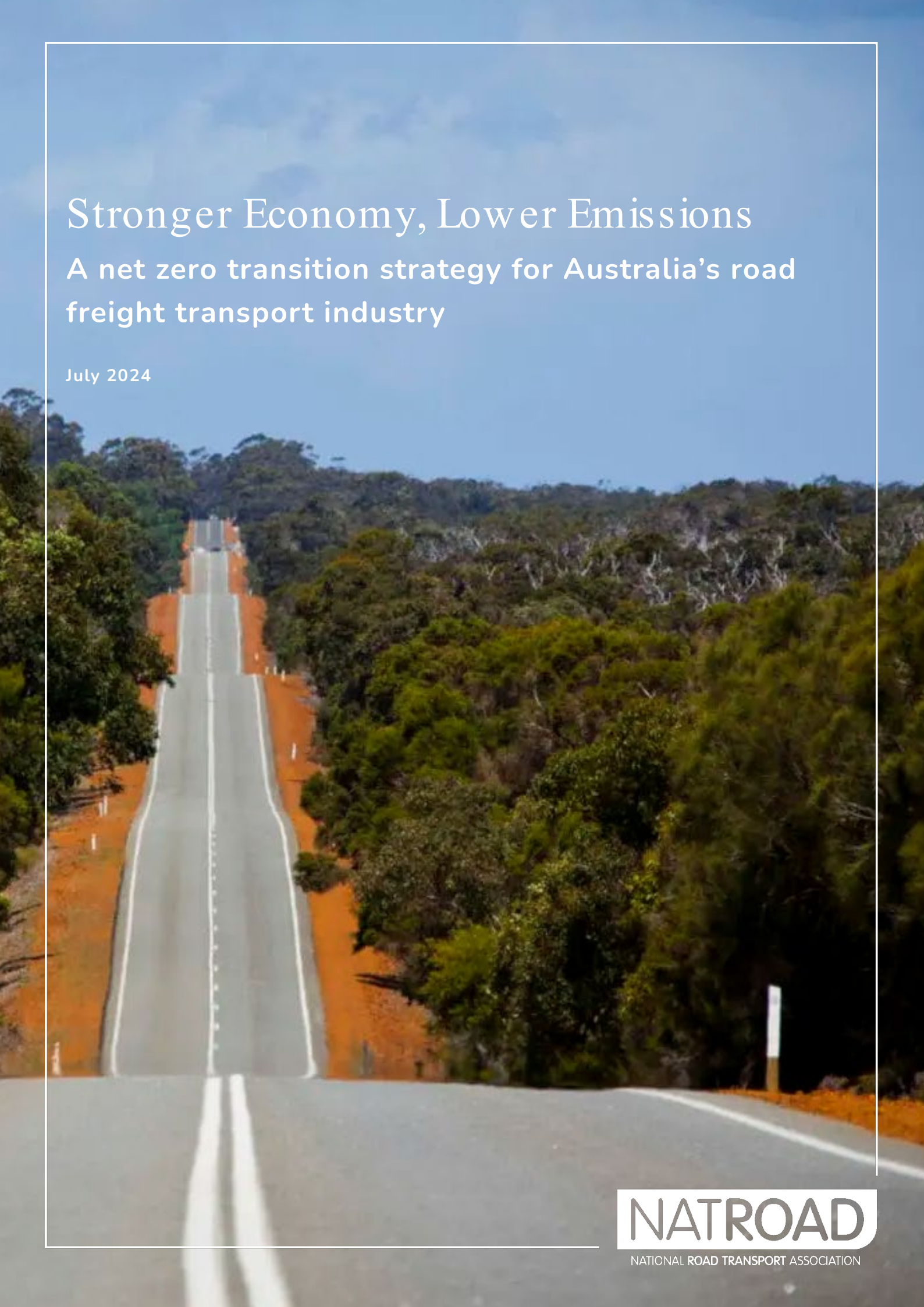




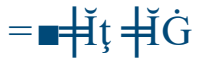
Stronger Economy, Lower Emissions

A net zero transition strategy for Australia's road freight transport industry

July 2024

NATROAD

NATIONAL ROAD TRANSPORT ASSOCIATION



Executive Summary.....	3
Net zero pathway for heavy vehicles	4
Efficiency and optimisation.....	4
Electrification	5
Hydrogen.....	5
Low carbon liquid fuels	6
The case for a transition strategy	6
De-risking investment.....	7
A fair go transition	7
Priority policy mechanisms for the net zero transition	9
Clean Transport Fund.....	9
Information and policy research.....	10
Significant access reforms.....	10
Road reform	11
Phase out stamp duty.....	11
Road standards.....	11
Road pricing	11
Low emission truck recharging and refueling strategy.....	12
Regulatory harmonisation and reform	13
Low Carbon Fuel Standard.....	13
Supply chain emissions target for major transport customers.....	13

