



# The Green Compact

Our framework for decarbonising commercial road transport by 2050

# Introduction

**Transporting New Zealand is delighted to officially launch the Green Compact, our roadmap for decarbonising commercial road transport by 2050. We recognise that New Zealand's road freight industry has to play an active part in the global move to take climate change action, and this document outlines our commitment to responsible emissions reduction.**



Emissions reduction presents great challenges and opportunities for road freight, the industry that moves 93% of freight tonnage in New Zealand.

Many of the more promising zero emissions technologies for heavy vehicles are still in their infancy, and tight margins and the large number of freight operators present a challenge to investment in decarbonisation. However, when I look at our Green Compact's six pillars, I'm struck by the progress the industry is already making, and the work we can get started on immediately. We need to seize the low hanging fruit, while preparing for significant developments in the medium to long term.

To that end, Transporting New Zealand will be making submissions, mounting campaigns and directly meeting and communicating with industry and government. We will also utilise our relationships with stakeholders including vehicle manufacturers, the Energy Efficiency & Conservation Authority, the National Energy Research Institute, and other transport associations. Transporting New Zealand is grateful to the International Road Transport Union (IRU) for allowing us to adopt and adapt their Green Compact framework. We are committed to creating an environment where trucking operators can drive successful, safe, sustainable businesses.

## **Nick Leggett**

Chief Executive

Ia Ara Aotearoa Transporting New Zealand

# IRU Foreword

**The global community, regional blocs and individual countries, via the Paris Climate Accords, have agreed a series of targets and plans to reduce CO<sub>2</sub> emissions by 2050.**

The road transport sector has responded to this challenge with a strong sense of responsibility and commitment. The International Road Transport Union (IRU) and its members, representing over 3.5 million commercial road transport operators worldwide, are driving the industry's collective response with the Green Compact.

The Green Compact framework is a collective long-term roadmap for the industry, in cooperation with its regulators, suppliers and clients, to make commercial road transport fully carbon neutral by 2050.

Our greatest challenge as the road transport industry is to decarbonise, while at the same time continue to keep logistics and mobility networks running efficiently for the communities and businesses we serve.

However, with a pragmatic approach, and with the public and private sector working together, we can decarbonise our fleets and keep delivering on road transport's social and economic benefits in all countries.

I salute la Ara Aotearoa Transporting New Zealand's commitment to use the Green Compact framework in engaging with industry and government. This will put the country on the right decarbonisation pathway, not only for your road transport industry, but for everyone in New Zealand.

We look forward to sharing New Zealand's progress, as with other countries across the globe, so we can, together as the global road transport industry, reach carbon neutrality and at the same time keep people and goods moving to where they need to be.

**Umberto de Pretto**  
Secretary General  
International Road Transport Union



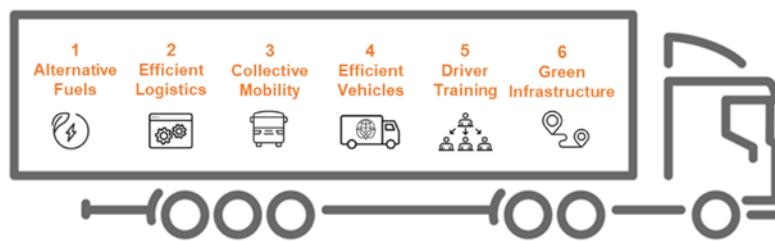
# la Ara Aotearoa Transporting New Zealand's Green Compact

## Overview

In April 2022 la Ara Aotearoa Transporting New Zealand (Transporting New Zealand) adopted the International Road Transport Union's (IRU) "Green Compact" on emission reduction. The Green Compact establishes five decarbonisation pillars: alternative fuels, efficient logistics, collective mobility, vehicle technologies and driver training. To reflect New Zealand's roading and political environment, Transporting New Zealand has added a sixth pillar: designing infrastructure to lessen emissions.

