Climate Council of Australia

Submission to:	Transport and Infrastructure Net Zero Consultation Roadmap
Addressed to:	Transport and Infrastructure Net Zero Taskforce Department of Infrastructure, Transport, Regional Development, Communications and the Arts NetZero@infrastructure.gov.au
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About the Climate Council

The Climate Council is Australia's own independent, evidence-based organisation on climate science, impacts and solutions.

We connect decision-makers, the public and the media to catalyse action at scale, elevate climate stories in the news and shape the conversation on climate consequences and action, at home and abroad.

We advocate for climate policies and solutions that can rapidly drive down emissions, based on the most up-to-date climate science and information.

We do this in partnership with our incredible community: thousands of generous, passionate supporters and donors, who have backed us every step of the way since they crowd-funded our beginning as a non-profit organisation in 2013.

To find out more about the Climate Council's work, visit www.climatecouncil.org.au.

Introduction

The Climate Council welcomes the Australian Government's consultations for the *Transport and Infrastructure Net Zero Roadmap and Action Plan*.

Transport connects us to everything: our communities, workplaces, friends and family, education, healthcare and all the essential services we need. Our ability to get around - safely and without barriers - is fundamental to our quality of life, wellbeing and participation in society. Delivering a transport system that is clean, convenient and reliable is key to having vibrant, thriving communities across Australia.

Building a cleaner transport system is also essential for slashing climate pollution further and faster this decade. Last year, 2023, was the Earth's hottest year on record by a large margin (NOAA 2024). July 2023 was the first month in which the global average temperature rise spiked 1.5°C above pre industrial levels (WMO 2024). We are all living in this age of climate consequences with extreme heat waves in southern Europe, North America and China, devastating wildfires in Canada and Hawaii, and deadly floods in India, Brazil and Libya. Scientists were shocked by record-breaking sea surface temperatures globally in 2023 and record low sea ice extent around Antarctica.

The threat of extreme weather and unnatural disasters is a stark reality for Australians. The New South Wales Rural Fire Service announced an early start to the fire danger season in August 2023 (ABC 2023a) and by November 2023, more than 610,000 square kilometres had burnt across north Australia - an area larger than Spain (The Guardian 2023a). Bushfires were also raging on the east coast in November 2023 - a month before the official start of summer - with lives threatened and more than 50 properties lost in Queensland (ABC 2023b). By December 2023 and January 2024, the same state was being hammered with cyclonic conditions, severe flooding and storm events, plus heatwaves (New York Times 2023). These storms and flash flooding tragically took ten lives over Christmas (The Guardian 2023b). And in early 2024 our Australian icon, the Great Barrier Reef, has suffered through an intense bleaching event that is set to be part of the most extreme planet-wide bleaching event in history (The Guardian 2024). Australians are already losing homes and livelihoods to fires and floods, being forced to pay higher prices for food and insurance, staying indoors to avoid extreme heat, and witnessing our landscapes and wildlife being devastated by extreme weather (Climate Council 2023a).

These are the consequences of climate change, driven by the burning of fossil fuels, that Australians are already experiencing at 1.2°C of warming (Climate Council 2023a). Worse is on the way if we do not slash climate pollution further and faster now. There is no safe level of global warming, and every fraction of a degree matters. Striving to limit global average temperature rise as close as possible to 1.5 °C is essential to avoid far more severe and irreversible changes to our climate. Therefore, it is essential that Australia puts in place real plans for rapidly driving down emissions this decade, and beyond.

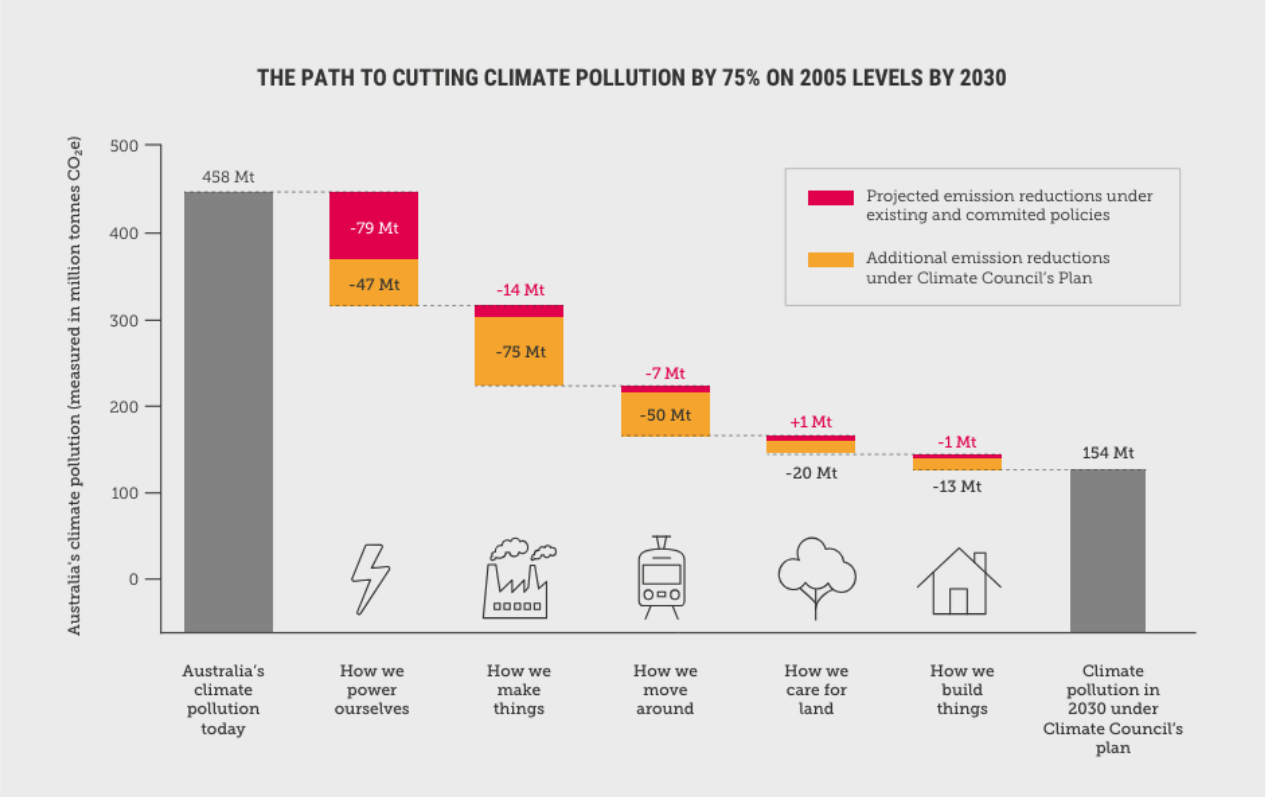
While this stark reality is unfolding, climate pollution from Australia's transport industry is rising with the sector on track to be the country's biggest polluter by 2030. The vehicles on our roads are responsible for around 83% of the carbon emissions coming from transport (DITRDCA 2024). Trucks, cars, vans and utes are pumping out millions of tonnes of toxic pollutants that are harming our health, costing Australians at the petrol pump and fuelling the climate crisis.

Fortunately, the clean alternatives for many types of transport are affordable and available at scale right now (Climate Council 2024b). Together with our energy system, transport is one of Australia's best opportunities to make a significant impact on climate pollution in the near term.