$$M_{\text{LkI}} \propto \Omega_{\text{K}}^{-1/2} \bar{a}$$

Australia needs a transition strategy to secure the future of our supply chains, strengthen our economy and lower emissions.

The transition to a clean economy and net zero carbon emissions is a significant challenge, but one which must be addressed to meet Australia's climate goals.

Our industry is characterised by tight profit margins, consists of well over 90 percent being small and family businesses, and is an industry with limited economic bargaining power. Small operators cannot simply pass on increased costs.

Our supply chains are complex, and government plans cannot possibly predict the exact timelines and duty cycles of competing low emission technologies.

At the same time, failing to act leaves our supply chains and small businesses exposed to significant financial and climate risks.

Governments should accelerate the four critical road freight low emission pathways – efficiency and optimisation, electrification, hydrogen, and low carbon liquid fuels.

These pathways need a transition strategy that sets out a clear cost-effective policy framework and de-risks investment decisions for our industry.

We need a fair go transition – one which protects jobs and working conditions, protects small business, and ensures that regional communities are not left behind or saddled with higher costs.

We need to enable our industry to make cost effective low emission investments to deliver emissions reduction and protect our environment.

As Australia's largest association of road freight operators, NatRoad is working to ensure our industry has the tools it needs and the right policy framework to reduce emissions and secure the economic future for road freight businesses in a clean economy.

In this *Stronger Economy, Lower Emissions* policy paper we set out a clear set of recommendations and a policy transition pathway:

- ✓ A \$3 billion Clean Transport Fund
- ✓ A low and zero emission heavy vehicle recharging and refueling strategy
- ✓ Industry-led but government supported provision of information and research
- ✓ Significant improvement to heavy vehicle access
- ✓ Regulatory reform and harmonisation
- ✓ Road reform, including phasing out stamp duty, implementing road standards, and road pricing reform
- ✓ Design and implementation a low carbon fuel standard
- ✓ Design and implementation of a Supply Chain Scope 3 emissions reduction target for major transport customers.

Reducing carbon emissions from heavy vehicles will require a focus on four key areas:

Reducing carbon emissions from heavy vehicles will require a focus on four key areas:

- Efficiency and optimisation
- Electrification
- Hydrogen
- Low carbon liquid fuels.

There is no silver bullet solution – different pathways will be needed for different road freight tasks.

The range of opportunities available now to reduce costs and reduce emissions for road freight transport is outlined under step three in NatRoad’s Get Fleet Fit resources – available from our online decarbonisation hub at <https://www.natroad.com.au/decarbonisation/>

Our online information hub has a set of resources, tools and guides for operators on decarbonisation.

It also includes our 2023 industry whitepaper, which set out a clear framework for decarbonising heavy vehicles and launched an extensive program of collaboration and engagement by NatRoad, including partnering with the Heavy Vehicle Industry Association on TruckShowX.

Our supply chains are complex, and government plans cannot possibly predict the exact timelines and duty cycles of competing low emission technologies.

Australia needs a road freight transition strategy with clear policy certainty and timelines around the actions that governments will take.

“Australia’s transport net zero roadmap must ensure that a clear policy framework exists to accelerate all four major pathways for road freight decarbonisation, with a focus on improving investment certainty and enabling cost-effective solutions to reduce emissions.”

Reducing wasted energy in heavy vehicles is a key component for reducing both costs and emissions.

Reducing wasted energy in heavy vehicles is a key component for reducing both costs and emissions.

NatRoad’s Get Fleet Fit resources guides operators through improving their efficiency, which should also include an understanding of their duty cycle and what options work best for any specific type of freight task and vehicle.

Moving more with less will also depend on significant improvements to heavy vehicle road access approvals.

Governments should ensure that ambition in economy wide climate targets should be backed by strong ambition in improving access for High Productivity Freight Vehicles (HPFVs).