Adopting the Green Compact aligns Transporting New Zealand with global industry efforts to reduce emissions. It will also help guide our engagement with government stakeholders on climate, including Ministry of Transport, Waka Kotahi NZ Transport Agency and Ministry for the Environment. The Green Compact will ultimately allow the road transport industry to be a major decarbonisation driver for sustainable jobs and prosperity.

### The Six Pillars of the Green Compact



## Work programme

The IRU and Transporting New Zealand are undertaking a 3-year work programme to evidence, test and implement the Green Compact. The focus for 2023 is identifying and collating a good base of evidence to support effective policy action. A research report is being produced for each pillar to identify effective decarbonisation solutions. Transporting New Zealand's formal relationship with the IRU gives us the opportunity to actively participate in this work, ensuring our members' particular opportunities and challenges are well represented.

### Green Compact Implementation Pathway

2021	2022	2023	2024	2025, 2026
<b>DESIGN</b>	<b>EVIDENCE</b>	<b>TEST</b>	<b>IMPLEMENT</b>	<b>EMBED</b>
Methodology & principles	Research reports (per pillar)	Specific policy actions (per pillar)	Recommended regional & sector actions	Annual reporting cycle begins
Action clusters	Metrics	Case studies and field tests	Wide scale roll-out	Assess progress
Industry Alliance structure	Indicator sets	Knowledge hub and outreach	Broad outreach	Report on indicators
Timeline & reporting cycle	Regional variations	Discussion, review results		Adjust recommendations
	Initial recommendations	Recommended global actions		Share best practice

INITIAL 3-YEAR WORK PROGRAMME AND INVESTMENT PERIOD

# I Alternative Fuels

Alternative fuels present both the greatest opportunity and the biggest challenge to decarbonising road freight. We want to see a transition to low and eventually net-zero carbon alternatives through investment by transport operators, coupled with the right mixture of incentives from government.

## Objective

To gradually phase out fossil energy based fuels with more sustainable (low and zero carbon) fuels to contribute to reaching climate neutrality by 2050, while maintaining freight mobility.

## Green Compact deliverables (2022-2024)

### Evidence phase: Alternative Fuels Green Compact Report (2022-2023)

The alternative fuels report will use simulation models and other appropriate evidence to identify and assess policy actions that will accelerate uptake of alternative fuels. This will include initial recommendations for industry and government. The report will benefit from the IRU's close working relationship with vehicle manufacturers, leading regulators (including the EU), and broad international membership.

### Implementation phase: Investment strategies and incentives (2023 – 2024)

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|--|--|
| A. Ensuring that decarbonisation policies are based on cost benefit analyses, including CO <sub>2</sub> life cycle emissions.                            | D. Fostering business incentives to facilitate and expedite the penetration of innovative transport technologies.                          |
| B. Building emission reduction investment strategies with energy suppliers, vehicle manufacturers, road transport operators and regulators.              | E. Encouraging and monitoring the roll-out of a range of alternative fuels, vehicles and infrastructure based on different operator needs. |
| C. Consolidating regional fuel quality and fuel standards to ensure that second hand vehicles will continue to provide robust environmental performance. | F. Implementing CO <sub>2</sub> based taxation based on oil well-to-wheel emissions to account for low- and zero-carbon fuels correctly.   |

## Demonstrating our commitment

As a small regional player and a logistical “technology taker”, New Zealand cannot expect to be a global leader in transitioning to alternative fuels. However, even while alternative fuels are not yet a commercially viable option, Transporting New Zealand has identified several key areas for immediate action.

### Supporting the Sustainable Biofuels Obligation

We support the increased use of alternative fuels. This included submitting in favour of the (recently cancelled) 2024 Sustainable Biofuels Obligation. Transporting New Zealand hopes this cancellation can be reconsidered.

### Promoting industry led innovation

Transporting New Zealand uses its media and advocacy reach to promote industry led innovation in alternative fuels. This promotes awareness across our otherwise fragmented road freight industry.

### Advocating for accelerated depreciation

Accelerated (100% first year) depreciation for low and zero emission trucks would empower transport operators to improve fuel efficiency while maintaining their autonomy over their fleet.