We have the solutions available, scalable and ready *now* that can halve climate pollution from our transport system by the end of this decade (Climate Council 2024b). This will build on the progress Australia is already making. Today, around 40% of the power in our main national grid comes from clean, renewable sources like wind and solar. More than 3.5 million Australian households are already enjoying lower power bills, having taken power into their own hands and put solar panels on their roof. More electric vehicles are being sold every day to keen buyers, and investors are putting their money where it matters to clean up our existing industries and create new ones.

There is tremendous potential to decarbonise how Australians get around to deliver a real-zero transport system. This means rolling out and scaling up existing transport solutions that will permanently and deeply cut Australia's carbon emissions. We do not need to look to carbon offsets or future, unproven technologies to do the work on cutting transport emissions. We can cut climate pollution from our transport system in half by the end of the decade, using simple solutions we know work – particularly mode shift to shared and active transport (Climate Council 2024b). It is important that our transport system lives up to this potential to ensure all industries are contributing the maximum possible to slashing Australia's emissions.

We can build on existing momentum to accelerate Australia's move to renewable energy and clean industries in the next few years by doing more of what we already know works. We can seize the opportunities this decade to make a real difference to Aussies' lives, while continuing to remove the pollution that fuels dangerous climate change from our transport system.



Source: DCCEEW 2023a, Australia's emissions projections 2023; Climate Council analysis based on modelling prepared for Climate Council by Institute for Sustainable Futures, University of Technology Sydney.

With this submission, the Climate Council has responded in detail to a range of the consultation questions and points raised in the discussion paper. Our input is broadly aggregated into three key positions which should shape the development of the *Transport and Infrastructure Net Zero Roadmap and Action Plan*:

1. Plans to cut climate pollution must recognise the urgency of the climate crisis. Australians are already experiencing these hazardous, and sometimes deadly, effects at just 1.2°C of global temperature rise (Climate Council 2023a). Widespread bushfires, severe flooding, deadly heatwaves and the accelerated decline of Australia's precious natural ecosystems like the Great Barrier Reef have become routine headlines. The Australian Government should recognise the urgency of the climate crisis and take commensurate action to address this. The *Transport and Infrastructure Net Zero Roadmap and Action Plan* should align decarbonisation targets and action as close as possible with a carbon budget that provides a 67% chance of limiting warming to 1.5°C and achieving net zero by 2035.

2. Moving more people and goods via shared and active transport is the central near-term climate solution in transport. The avoid, shift and improve framework identified in the consultation paper is the right approach to achieving this, but this framework needs to be matched with action and investment. Governments at all levels can work together to scale up existing solutions that are readily available

now. By prioritising shared and active transport in Australia's transport mix we can cut climate pollution from transport by more than 50% by the end of this decade (Climate Council 2024b). Passenger cars and light vehicles make up over 60% of Australia's climate pollution from transport, and this part of the sector already has all the solutions and technologies needed to fully decarbonise. In this submission and our broader transport work, the Climate Council advocates for prioritising near-term efforts to enable increased uptake of shared and active options in personal transport.

3. Actions that enable more people and goods to be moved via shared and active transport can be supported by measures to incentivise technology improvements, including vehicle electrification and alternative fuels where electrification is not possible or efficient. However, the draft *Transport and Infrastructure Net Zero Roadmap and Action Plan* over-emphasises the role alternative fuels and technologies have to play. Focusing too heavily on still-emerging and expensive technologies risks limiting the speed and efficacy of near-term decarbonisation of Australian transport.

Summary of recommendations

Recommendation 1

Based on analysis of emissions to date and our country's relative capacity to make deep reductions now, globally renowned scientists conclude that Australia should aim to cut climate pollution by 75% by 2030 compared with 2005 levels, and reach net zero by 2035.

2050 is far too late as a target date for achieving net zero across the Australian economy. **In preparing this sectoral plan, the Australian Government should work to cut pollution further and faster this decade, with the aim of achieving net zero by 2035**.

Recommendation 2

By capitalising on solutions already available at scale now, we can cut pollution from transport by 50% this decade. The Climate Council recommends the *Transport and Infrastructure Net Zero Roadmap and Action Plan* enable this by **directing more focus and emphasis to the 'Avoid' and 'Shift' aspects of the 'Avoid, Shift, Improve' framework.**

This should include identifying specific actions, investments and policies that enable people and organisations to avoid non-essential travel, and shift to shared and active modes.

Recommendation 3

The Climate Council recommends the *Transport and Infrastructure Net Zero Roadmap and Action Plan* identify improving intercity rail connections as a key medium-term opportunity to avoid personal and business travel by more polluting options like air and road.

The *Transport and Infrastructure Net Zero Roadmap and Action Plan* should set out an achievable but ambitious timeframe for delivering priority strategic faster rail routes connecting Melbourne, Sydney, Brisbane and Canberra.

Recommendation 4

The Climate Council recommends the *Transport and Infrastructure Net Zero Roadmap and Action Plan* prioritises shifting one-third of road freight to rail by 2030, by increasing the use of rail for packaged freight.

Recommendation 5

The Climate Council welcomes the government's intention to set mode shift targets in the *Transport and Infrastructure Net Zero Roadmap and Action Plan* and we reiterate the importance of this measure. Mode shift targets should be explicitly set for passenger and freight transport, and aim to rapidly reduce emissions this decade.

Slashing pollution 75% economy-wide this decade requires shifting 30% of projected private vehicle kilometres to shared and active travel, away from private vehicles; and shifting one-third of road freight to rail by 2030, by increasing the use of rail for packaged freight.

Recommendation 6

The Climate Council recommends the Australian Government work with state and territory governments to deliver convenient, frequent and reliable shared transport services operating at least every 15 minutes from 7am to 7pm, within 800 metres of every home within the existing urban footprint of Australia's eight capital cities.

Delivering a Shared Transport Service Standard will provide convenient, frequent and reliable shared transport options for people living in our biggest cities. This will give the majority of Australians more affordable and clean choices for their daily trips.

Recommendation 7

The Climate Council recommends the *Transport and Infrastructure Net Zero Roadmap and Action Plan* include measures to make streets friendly for people first, not cars. As a priority, this should include lowering the default national speed limit to 30 km/h around schools and other community activity centres, as well as on local and suburban streets.

Recommendation 8

The Climate Council recommends the *Transport and Infrastructure Net Zero Roadmap and Action Plan* include an action to update the Australian Road Rules and national road design guidelines to give shared and active transport priority on the major roads needed to travel to and from frequently visited commercial, service and employment centres, and travel between suburbs. This will help further enable uptake of shared and active transport by allowing people to get to where they need to go more quickly than if they drove a car.

Recommendation 9

The Climate Council recommends the *Transport and Infrastructure Net Zero Roadmap and Action Plan* include specific measures that support the electrification of our passenger fleet to see one-third of all passenger kilometres travelled by electric vehicles by 2030.

Recommendation 10

The Climate Council recommends actions, investment and policies in the *Transport and Infrastructure Net Zero Roadmap and Action Plan* explicitly prioritise the electrification of personal transport vehicles that travel the most kilometres, like taxis, rideshare vehicles and government fleets.