HPFVs reduce the number of individual vehicle trips required to move a freight task, reducing fuel use and reducing emissions. They also achieve better safety outcomes and boost productivity.

Additionally, with significant projected increases in the size of the freight task over coming decades there is a critical role for all modes of transport to do more. Governments should ensure that road, rail and other modes are all optimised to deliver efficient, safe and sustainable supply chains.

Research by the International Road Transport Union (IRU) showed that in Europe, a focus on improving efficiency could provide 51 percent of the CO2 emissions reductions needed to make the sector carbon neutral by 2050 and that efficiency was also the most cost-effective option for both industry and governments.¹

Efficiency includes a wide range of measures, including technology, optimisation, telematics and vehicle solutions such as low rolling resistance tyres.

Electric trucks

Battery electric trucks are already available in the Australian market and will increasingly become viable transport options, especially for short haul and urban freight tasks.

The cost and performance of batteries is expected to continue to improve over coming years, which will increase the potential uses of battery electric trucks.

“The average range of an Australian rigid truck is just 60.5 km in capital cities, illustrating that electric heavy vehicles will play a critical role in the future of Australia’s urban supply chains.”

Green hydrogen

The use of green hydrogen holds three clear potential benefits – longer range, quicker refueling and higher mass. These are critical components to the Australian freight task.

Both hydrogen fuel cell electric vehicles and internal combustion engines which can be fueled by hydrogen are in testing and development.

Whilst hydrogen will not be a silver bullet, it has a critical role to play.

A key barrier is the cost of producing green hydrogen, and the Australian Government should ensure that the Hydrogen Tax Production Credit takes into account the need to scale up hydrogen truck refuelling networks.

¹ IRU. December 2023. IRU Green Compact Research Study: Europe.

Low carbon liquid fuels

Considering the age of the heavy vehicle fleet, the nature of some transport tasks especially over longer distances and transporting heavier payloads, drop-in low carbon liquid fuels can provide near term emissions reductions whilst also providing a long term solution for tasks which may remain beyond the capabilities of electric and hydrogen pathways.

Sustainability transition policy (STP)

Sustainability transition policy (STP), as opposed to a simplistic reliance on pricing alone, has been advocated as being needed in order to tackle the complex and systemic issues in addressing climate change, including for transport:

Embracing these varied levers, STP is not about a single policy intervention but a coherent sequence of policy decisions – and associated changes in technology, business models, and practices – that together drive potential decarbonization pathways for sociotechnical systems under conditions of complexity and uncertainty.²

This also includes an understanding that “transitions develop through different phases” and that “it is crucial to generate societal and business support for climate policy responses.”³

New forms of economic activity face two significant barriers: information and co-ordination barriers. Or in other words, “market

forces cannot reveal the profitability of resource allocations that do not yet exist.”⁴

This includes the need to establish what new activities can be produced or undertaken at a low enough cost to be profitable, and that new projects and industries can depend on co-ordination in simultaneous investments needed in the broader ecosystem.

For example, purchasing an electric or hydrogen truck and investment in electric truck charging or hydrogen refueling infrastructure are both dependent on each other to develop into a broader market.

Any transition approach must seek to address these information and co-ordination barriers to investment.

NatRoad’s approach to decarbonisation of road freight transport adopts a transition approach, including an understanding that there is a need for a coherent sequence of policy decisions, that it will be a transition which must allow for continued innovation, and it must also be cost-effective to be both achievable and able to generate support.

The policy recommendations we put forward specifically seek to address both information and co-ordination barriers, and ultimately improve investment certainty for transitioning to a clean economy.

² Rosenbloom et al. April 2020. Why carbon pricing is not sufficient to mitigate climate change – and how “sustainability transition policy” can help. 8667.

³ Ibid.

⁴ Rodrik, D. September 2004. Industrial policy for the Twenty-First Century. 7-13.

Decarbonising Road Freight

The transition to low emissions road freight transport will be driven by the investment decisions of industry.

Policies and targets do not turn into emissions reductions without financially sustainable businesses who can put new technologies and solutions on the road.

There are significant risks if governments do not get this right. Continuing the status quo without the right policy framework to reduce emissions will leave trucking businesses and Australia's supply chains vulnerable to financial and climate risks.