## II Efficient Logistics

As a highly competitive industry operating on tight margins, road transport companies are experts at operating their vehicles and businesses in the most effective way possible. Government can assist road transport operators by enabling, incentivising and de-risking investments that minimise carbon emissions and optimise fleet size.

### Objective

To promote the use of efficient logistics processes, including Eco-trucks (high productivity motor vehicles) and the use of digital solutions for the road transport sector.

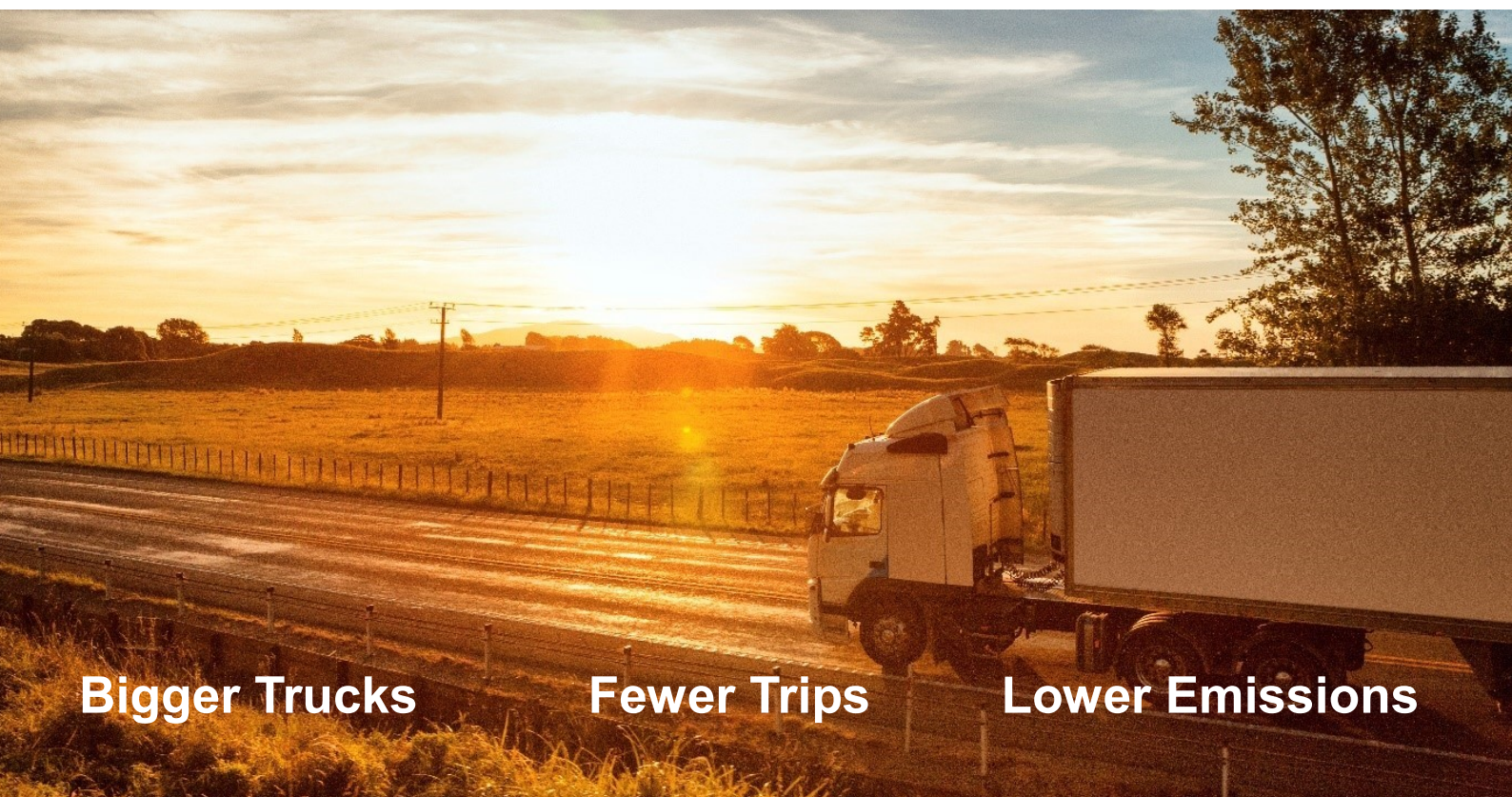
### Green Compact deliverables (2022-2024)

#### Evidence phase: Efficient Logistics Green Compact Report (2022-2023)

Investigating the potential for using Eco-trucks to optimise load efficiency, and reducing CO<sub>2</sub> emissions through digital solutions including fleet tracking and reducing surplus capacity (while maintaining supply chain resilience).