Recommendation 11

The Climate Council recommends the *Transport and Infrastructure Net Zero Roadmap and Action Plan* include actions to accelerate the electrification of heavy vehicles, so that at least 17% of all road freight can be transported by zero-emission vehicles by 2030.

Recommendation 12

The Climate Council recommends the *Transport and Infrastructure Net Zero Roadmap and Action Plan* identify an end date for the sale of petrol and diesel vehicles in Australia, of no later than 2035.

Recommendation 13

The Climate Council recommends the *Transport and Infrastructure Net Zero Roadmap and Action Plan* include specific measures to reverse the trend toward heavier personal vehicles as an immediate emission reduction, cost of living and road safety measure.

Recommendation 14

The Climate Council recommends the *Transport and Infrastructure Net Zero Roadmap and Action Plan* include an objective of reducing the total number of personal vehicles owned by people living in Australian cities, in the context of a significant improvement to shared and active transport options.

The Plan should include specific initiatives incentivising Australians in our cities to own one less car, such as can be delivered through the tax system or as financial rebates for switching to other options.

Recommendation 15

The Climate Council recommends the *Transport and Infrastructure Net Zero Roadmap and Action Plan* identify a priority stream of regulatory and policy design work to enable vehicle to grid charging nationally as uptake of electric vehicles increases.

This work should bring together energy market and grid operators, vehicle manufacturers, consumer advocates and built environment specialists to ensure policy and rule changes work for all stakeholders. It should be closely coordinated with ongoing work on the design and delivery of a decarbonised grid delivered under the Electricity and Energy Sector Plan.

Recommendation 16

The Climate Council recommends the *Transport and Infrastructure Net Zero Roadmap and Action Plan* provide realistic estimates of the feasible production capacity for Low Carbon Liquid Fuels in Australia, taking into account both energy and feedstock requirements over the medium and long term.

The plan should also indicate use cases and parts of the transport sector which need to be prioritised for the limited supplies of Low Carbon Liquid Fuels. This will ensure there are clear market and policy signals encouraging mode shift and/or electrification in all other parts of the transport system where this is an available option.

Recommendation 17

The Climate Council recommends the *Transport and Infrastructure Net Zero Roadmap and Action Plan* outline a timeframe and consultation processes to commence the replacement of Fuel Tax Credits with industry incentives supporting accelerated uptake of low and zero emission technologies in heavy transport.

1. Plans to cut climate pollution must recognise the urgency of the climate crisis

The Climate Council acknowledges that the Australian Government is developing a Net Zero 2050 Plan, and the *Transport and Infrastructure Net Zero Roadmap and Action Plan* is a key input to this.

Recognising the enormous risks of global warming beyond 1.5°C, Australia's emissions reduction plans and targets should aim to limit warming as far as possible and with the highest probability of success. This means aligning as close as possible with a carbon budget that provides a 67% chance of limiting warming to 1.5°C. Based on analysis of emissions to date and our country's relative capacity to make deep reductions now, globally renowned scientists conclude that Australia should aim to cut climate pollution by 75% by 2030 compared with 2005 levels, and reach net zero by 2035 (Climate Council 2023a).

Recommendation 1

Based on analysis of emissions to date and our country's relative capacity to make deep reductions now, globally renowned scientists conclude that Australia should aim to cut climate pollution by 75% by 2030 compared with 2005 levels, and reach net zero by 2035.

2050 is far too late as a target date for achieving net zero across the Australian economy. In preparing this sectoral plan, the Australian Government should work to cut pollution further and faster this decade, with the aim of achieving net zero by 2035.

2. The 'Avoid, Shift and Improve' framework provides a strong foundation for a cleaner transport system

Delivering a transport system that enables more goods and people to get around by shared and active transport modes is the central near-term climate solution for transport. The 'Avoid, Shift, Improve' framework is a positive foundation for designing this necessary shift away from Australia's current car-centric transport system. The Climate Council is encouraged to see the *Transport and Infrastructure Net Zero Roadmap and Action Plan'* consultation paper explicitly identify this.

By implementing the 'Avoid, Shift, Improve' framework, we have the opportunity to decarbonise our transport system in a way that better addresses Australians' diverse mobility needs, cuts household bills, cleans up our air, improves our overall standard of living, and is resilient to the impacts of climate change already unfolding. We can rethink, redesign and properly invest in the solutions we have available now to enable a massive shift toward shared and active transport (known as mode shift), and away from polluting road vehicles.

Shared transport:
Any transport option that has shared usage. This can include public transport (buses, trains, trams, ferries), rideshare (Uber, Didi), and other options like on-demand e-bikes and e-scooters.

Active transport:
Any physical mode of personal travel such as walking, using a wheelchair and bike-riding.

It is important that the framework is applied as a hierarchy of decarbonisation options, with actions and investments prioritised to first avoid the need for travel, *then* to shift this to the lowest-polluting modes. These actions should make up the majority of decarbonisation efforts; only once available opportunities in these areas have been exhausted should we *then* seek to improve transport through technology. This ensures the lowest cost, highest impact solutions are prioritised in the near term.

The Consultation Roadmap displays an overemphasis on options that would 'improve' current transport options, and appears to prioritise support for emerging decarbonisation technologies over scaling up existing, proven solutions. This could be better balanced in the final plan with more emphasis on specific actions, investments and policies that enable people and organisations to avoid non-essential travel, and shift to shared and active modes. This is where the biggest opportunities lie for steep emission reductions this decade. **By capitalising on solutions already available at scale now to avoid and shift**

away from polluting modes, we can cut pollution from transport by more than 50% this decade (Climate Council 2024b). This would be a significant contribution to the national emissions reduction effort. Where other sectors may genuinely have fewer immediate opportunities to reduce climate pollution, our transport sector can capitalise on existing solutions to drive down emissions this decade.

Recommendation 2

By capitalising on solutions already available at scale now, we can cut pollution from transport by 50% this decade. The Climate Council recommends the *Transport and Infrastructure Net Zero Roadmap and Action Plan* enable this by directing more focus and emphasis to the 'Avoid' and 'Shift' aspects of the 'Avoid, Shift, Improve' framework.

This should include identifying specific actions, investments and policies that enable people and organisations to avoid non-essential travel, and shift to shared and active modes.

3. Better intercity rail connections are needed to avoid trips with more polluting options

Australians currently rely more on planes and cars to move between our cities and regions than people living in many other advanced economies because of a lack of infrastructure and services. The Australian Government and key state governments can collaborate to deliver faster rail services along strategic routes which will enable significant mode shift away from aviation and roads. The highest national priority routes are those connecting Melbourne, Sydney, Brisbane and Canberra, which together account for more than a third of all domestic passenger trips by air each year (BITRE 2020).

Being overly-reliant on planes and cars to move between our cities adds to our climate pollution challenge, as well as being expensive and often inconvenient. While high speed rail is often flagged as a big vision for linking up key cities in Australia, simpler and cheaper upgrades could deliver faster rail connections at a fraction of the cost and time.

Modelling from Climate Council's Seize the Decade report (2024b) indicates that to halve climate pollution from transport by 2030, we need to entice more travellers toward long-distance passenger rail services and away from domestic air travel where possible. This will help hold passenger kilometres travelled via air in Australia to adjusted 2020 levels. Intercity rail will also play an increasingly important role beyond 2030. As our population in Australia continues to grow, intercity rail can help minimise the growth of domestic aviation and its associated emissions.