Relying on carbon offsets to reach net zero, by failing to embrace direct emissions reduction where possible, risks both increased costs and locking up rural land and livelihoods. Whilst offsets may play an important role, direct emissions reduction is critical to meeting climate goals.

At the same time, implementing emission reduction targets without the right policy framework, technological solutions and financially sustainable businesses to achieve them would be setting industry up to fail.

Ensuring a Fair and Equitable Transition

We need a fair and equitable transition – one which protects jobs and working conditions, protects small business, and ensures that regional communities are not left behind or saddled with higher costs.

The fair go must apply to the transition to a clean economy.

The transition will not be fair if it costs the jobs of drivers and workers, or if it leads to the financial ruin of small businesses.

“Road freight transport is critical to regional economies, getting goods to market and enabling connectivity and opportunity across the Australian economy.”

A net zero policy transition pathway for road freight

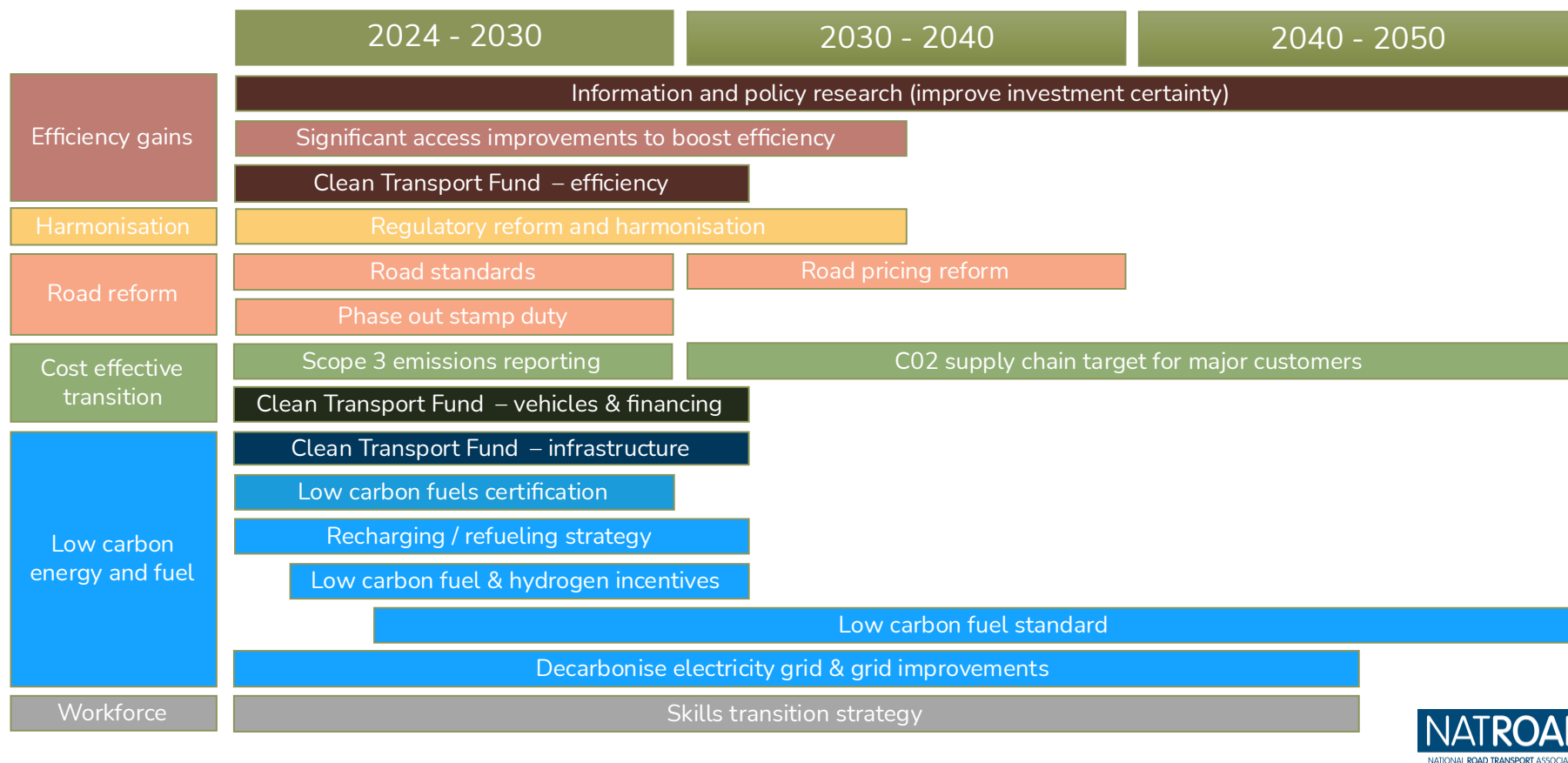
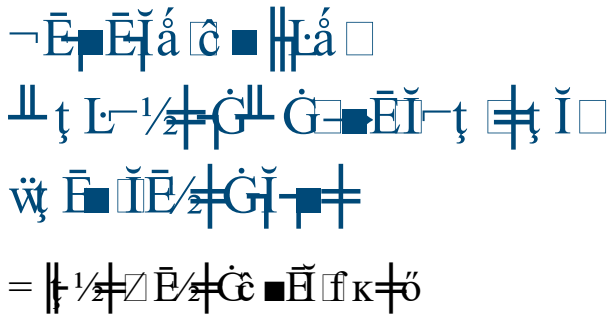