#### Implementation phase: Investment strategies and incentives (2023 – 2024)

- |   |  |
|---|--|
| A. Introducing business and regulatory incentives to facilitate adoption of Eco-trucks and logistical software. | D. Replacing standard trucks with Eco-trucks along identified key corridors.   |
| B. Road user charge reductions for Eco-trucks and digital co-funding from government.                           | E. Vehicle improvements including opportunities for increased size and weight, improved aerodynamics & tyre pressure management. |
| C. Scaling up implementation of the most cost-effective digital tools and processes.                            |  |



**Bigger Trucks**

**Fewer Trips**

**Lower Emissions**

# Technology Profile: Eco-trucks and digital fleet management

## Eco-trucks: A fast, cost-effective and practical way to decarbonise road freight

Eco-trucks, also known as high productivity motor vehicles, are heavy vehicles that can carry larger loads than standard truck combinations. Eco-trucks can reduce CO<sub>2</sub> on a kilometre/weight basis by up to 35% compared to standard trucks. While Eco-trucks are already operating in New Zealand, there are several obstacles to wider adoption that need to be addressed:

- Infrastructure barriers (upgrade bridges and roads to suitable weight limits)
- High purchase price (incentivise through accelerated depreciation)
- Regulatory barriers (simplify and speed up permit application process)
- Road user charges (reduce rates for eco-trucks)



Number of vehicles, road space, fuel and CO<sub>2</sub> emissions for a 200-pallet load (source: IRU)

## Digital solutions: Supporting drivers and maximising productivity

Operators are increasingly using fleet management software to maximise fuel efficiency and optimise logistics. We would like to work with government to incentivise and co-fund the purchase and operation of scheduling, telematics and despatch software solutions.

6%

Average fuel saving achieved in one year by clients of a leading New Zealand telematics provider.

1/5<sup>th</sup>

EU road freight kilometers completed by empty vehicles in 2020. We would expect similar results in NZ.

\$3,000

The potential annual fuel savings from reducing non-productive idling in a large truck travelling 100,000km per year.

## III Collective Mobility

Easing traffic congestion and improving roading efficiency is an important element of decarbonising road transport. No transport operator wants to be idling in traffic-jams. This can be achieved through public transport investment, smart traffic management and reducing unnecessary private vehicle trips.

### Objective

Moving people from their private cars to collective means of transport, including public bus transport and private coach and ride sharing services, coupled with a clear enabling legal framework in support of collective mobility, will help the transport industry reduce CO<sub>2</sub> emissions.

### Green Compact deliverables (2022-2024)

#### Evidence phase: Efficient Logistics Green Compact Report (2022-2023)

Identifying and investigating different commercial road transport use cases in collective mobility, including: implementing bus rapid transit systems; universal e-ticketing; analysing tax and pricing regimes to incentivise public transport use.

#### Implementation phase: Supporting the uptake of collective mobility (2023 – 2024)

- |  |  |
|--|--|
| A. Promoting examples of successful initiatives to support uptake of collective mobility.                                  | C. Smart implementation of congestion charges favouring collective mobility over private cars. |
| B. Investigating the potential to reduce the use of private cars while improving infrastructure for public transportation. | D. Promoting the use of Bus Rapid Transit systems to migrate journeys from private cars.       |

### Our commitment to collective mobility

#### Smart public transport

- Supporting the Govt's 2022 half price public transport package
- Maintaining a close working relationship with the NZ Bus and Coach Association