The Australian Government can play a key role in supporting the delivery of better intercity rail links on strategic faster rail routes connecting our biggest cities. State governments and rail advocacy groups have identified options to progressively build these links through staged track and rolling stock upgrades, which would be a cost-effective way to improve rail connections while delivering rapid benefits. Importantly, the focus should be on improving trip times and passenger experience using standard rail technology and as much of the existing network as possible, rather than building an entirely new high speed rail network. Measures should also be considered to ensure infrastructure developments are resilient to climate impacts already being experienced – such as bushfires, floods and heatwaves.

By developing better rail links between Australia's biggest cities and most popular flight corridors, we will reduce the number of flights and long-distance car trips Australians need to make each year. More people using rail for long-distance trips will also help cut congestion and improve safety – important co-benefits which will not be achieved simply by shifting towards an electric vehicle fleet.

Recommendation 3

The Climate Council recommends the *Transport and Infrastructure Net Zero Roadmap and Action Plan* identify improving intercity rail connections as a key medium-term opportunity to avoid personal and business travel by more polluting options like air and road.

The *Transport and Infrastructure Net Zero Roadmap and Action Plan* should set out an achievable but ambitious timeframe for delivering priority strategic faster rail routes connecting Melbourne, Sydney, Brisbane and Canberra.

Just like for passenger transport, we can be moving our goods around Australia in cleaner, cheaper ways. Rail and road carry most of Australia's freight, with a relatively small amount of domestic shipping and air freight. Of all freight kilometres travelled in 2022-23, 57% were by rail, 31% by road, 12% by coastal shipping and less than 1% by air (DITRDCA 2024). Yet road transport makes up the vast majority of Australia's freight transport emissions profile. Importantly, while rail moves the vast majority of bulk freight such as minerals and grain, 80% of packaged freight is transported by road. Packaged freight, also known as non-bulk freight, is a broad category that includes foods, drinks, produce, post and manufactured goods.

We can shift one-third of road freight to rail by 2030, by increasing the use of rail for packaged freight. We can also prioritise air freight for genuinely time-sensitive transport needs to keep existing use constant as our economy continues to grow, with more use of rail for interstate transport of consumer goods and other freight. Rail is the cleanest and cheapest way of moving goods around the country. Reducing the number of fossil-fuel powered trucks on our roads will also help reduce congestion, clean up our air and make our streets safer.

Recommendation 4

The Climate Council recommends the *Transport and Infrastructure Net Zero Roadmap and Action Plan* prioritises shifting one-third of road freight to rail by 2030, by increasing the use of rail for packaged freight.

4. Enabling a shift to shared and active options in personal transport has the best potential for delivering rapid and major cuts to climate pollution

Transport is Australia's third largest source of emissions with road transport responsible for around 83% of this pollution (DITRDCA 2024). Two major drivers of decarbonisation in the transport sector will be electrification and mode shift from private road vehicles to shared and active transport. There is a limit to how quickly we can electrify Australia's vehicle fleet given the gradual turnover to new vehicles; this is unlikely to happen fast enough to drive deep emissions reduction in transport this decade. By contrast, enabling a shift to shared and active transport for more trips, more often, by more Australians can deliver deep and immediate reductions in transport pollution this decade. As noted in Climate Council's submission to the Energy and Electricity Sector Plan consultation (2024c), prioritising shared and active transport is also an important energy efficiency measure, limiting the new demand created within Australia's transitioning energy system from fleet electrification.

Reorienting our investment and urban design priorities around moving people, not cars, will deliver benefits well beyond cutting emissions. Cars are expensive to run and maintain, and can be among the biggest everyday costs for families. The average Australian household spends more than $22,600 on transport annually, 95% of which is spent on car-related expenses including loan repayments, fuel, insurance, servicing, tolls and registration (AAA 2024). By contrast, active options like walking are free and public transport can be much cheaper.

Road transport is a significant source of air pollutants including nitrogen oxides and particulate matter. These air pollutants are associated with negative health effects, including an estimated 11,000 premature deaths each year in Australia (Walter and Say 2023). Enabling more people to use shared and active transport will deliver cleaner, healthier air with flow-on benefits for public health.

Road crash deaths are a tragedy, and they are only one part of road harm. In 2021-22 there were 61,500 road-related hospitalisations. Of these, almost a third were bike riders and pedestrians (AIHW 2023). Shifting toward shared and active travel for more trips will take cars off our roads, reducing the number of crashes and serious accidents, and improving overall safety (Truong and Currie 2019), so that everyone can get where they need to go safely.

Transport connects people to education, employment, essential services, recreational activities, friends, family and so much more. Quality shared and active transport boosts access to these services and opportunities in ways that can shorten commutes and make them more enjoyable. More use of shared and active transport can also increase incidental

physical exercise. Active commuting has been associated with a number of health benefits including decreased risk of heart disease and cancer (Celis-Morales et al. 2017; Dinu et al. 2019).

Car traffic congestion also costs the Australian economy $38.8 billion annually (Infrastructure Australia 2019). Shifting to shared and active transport to reduce private vehicle use is an effective congestion-buster, as increasing road space only serves to increase the number of cars on the road (Aftabuzzaman et al. 2008; Garrard 2009).

Australians will not enjoy most of these benefits if we simply replace all current vehicles on our roads with low and zero emission alternatives. This is why enabling greater uptake of shared and active transport is not only the best option to slash emissions from transport, but also an important part of the response to cost of living, quality of life, safety and productivity issues in our big cities today.

There is huge potential to enable greater uptake of shared and active transport in Australia's biggest cities

In personal transport there are solutions available today that can move people and goods more efficiently and rapidly reduce emissions.Active modes like walking and bike riding produce zero emissions and are the cleanest form of transport. Even e-bikes (which run on a grid that is still dominated by fossil-fuels) produce 40 times fewer emissions than the average fossil-fuel powered passenger car (Institute for Sensible Transport 2023). Once our public transport is fully electrified and running on a completely renewable grid, these emissions will be eliminated. In the meantime, fossil fuelled public transport still produces far fewer emissions than moving the same number of people by private car: nine times less for rail transport and 14 times less for transport by bus (Institute for Sensible Transport 2023).

At the moment, only around 7% of Australian passenger trips are made using public transport and less than 4% are made by walking or riding a bike (BITRE 2023). With 20.1 million registered motor vehicles and 18.7 million licensed drivers, Australia has more cars than drivers (ABS 2021; BITRE 2022). But we can change this with focused effort, action and investment.

With the right infrastructure and services in place, there is significant potential for more uptake of shared and active transport in Australia. That's because:

- Nationally, 28% of Australian workers live and work in the same postcode and about 55% of workers live within 10 kilometres of their place of work (Ye and Ma 2019).
- In Sydney, more than two million daily car trips taken are less than two kilometres (Infrastructure Australia 2019).

- In Melbourne, more than two million weekday trips are less than one kilometre, and about 21% of these are via private car (Eady and Burtt 2019).
- In Perth, every day there are 2.8 million trips taken by private car which are under five kilometres (Infrastructure Australia 2019).
- In South East Queensland, 79% of trips under five kilometres and 39% of trips under one kilometre are made by private vehicle (Department of Transport and Main Roads 2016).