Figure 1: The range of policy mechanisms and indicative timelines for a transition pathway for decarbonising road freight.



Our 2023 industry whitepaper proposed a Clean Transport Fund with \$3 billion in additional funding. This policy paper updates the details of that recommendation.

NatRoad recommends that the \$3 billion additional funding should be spread over 7 years. The extension in the proposed timeline for the recommended program would reduce the annual budgetary impact.

The Fund should include four components:

- \$1 billion in road freight transport decarbonisation financing for both vehicles and infrastructure, similar to the Clean Energy Finance Corporation model
- \$1 billion in low emission vehicle incentives, with priority for smaller and medium sized operators
- \$500 million for investment in a low and zero emissions heavy vehicle recharging and refueling strategy, including shared use facilities
- \$500 million to boost efficiency, including investments in establishing automated access approvals and providing industry-led research and trials on low emission technologies.

Our 2023 industry whitepaper set out that the total level of proposed funding had regard for the level of public benefit from uptake of low emission heavy vehicles, and the increased revenue to government from increases to the road user charge. The funding is proportionate and represents a hand up, not a hand out.

An independent report by Mov3ment has shown that whilst alternative fuels and energy hold the greatest emission reduction potential over the longer term, these solutions also come with the highest cost premium.⁵

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.⁶ Wafer thin industry profit margins hide that for many businesses, profit margins are non-existent or going backwards.

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

“A \$3 billion Clean Transport Fund would represent just 2.5 percent of the cost of the 10 year Australian Government infrastructure pipeline.”

⁵ Mov3ment. September 2023. The Road to Zero: Decarbonising Australian Trucking. 10.

⁶ IBISWorld. March 2023. Road Freight Transport in Australia. 7.

Barriers to decarbonisation

A clear barrier to road freight decarbonisation is the lack of certainty around technologies, solutions, timelines and what will work best for moving specific freight tasks.

Trucking businesses can struggle to identify the right investment plans which support the nature of their business whilst also reducing emissions.

NatRoad's Get Fleet Fit program identifies that understanding what works best for different duty cycles and how different trucks are used is critical to deploying the right low emissions solution.

Our online decarbonisation hub has begun to pull together a range of guidance for operators in one place.

Overseas, a number of industry and government initiatives exist which aim to improve the research, testing and availability of information about different low emission solutions.

There is a critical need to further develop this pathway in Australia, which should be enhanced with government funding but ensure that these programs are led by industry.

NatRoad's proposed efficiency funding within the Clean Transport Fund would provide support for advancing research, testing and information programs.

“Heavy vehicle carbon emissions have grown slightly slower than the growth in the amount of freight, illustrating that productivity, access and vehicle improvements are already reducing the carbon intensity of heavy vehicles.”

Improving road access

Improving road access for more productive heavy vehicles provides a boost to productivity, improves safety outcomes and reduces emissions.

Three key reform areas should be addressed:

- Increasing the delivery of access by notice, and simplification of those notices
- Delivery of an automated access scheme
- Improving interstate end to end access.

Incremental reforms and improvements to access will not be enough – the ambition in climate targets must be backed with significant ambition in heavy vehicle access improvements.