#### Congestion charging

- Supporting congestion charges (where collective transport options exist, and revenue supports efficient roading)
- Exempting road freight, due to the essential nature of delivery and lack of viable alternatives

#### Mode neutrality

- Backing transport investment based on evidence rather than ideology
- Acknowledging the contribution offered by other modes including rail, walking and cycling



## IV Efficient Vehicles

Vehicle efficiency can be significantly improved through modern vehicle technologies including low rolling resistance tyres, improved aerodynamics, waste heat recovery and lightweight materials. This “low hanging fruit” can significantly contribute to decarbonising road transport, with potential CO<sub>2</sub> emission reductions of at least 10 percent.

### Objective

Increase adoption of the latest CO<sub>2</sub>-saving vehicle technologies through fleet renewal incentive schemes.

### Green Compact deliverables (2022-2024)

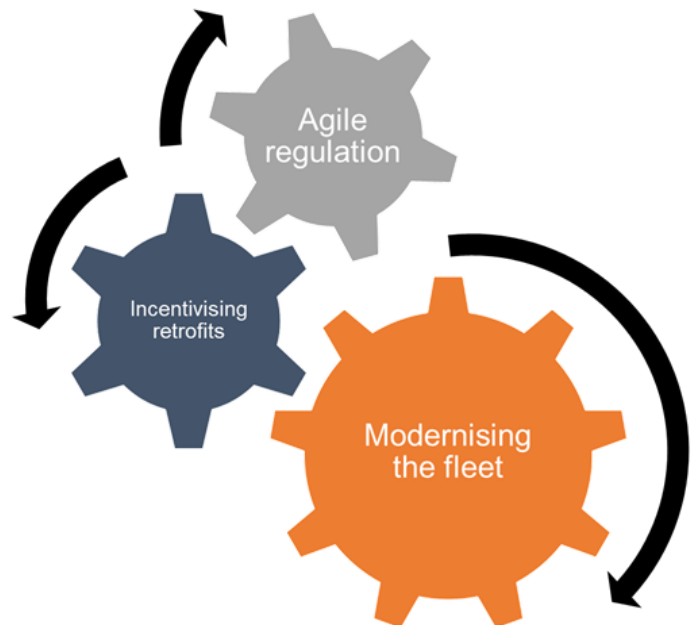
#### Evidence phase: Efficient Vehicles Green Compact Report (2022-2023)

The IRU (with assistance from Transporting New Zealand and other international SMEs) will develop a report for Pillar 4, based upon available simulation models and leading evidence.

The deliverables will include: Mapping global supply and demand of new and used vehicles, including air quality and fuel standards; analysing the market penetration of the latest CO<sub>2</sub> saving technologies; and investigating incentives to increase technology uptake (including retrofitting existing vehicles).