Actions and investment to enable greater uptake of shared and active transport options is best directed towards Australia's biggest cities, for three key reasons.

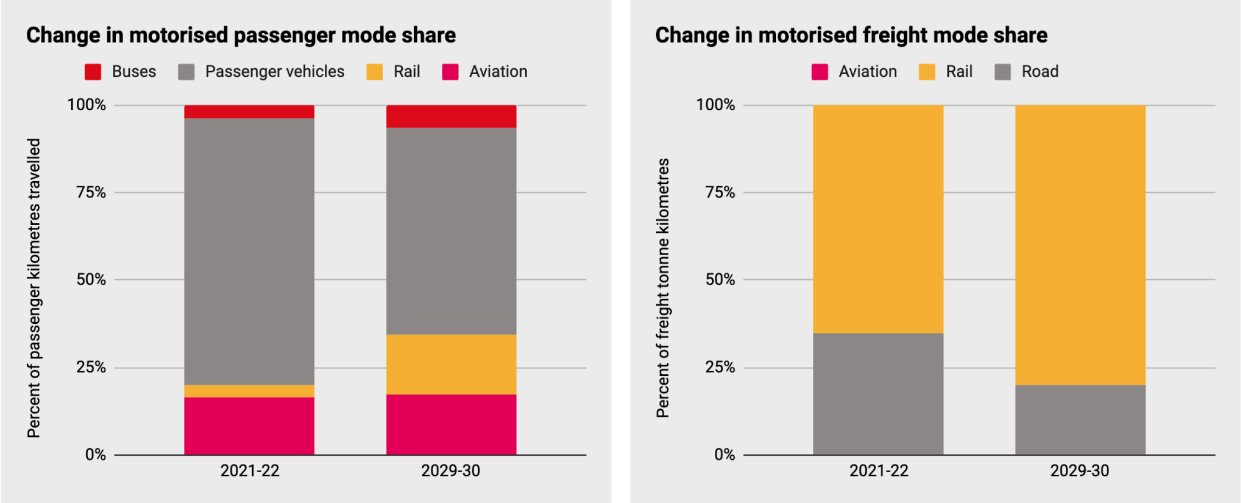
Firstly, most Australians live in our cities. The majority of Australia's population (68%) lives in one of our capital cities (ABS 2023) and this is expected to continue. Over the next decade, the number of people living in our capital cities is projected to increase 23%. This is more than twice the rate of population growth expected in other non- capital cities, and rural and regional areas (Centre for Population 2023). New and improved shared and active transport options can be designed with this population growth and increased travel demand in mind, so that these cleaner transport options become the default choice for convenient, frequent and reliable travel as our cities continue to grow.

Secondly, our cities have greater population density which can be better serviced by convenient, frequent and reliable shared transport. People in cities live closer together and generally travel shorter distances compared with people living in regional and rural areas. Where more people are living closer together, shared and active transport can service a greater number of people for each route compared with areas where people are more dispersed.

Finally, climate action must be equitable and reflect the different needs and contributions that communities can make. About 70% of climate pollution comes from cities around the world, particularly from energy use and transport (Hopkins et al. 2016). With the right infrastructure and services in our cities, more people can choose shared and active transport more often. For people outside our cities, other options like using electric vehicles will make more sense, as the range and mix of vehicles available increases.

The *Transport and Infrastructure Net Zero Roadmap and Action Plan* should therefore centre shared and active transport as the key solution for cutting climate pollution from personal transport in our big cities. Climate Council's Seize the Decade research (2024b) indicates that we can shift 30% of all passenger kilometres currently travelled by car to shared and active transport options by 2030 (see more detail in Figure 1).

Figure 1: Change in motorised freight and passenger transport mode share by 2029-30 under Climate Council's *Seize the Decade* plan



Source: Climate Council (2024). Note: Maritime transport is assumed to remain constant. Air freight is not visible due to scale, but maintains ~0.03% of freight tonne kilometres to 2030.

Mode shift targets can help set goals and monitor progress

The consultation paper proposes setting mode share targets for active and public transport, and for freight. The Climate Council welcomes this as a way to embed mode shift in all transport sector decarbonisation planning.

Mode share targets can help track progress as governments deploy different methods to enable more Australians to move around in cleaner, healthier ways. In the context of the *Transport and Infrastructure Net Zero Roadmap and Action Plan*, Climate Council recommends specific targets be set for:

- uptake of shared and active transport by people living in Australia's biggest cities, coupled with a reduction in total passenger kilometres travelled by private car; and
- growth in the share of all freight transported by rail, coupled with flat or declining growth in volumes transported by road and air (in a context of ongoing economic growth).

Targets should disclose the intended share of each transport mode by 2030, then at regular intervals thereafter. Mode shift targets could be legislated, or incorporated into subordinate legislation under existing frameworks like federal and state and territory emissions reduction laws.

Internationally, mode shift targets are increasingly being included as a core part of national climate change plans and transport sector decarbonisation plans. For example, by 2030 Ireland aims to reduce total vehicle kilometres by 20% and increase active travel and public transport by 50% and 140% respectively. By 2030 Singapore aims for 75% of

peak period trips to be by mass transit; while Portugal aims to increase pedestrian journeys by 35% by the same year. Wales aims to reduce car kilometres travelled by 10% per person by 2030 and by 2040 see 45% of all journeys to be made using public and active transport (Climate Council 2023b).

Recommendation 5

The Climate Council welcomes the government's intention to set mode shift targets in the *Transport and Infrastructure Net Zero Roadmap and Action Plan* and we reiterate the importance of this measure. Mode shift targets should be explicitly set for passenger and freight transport, and aim to rapidly reduce emissions this decade.

Slashing pollution 75% economy-wide this decade requires shifting 30% of projected private vehicle kilometres to shared and active travel, away from private vehicles; and shifting one-third of road freight to rail by 2030, by increasing the use of rail for packaged freight.

Mode shift targets need to be backed by policies, actions and investments that enable greater uptake of shared and active transport

At the moment, a lack of convenient, frequent and reliable shared and active transport options is one of the main barriers to Australians choosing these modes for more of their daily trips. National mode share targets need to be backed with specific policies, actions and investment that will enable Australians to choose shared and active options more often. As part of this, the Australian Government should work with state, territory and local governments towards a national transport funding mix which reflects the desired shares of use for different transport modes. This would ultimately mean having the largest share of combined transport budgets directed to shared transport, followed by active transport.

The Australian Government's National Active Transport Fund is a positive step in delivering better infrastructure to enable more Australians to get around in more clean, active ways. However, at $100 million of investment over a four year period, this is a fraction of what is needed to get more Australians moving. International best practice indicates that 20% of all transport budgets should be dedicated to active transport (UNEP 2016). The Australian Government can better prioritise funding for shared and active transport modes in the federal transport budget to more accurately represent the transformation that Australia's transport system needs to undergo.

In our recent reports and policy work, Climate Council has identified a range of specific opportunities for the Australian Government to collaborate with other levels of government in improving shared and active transport options so people can use these

more often. The following section summarises some of these priority opportunities and actions, but should not be considered an exhaustive list of all available options.

Deliver a Shared Transport Service Standard

The Australian Government can work with state and territory governments to deliver convenient, frequent and reliable shared transport services operating at least every 15 minutes from 7am to 7pm, within 800 metres of every home within the existing urban footprint of Australia's eight capital cities.