≈ 1/10 H - E

Phase out stamp duty

Reducing both noxious and carbon emissions will require new vehicles to be deployed by a small business industry operating on tight margins.

Australia already has a high average age of the heavy vehicle fleet, we must do more to put newer vehicles on the road.

Stamp duty is an inefficient tax which penalises businesses for investing in cleaner heavy vehicles.

“Stamp duty is a tax on businesses trying to do the right thing. It is a tax on investing in newer, cleaner and lower emission vehicles. Stamp duty is a tax standing in the way of a clean economy.”

Road standards

The introduction of road standards would represent a significant infrastructure reform, improving the effectiveness of funding, providing a stronger framework for providing road networks with the access and weight approvals for both low emission and more productive vehicles, and are a prerequisite reform before longer term road pricing reforms.

The Australian Government has been developing a National Service Level Standards Framework for Roads. This reform should be accelerated, with a focus on key freight routes.

The reform could be implemented in phases, to ensure implementation is achievable and can commence as soon as possible.

These standards should include metrics on road safety design, rest areas, heavy vehicle access, pavement quality, mobile phone coverage and travel time. Later phases to the standards could include a larger set of metrics, including low emission vehicle charging and refuelling infrastructure.

Road standards would provide data to better target infrastructure funding towards fixing gaps in the road network, including a higher priority on maintenance.

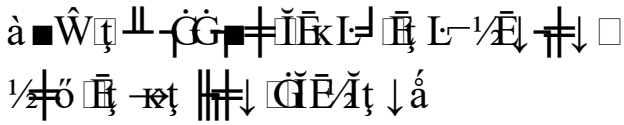
Road standards are a prerequisite reform before alternative reforms to road pricing, user charging and infrastructure funding can be considered.

Road pricing

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.



The complexity of installing electric 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 shared use 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 refueling infrastructure will be a significant barrier for deploying both hydrogen fuel cell electric vehicles and hydrogen internal combustion engine vehicles.

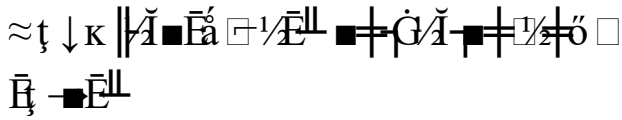
Australia needs a low emission recharging and refueling infrastructure strategy, with \$500 million available under our proposed Clean Transport Fund.

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).



NatRoad welcomes to recent improvements and reduction to regulatory barriers, including increased width and mass for new heavy vehicles.

We also welcome recent reforms from states and territories to enable higher axle mass for low emission vehicles, but these reforms need to be harmonised.

Additional reforms will likely also be required, including increased length for hydrogen vehicles.



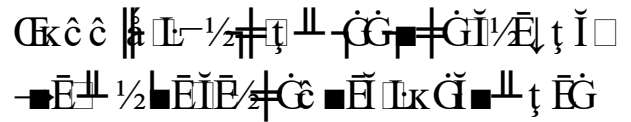
NatRoad recommends that the Australian Government regulatory impact analysis for demand side measures on low carbon liquid fuels should focus on consulting, assessing, design and implementation of an Australian low carbon fuel standard.

This should be based on carbon intensity approach, with stable, predictable and achievable targets and reduction trajectories.

Benefits of this approach would include:

- Incentivising the supply of lower emission fuels. For example, the Californian scheme has been successful in driving increased supply of renewable diesel.
- Reducing emissions from existing vehicles.
- Allows the market to determine lowest cost abatement pathways and provides a long term abatement trajectory and policy certainty.
- Can work alongside other policy measures and a broader transition strategy.

Work towards a low carbon fuel standard should be progressed as a priority, as earlier implementation would enable greater emissions abatement and a soft starting point.



Major transport customers have a significant responsibility for decarbonising freight transport. All parties in the road transport contracting chain should take responsibility for reducing emissions, whilst ensuring a fair go transition.

At the moment, too few major company sustainability targets are backed with action in the form of pricing, contract terms and timelines which actually enable road freight to transition to low emission solutions.

The proposed new mandatory climate reporting scheme for major businesses, including scope 3 emissions, provides a future pathway for a scope 3 supply chain emissions reduction obligation. This future mechanism should be backed with an obligation for emissions reduction to be contracted in a fair and financially sustainable manner.

“More than 6,000 entities are expected to be required to report under new climate disclosure requirements over the next few years.”