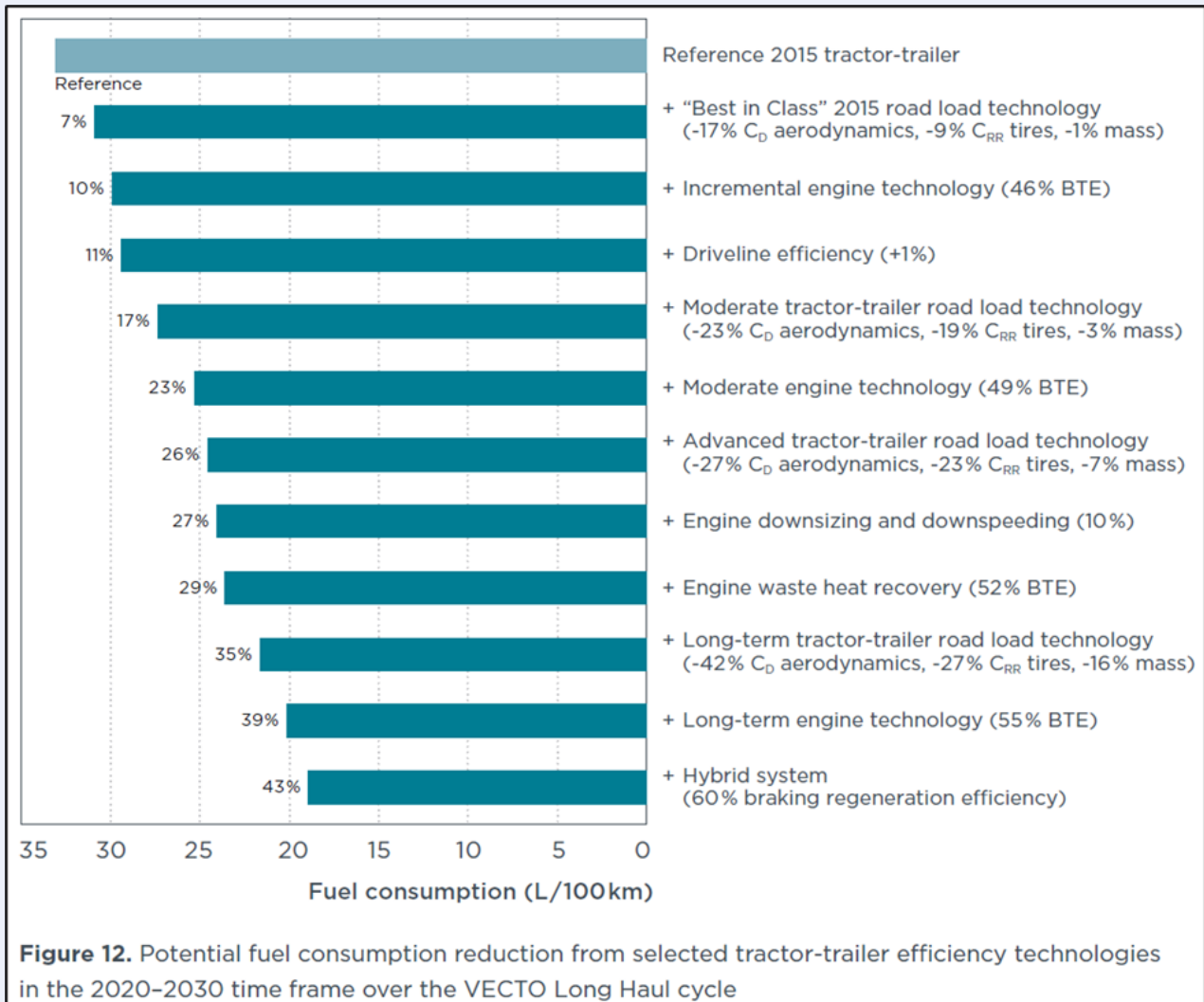
#### Implementation phase: Incentivising fleet renewal and energy efficient technologies (2023 – 2024)

- A. Identifying measures to incentivise fleet renewal rates (including accelerated depreciation for modern vehicle purchases - Euro 6 and Eco-trucks).
- B. Ensuring that regulators work with truck operators and vehicle manufacturers to avoid legacy regulatory barriers preventing the adoption of these more efficient vehicles.
- C. Promoting and incentivising the retrofitting of modern technologies to our existing vehicle fleet. Options may include government co-funding, including emission reduction technologies in procurement guidelines, and industry led certification schemes.
- D. Increase awareness of modern vehicle technologies amongst transport operators, customers (in both the public and private sectors), and the general public.



## Emission reduction from efficient technologies

The International Council on Clean Transportation has examined the potential for fuel efficiency technology to reduce emissions between 2020-2030. The technology packages are summarised below, using the Vehicle Energy Consumption calculation tool (VECTO).



# V Driver Training

Truck drivers are our industry’s greatest asset, and they will play a central role in decarbonising commercial road transport. We need to ensure our operators are offered training in safe and fuel efficient driving, given recognition for upskilling, and incentivised to maintain and develop these good driving practices.

## Objective

Reducing CO<sub>2</sub> emissions by improving and providing eco-driver training. More focus needs to be put on Eco-driver training and related skills monitoring, and identifying how it can be incentivised.