When Australians have access to convenient, frequent and reliable services, they will be able to leave the car at home more often, as people in other big cities globally regularly do.

Implementing the Shared Transport Service Standard would require collaboration of federal, state and territory and local governments. The Australian Government can lead the way by facilitating an intergovernmental agreement (IGA) to establish the Standard, alongside funding and operational arrangements. The Standard would then be implemented over a transition period to 2030 at the state and territory level.

Implementation would require appropriate funding reform incorporating federal funding under the IGA, and a reallocation of state and territory funding towards shared transport, away from road expansion. Shared transport should be planned and designed with the accessibility, inclusivity and the diversity of Australians in mind and meet the Disability Standards for Accessible Public Transport.

Federal funding will be necessary to support initial infrastructure works, such as bus lanes, stops and depots. This is a crucial role for the Australian Government to play. Operational funding could also be provided under reformed transport funding arrangements, which is currently provided to state and territory governments through a dispersed system of infrastructure grants and direct funding of major projects.

In the immediate term, expansions to shared transport would be best provided by bus services. Expanding bus services creates the opportunity for local economic development, such as procuring new electric buses, bus stops and depot construction from local businesses, expanding a workforce of mechanics, drivers and support staff. Shared transport options like on-demand minibus services, coordinated carpooling and other new service models also need to be tested and scaled up where successful, to meet the diversity of community needs through integrated delivery of services.

Recommendation 6

The Climate Council recommends the Australian Government work with state and territory governments to deliver convenient, frequent and reliable shared transport

services operating at least every 15 minutes from 7am to 7pm, within 800 metres of every home within the existing urban footprint of Australia's eight capital cities.

Delivering a Shared Transport Service Standard will provide convenient, frequent and reliable shared transport options for people living in our biggest cities. This will give the majority of Australians more affordable and clean choices for their daily trips.

Make streets friendly for people, not cars

People should be able to feel safe on Australian streets, protected from cars, and have public spaces where they can move freely.

The Australian Government can create safer spaces by working with local, state and territory governments to deliver streets which meet the needs of all transport users, not just those travelling by car. Major arterial roads can continue to be designed for vehicles, but those connecting to schools and other community activity centres, as well as local and suburban streets, should be designed to meet the needs of shared transport users, pedestrians and bike riders first and foremost.

In practice, this means lowering the national default speed limit in these areas to 30 km/h, in line with international best practice and available evidence on maximising safety for vulnerable road users. A pilot for Safe Active Streets has been undertaken in Western Australia, by reducing street speeds to 30km/h where the streets also form part of a broader bicycle network (Department of Transport 2023b). Streets with reduced speeds have also been established in Manly, New South Wales and in some school zones across Sydney (Transport for NSW 2024). The City of Yarra in Melbourne also recently approved a trial of 30 km/h speed limits on all local streets. In these areas, the lower traffic speeds create a safer shared street space for people of all ages and abilities walking, wheeling and riding, while remaining accessible for people driving (Better Streets 2024).

The introduction of 30km/h zones and lower speed limits in urban areas, where people walking or people riding a bicycle and vehicles regularly share the same space, has been found to effectively reduce fatalities and injuries. The New South Wales Centre for Road Safety found that in a crash between a car and somebody walking, there is a 10% risk that the person will be killed at 30 km/h, 40% risk at 40 km/h, and a 90% risk at 50 km/h (Transport for NSW 2022). The World Health Organisation (2004) concluded that an increase in the average speed by just 1 km/h results in a 3% higher risk of a crash and a 4 to 5% increase in fatalities. Further abroad, in Toronto, Canada, road crashes fell by 28% since speed limits were reduced from 40 to 30 km/h in 2015, which led to a reduction in serious and fatal injuries by two thirds (Fridman et al. 2020).

The Australian Government can also facilitate the implementation of safer streets with 30 km/h speed limits by providing funding to local governments on a competitive basis for new infrastructure works supporting the conversion to people-centric streets.

Recommendation 7

The Climate Council recommends the *Transport and Infrastructure Net Zero Roadmap and Action Plan* include measures to make streets friendly for people first, not cars. As a priority, this should include lowering the default national speed limit to 30 km/h around schools and other community activity centres, as well as on local and suburban streets.

Give shared and active transport priority on roads

It is important that shared and active transport gets priority on the major roads needed to travel to and from frequently visited commercial, service and employment centres, and travel between suburbs.

Shared transport that uses public roads – like buses and light rail – is highly efficient, moving a large number of passengers while taking up less road space. However, too often shared transport vehicles are stuck in traffic caused by private vehicles which are far more polluting and move far fewer people. When shared transport has priority on our roads, passengers get where they need to go more quickly than if they drove a car, directly encouraging the use of shared transport.

To provide all communities with access to convenient, frequent and reliable shared transport options, bottlenecks which currently slow shared transport vehicles need to be removed. The Australian Government can enable this by updating the Australian Road Rules and Australian road design guidelines to establish shared transport priority for arterial roads and any roads used by light rail.

This can also extend to active transport through the collaborative development of new national guidelines for the provision of physically-separated bike lanes, signalling treatments, pedestrian crossings and traffic calming features like speed-bumps, barriers, chicanes and narrower lanes on new and upgraded roads.

While initiatives to increase priority for shared and active transport on Australian roads are underway in some jurisdictions, there are significant benefits to these being coordinated and rolled out nationally through forums like the Infrastructure and Transport Ministers Meetings. In particular, having consistent national rules and design standards prioritising shared and active transport on most Australian roads will improve safety by ensuring all road users respect the same norms regardless of jurisdiction.

Recommendation 8

The Climate Council recommends the *Transport and Infrastructure Net Zero Roadmap and Action Plan* include an action to update the Australian Road Rules and national road design guidelines to give shared and active transport priority on the major roads needed to travel to and from frequently visited commercial, service and employment centres, and travel between suburbs. This will help further enable uptake of shared and active transport by allowing people to get to where they need to go more quickly than if they drove a car.

5. Rapidly transitioning to cleaner vehicles is important, but the end goal should be fewer, lighter vehicles overall

Shifting toward shared and active transport options will deliver the greatest benefits in cleaner air, safer streets and cutting climate pollution. Electric vehicles for private use are also an essential part of the puzzle, with Australia lagging behind many countries in uptake. The *Transport and Infrastructure Net Zero Roadmap and Action Plan* should outline a clear path to a zero emission fleet as early as possible.

The cars we drive are responsible for around 13% of Australia's greenhouse gas emissions and are the biggest contributor in the transport sector (DITRDCA 2024). Our previous lack of fuel efficiency standards meant Australia has been a dumping ground for polluting, expensive cars as the cleanest, cheapest versions were diverted to countries with strong standards in place. The New Vehicle Efficiency Standard (NVES) will help reverse this trajectory and put Australia on the path to a cleaner fleet of vehicles.

Our Seize the Decade (2024b) modelling indicates we can go further and faster this decade to facilitate the uptake of electric vehicles in Australia. The *Transport and Infrastructure Net Zero Roadmap and Action Plan* should prioritise and accelerate electrifying vehicles that travel the most kilometres first. Priority examples include taxis, rideshare vehicles and government fleets. Jurisdictions around Australia have already shown support for electrifying their public and shared fleets, with some states and territories committing to transition targets (Kolar and Staheli, 2023). Yet with only 0.2% of the current bus fleet electrified (Denniss et al, 2023), there is an opportunity to accelerate this transition.