## Green Compact deliverables (2022-2024)

### Evidence phase: Driver Training Green Compact Report (2022-2023)

This report will be a valuable international review of how different countries are training eco-drivers, and their comparative effectiveness. The IRU will also examine whether legislative training mandates impede or support good driving outcomes. The report will also look at how to ensure eco-driving practices are retained by drivers after training ends. Transporting New Zealand will be able to outline New Zealand’s experience with eco-driver training.

### Implementation stage (2023-2024)

Implementing incentives and obligations that promote practical and rewarding eco-driver training. Transporting New Zealand’s Te ara ki tua Road to success programme for developing young drivers puts us in a strong position to lead this work.

## Lessons from the Heavy Vehicle Fuel Efficiency Programme

This New Zealand Government Programme (2010-16) funded activities including safe and fuel efficient driver training and fuel management advisors to support operators

### Training reduces emissions

- The Programme’s eco-driving programme (SAFED) trained **4898 truck drivers** from 2010-16.
- The average emission reduction observed during SAFED was **7.63%**.

### Industry buy-in is vital

- The Programme saw good engagement from larger operators, but struggled with smaller fleets.
- Programmes should utilise the relationships and goodwill industry associations have with smaller operators.

### Cost is an important motivator

- Participation was heavily influenced by fuel prices.
- This year’s record fuel prices present a great opportunity to promote eco-driver training.

### Ongoing monitoring is key

- Some Programme participants struggled to measure ongoing fuel efficiency improvements.
- Investment in eco-driver training must be paired with efficient logistics (Pillar II).

## VI Green Infrastructure

Intelligent infrastructure design can reduce unnecessary idling, acceleration and braking - reducing energy use and carbon emissions. Minimising congestion and ensuring efficient traffic flow is a double win for our operators: reduced emissions and faster service delivery.

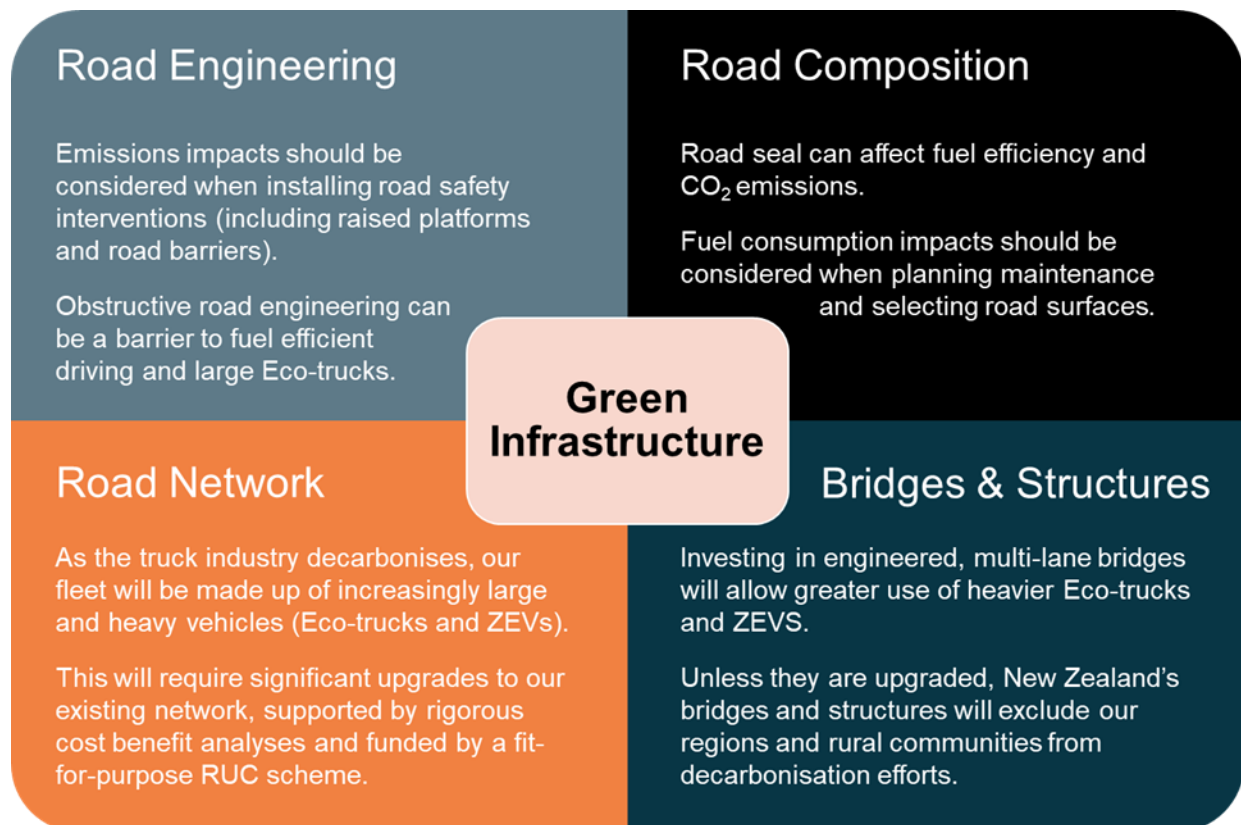
### Objective

Ensure that roading design is allowing energy efficient driving and minimising stop-start traffic. This can be done at a micro-level by limiting features like raised platforms and roading barriers, and at a larger scale by supporting significant improvements to our national roading network.

### Our Green Compact commitment (2023-2024)

Transporting New Zealand added this sixth pillar to our Green Compact after seeing a concerning trend towards obstructive roading and urban design and underinvestment in our roading network. This is highly inconsistent with reducing emissions. Issues like decarbonisation, road safety and mode shift cannot be considered in isolation when designing and maintaining our roading infrastructure. Over the next two years, we will continue to engage with local and central government on this issue.

### The four elements of green roading infrastructure



# What operators can do right now

Many operators in the road freight industry are already making progress towards decarbonisation, including vehicle, driver and logistical efficiencies. This is the “low hanging fruit” that can immediately improve our industry’s emissions profile. Here are some actions that operators can take right now.

## Actions for operators

- Service and maintenance:** Fuel burn is affected by engine condition, and particularly the injection system, wheel alignments and tyre pressure. Preventative service and maintenance plans can meaningfully reduce fuel consumption.
- Tyre Pressure:** Ensure you are monitoring tyre pressure to avoid unnecessary increased rolling resistance.
- Addivated fuel:** Check whether your fuel supplier is using performance additives in its fuel to maximise performance and efficiency.
- Protect against fuel theft:** Ensure you have good auditing and assurance processes to prevent company fuel cards being used for unauthorised personal use.
- SAFEDNZ driving:** Enrolling your drivers in a safe and fuel efficient driving course can reduce fuel consumption. Once drivers are trained, telematics or manual fuel monitoring can be used to ensure these good practices are maintained.
- Fleet utilisation:** Carefully monitor your vehicle utilisation to maximise payload as much as practicably possible.
- Route/time optimisation:** Consider the feasibility of using different routes or operating at different times to avoid congested routes.
- Start preparing for low or zero carbon vehicles:** Consider speaking to your vehicle supplier, EECA or Ara Ake about Eco-trucks and zero emissions vehicles, even if a low-emissions truck isn’t an option in the short term. Vehicle suppliers and industry friendly agencies like the Energy Efficiency and Conservation Authority and Ara Ake (National New Energy Development Centre) can help you prepare for fleet changes in the medium to long term.



HW Richardson Group dual fuel hydrogen truck



Fuso New Zealand eCanter light electric truck



Fonterra Milk-E electric vehicle

## References and acknowledgements

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*EROAD Red Paper* (EROAD, 2020), available at [www.eroad.co.nz/assets/Uploads/New-Zealand/Reports-and-WhitePapers/ERD-NZ-RedPaper-Fuel-savings-2.0-w.pdf](http://www.eroad.co.nz/assets/Uploads/New-Zealand/Reports-and-WhitePapers/ERD-NZ-RedPaper-Fuel-savings-2.0-w.pdf)

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