Importantly, not all electric vehicles are made equal. Priority should be given to battery electric vehicles as they are powered completely by their battery, making them the only fully electric vehicles. There are other types of electric vehicles, with Plug-In Hybrid Vehicles and Hybrid Electric Vehicles also being common choices. These cars still rely in part on expensive, polluting petrol and diesel. This means these vehicles still release harmful greenhouse gases fuelling climate change, and dangerous air pollutants which are damaging our health.

Due to the advanced nature of proven, scalable and effective battery electric vehicle technologies, there is no justifiable use case for alternative fuels for light commercial vehicles. Focus should be on scaling up the existing solutions, so more Australians can benefit.

Recommendation 9

The Climate Council recommends the *Transport and Infrastructure Net Zero Roadmap and Action Plan* include specific measures that support the electrification of our

passenger fleet to see one-third of all passenger kilometres travelled by electric vehicles by 2030.

Recommendation 10

The Climate Council recommends actions, investment and policies in the *Transport and Infrastructure Net Zero Roadmap and Action Plan* explicitly prioritise the electrification of personal transport vehicles that travel the most kilometres, like taxis, rideshare vehicles and government fleets.

In freight transport, the priority should be to shift a much larger share of packaged freight to rail instead of transporting this by road (see p.14). There are some genuine use cases where road vehicles will continue to be required for moving freight around Australia; in these instances electrifying more heavy vehicles, so that 17% of all road freight can be transported by zero-emission vehicles by 2030, is an achievable and necessary step.

Electrification of road vehicles is the most efficient option to cut road freight pollution and the technologies are improving rapidly. One way the Australian Government could support this transition is through implementing an appropriately designed and tailored equivalent policy to the New Vehicle Efficiency Standard for heavy vehicles. Government investment in shared user infrastructure like heavy vehicle charging along high traffic freight routes would also complement private investment to enable more electrification of heavy vehicles, sooner.

For other freight transport modes, such as shipping and aviation, new and emerging technology options will be required to decarbonise their operations. Our views and recommendations on this are canvassed in the following section.

Recommendation 11

The Climate Council recommends the *Transport and Infrastructure Net Zero Roadmap and Action Plan* includes actions to accelerate the electrification of heavy vehicles, so that at least 17% of all road freight can be transported by zero-emission vehicles by 2030.

We are on the road to a fully electric fleet, and we can accelerate that transition

Many of the cars in our fleet today will still be on the road well past 2030, with the average Australian car being just over 10 years old (ABS 2021). Around a million new cars are sold every year; in 2023 more than 80% of them were still fully petrol and diesel vehicles. To achieve a zero emissions transport system, we need a clear plan for ending the sale of these fossil-fuel powered vehicles.

The *Transport and Infrastructure Net Zero Roadmap and Action Plan* can enable industry and communities to plan for a managed phase out of petrol and diesel cars by setting an end date for their sale in Australia. Based on the pace of vehicle turnover, this date needs to be set no later than 2035 to see Australia have a zero emissions fleet by 2050. This further highlights why mode shift to shared and active transport is such an important part of cutting climate pollution in this sector, as turnover in our vehicle fleet is a gradual process.

From 2025, the New Vehicle Efficiency Standard will implement Australia's first caps on greenhouse gas emissions from new vehicles. This provides a policy framework for eventually achieving an end to petrol and diesel vehicles sales. These emissions caps can be progressively lowered until 100% of new vehicles sold are required to be zero emissions. The European Union, United Kingdom, Canada and some US states are in the process of implementing this approach, with 2035 emerging as a common end date for petrol and diesel vehicles across these communities.

Recommendation 12

The Climate Council recommends the *Transport and Infrastructure Net Zero Roadmap and Action Plan* identify an end date for the sale of petrol and diesel vehicles in Australia, of no later than 2035.

Reversing the trend towards larger, less fuel-efficient vehicles will help our hip pockets, clean up our air and make our streets safer

An additional factor that is threatening emission reduction goals in transport is Australia's continuing trend towards purchasing bigger cars, utes and SUVs for private use. Both the United States (US) and Australia are facing similar trends of increasing preference for larger, less fuel-efficient vehicles (The U.S. National Blueprint for Transport Decarbonization 2023). These vehicles are not only highly polluting, but dangerous and take up a lot of space on our roads. Light-weighting vehicles and the use of better materials is rightly identified in the United States Blueprint as a way to improve the energy efficiency of vehicles and drive down emissions. More emphasis could be placed on this for Australia's *Transport and Infrastructure Net Zero Roadmap and Action Plan*.

Lightweighting and right-sizing the car fleet is similarly a recommendation of the International Energy Agency (2023). That could be achieved through increasing taxes on the purchase of large, heavy cars – such as France's tax on vehicles weighing over 1,800 kilograms. Exemptions could be made here for genuine use cases – such as farming or trade work needs. If Australians had driven only small cars in 2019 for personal use, total road transport emissions would have been about 15% lower (Smit 2023). The reduction in

emissions from simply shifting to smaller cars is similar to emissions from domestic aviation and domestic shipping combined (Smit 2023).

Recommendation 13

The Climate Council recommends the *Transport and Infrastructure Net Zero Roadmap and Action Plan* include specific measures to reverse the trend toward heavier personal vehicles as an immediate emission reduction, cost of living and road safety measure.

Aussies in our cities can swap one of their two petrol cars for an electric vehicle, and the other for shared and active transport

Transitioning Australia's fleet to zero emission vehicles is essential for cutting emissions from transport in the decades to come. However, the goal should not be to simply replace every vehicle on the road today with a clean alternative. As part of the transition to a cleaner transport system that offers more and better choices of how to get around, we should instead aim to reduce the total number of cars Australians living in our cities own altogether.

At the moment the average Australian household has two petrol cars in the garage (ABS 2022). We can deliver a transport system that allows Australians living in our cities to swap one of these cars with an electric vehicle, and replace the other with a mix of shared and active transport options. This will maximise the benefits that come alongside cutting climate pollution: less congestion, safer streets, reduced household costs and cleaner air.

Enabling Australians to move around in different ways is also an important energy efficiency measure that will help reduce the pressure on the energy system from increased vehicle electrification. The *Transport and Infrastructure Net Zero Roadmap and Action Plan* should not assume and plan for every petrol vehicle today to be replaced with an electric vehicle.

Instead, the Australian Government can encourage households to own one less car by providing transport incentives for those who make this change. This could include an amount of credit for use on shared transport, or a cash payment equivalent to the cost of an e-bike. In France, owners of older vehicles who choose to hand these back to the government are eligible for a payment of up to $6,600 to purchase an e-bike (Bremner 2022).

Countries like New Zealand and Belgium also offer incentives through their national tax system for people who regularly ride or use shared transport. Australia's Fringe Benefits Tax exemption arrangements could be expanded to include benefits paid to workers for shared and active transport. Seeing households swap out one car for an ebike and other

shared transport options will cut huge amounts of climate pollution, while also significantly reducing people's costs of living with no need to buy petrol, servicing, or pay for a second registration and insurance premium.

Recommendation 14

The Climate Council recommends the *Transport and Infrastructure Net Zero Roadmap and Action Plan* include an objective of reducing the total number of personal vehicles owned by people living in Australian cities, in the context of a significant improvement to shared and active transport options.

The Plan should include specific initiatives incentivising Australians in our cities to own one less car, such as can be delivered through the tax system or as financial rebates for switching to other options.

The electric vehicles that will remain on our roads can help deliver more battery storage

For the vehicles that we do still have on the road going forward, electrification of private vehicles and public transport will place significant additional demand on the electricity grid as it undergoes a transformation from fossil fuels to renewable energy. In metropolitan Sydney for example, the electrification of all timetabled bus routes would require up to 945 megawatt hours a day of electricity (Battery Storage and Integration Program 2023). The Australian Energy Market Operator expects electric vehicle charging to drive 75% of the growth in household electricity demand to 2050, and meeting this demand will have cost implications. This impact can be reduced by improving the shared and transport options available to Australians, allowing lower car use and ownership.

Fortunately, electrified public transport and private electric vehicles need not be passive users of the grid. Vehicle-to-grid technologies present a significant opportunity to get more battery storage into the electricity market. In fact, vehicle-to-grid technology is estimated to be able to support all the world's short-term grid storage requirements by 2030, with a participation rate of just 12-43% (Xu et al. 2023).

With individual vehicle owner practices representing both a challenge and opportunity for the energy transition in Australia, there is space for government to play a supportive role. Developing an effective regulatory framework can incentivise electric vehicle charging at the most favourable times of day and create a market for vehicle-to-grid services, including frequency maintenance and energy storage. The ability to support the grid also incentivises electric vehicle uptake, with owners able to generate additional income (or at least offset charging costs) by exporting electricity to the grid during high-demand periods.

The simultaneous rollout of batteries in firming the electricity grid and electrifying transport creates competition for scarce resources. The efficient allocation of these limited resources is critical not only to advancing Australia's decarbonisation, but also to achieving our potential comparative advantage as a clean energy superpower. Ensuring that the capital and resources tied-up in electric vehicle batteries can also accelerate the decarbonisation of the electricity grid is a clear opportunity for government.

Electric vehicle infrastructure and incentives should also be prioritised for rural and regional Australia, where they will be needed most. Shared and active transport infrastructure should be a priority for urban areas, where over 70% of Australia's population lives, so that rural and regional Australians can have priority access to electric vehicles.

Recommendation 15

The Climate Council recommends the *Transport and Infrastructure Net Zero Roadmap and Action Plan* identify a priority stream of regulatory and policy design work to enable vehicle to grid charging nationally as uptake of EVs increases.

This work should bring together energy market and grid operators, vehicle manufacturers, consumer advocates and built environment specialists to ensure policy and rule changes work for all stakeholders. It should be closely coordinated with ongoing work on the design and delivery of a decarbonised grid delivered under the Electricity and Energy Sector Plan.

6. Alternative fuels are the last resort, after we avoid and shift as much as possible

Prioritising Avoid and Shift measures will be key to the success of the *Transport and Infrastructure Net Zero Roadmap and Action Plan* in rapidly driving down emissions from transport. Improving some types of transport by transitioning to cleaner fuels is the last resort for modes where we cannot otherwise avoid or shift trips.

Relative to available and anticipated electrification options, alternative fuels have some advantages in transport where high levels of heat are required, and where the weight of fuel is restricted. This is primarily expected to include aviation and shipping.

While the technology required to electrify road and rail transport modes is reaching maturity and scale, the use of alternative fuels is still emerging. Nevertheless, Australia's eventual alternative fuels opportunity is significant, and the Australian Government's investment in green hydrogen and low carbon liquid fuels (LCLFs) under the Future Made in Australia plan is welcome.

This planned public subsidisation means it is incumbent on government to monitor and encourage prioritisation of the initially limited volumes of alternative fuels. It is crucial that the early and growing volumes of these fuels are targeted to the best and highest uses, in the public interest. Specifically, these are uses where **only** an alternative fuel option can be viably used for decarbonisation. For example, LCLFs should not be used in light vehicles which can already be electrified, in competition with more beneficial uses of these fuels where other decarbonisation options are not available.

In addition, the use of alternative fuels has its own drawbacks. Using alternative fuels to generate motion is inherently less efficient than direct electric motors because combustion engines waste about 70% of the total energy they consume as heat (Rewiring Australia 2022). This problem is compounded by the fact that alternative fuels also require significant amounts of energy to produce. While the convenience of using alternative fuels (which may require lower capital investment and fewer process changes than electrification) may be attractive to industry, it is important that the spillover benefits of energy efficiency are considered by policy makers. Prioritising electrification as a proven existing solution wherever it is possible means we can cut more emissions, sooner.

Based on Climate Council's Seize the Decade analysis, the places where alternative fuels may play a role in transport are likely to include:

- As sustainable aviation fuels for remaining necessary air transport, given the capital costs associated with fleet renewal, and weight limitations creating technical barriers to electrification.
- In shipping, where space limitations and long travel times create technical barriers to electrification.

- In limited rail transport applications, where low carbon fuels can be used as an interim measure for long-distance travel, while infrastructure and fleet changes are made to allow electrification.
- In very limited road transport applications, for long-distance heavy freight transport.

The use of LCLFs in these cases should be considered the last decarbonisation option. Avoiding unnecessary travel and shifting to transport modes that can run on zero emissions electricity is the best way to drive real, cost-effective emissions reductions for the heavy transport sub-sectors. Where LCLFs are necessary in transport, investing to develop sustainable supplies of these should be a priority over paying for offsets.

It is important to note that Climate Council's Seize the Decade plan (2024b) anticipates that alternative fuel use will peak in 2040. Electrification technology, especially battery storage, is expected to continue to improve, allowing further use in aviation, shipping and rail applications. Governments should anticipate this transition, and acknowledge the temporary nature of some switches to alternative fuels – particularly for bioenergy, which is not a zero carbon energy source.

Recommendation 16

The Climate Council recommends the *Transport and Infrastructure Net Zero Roadmap and Action Plan* provide realistic estimates of the feasible production capacity for Low Carbon Liquid Fuels in Australia, taking into account both energy and feedstock requirements over the medium and long term.

The plan should also indicate use cases and parts of the transport sector which need to be prioritised for the limited supplies of Low Carbon Liquid Fuels. This will ensure there are clear market and policy signals encouraging mode shift and/or electrification in all other parts of the transport system where this is an available option.

Given the diversity of businesses and commercial actors in the heavy transport sector, there is likely to be a need for some forms of direct government support to accelerate the uptake of LCLFs – such as necessary improvements to refuelling infrastructure and storage facilities – and the upgrading of heavy vehicles to electric or other low emissions options as these become commercially available. Climate Council notes that governments have previously supported consumers to purchase electric personal vehicles, and this has helped accelerate technology advances and scale up production to make that technology increasingly mainstream.

The Australian Government currently outlays approximately $10 billion a year in Fuel Tax Credits for commercial entities, including mining, farming, construction and other businesses which have significant heavy vehicle fleets (Commonwealth Treasury, 2024).

The current rebate is designed to compensate for Fuel Tax (excise or customs duty) paid in purchasing fuel for machinery, plant, equipment, heavy vehicles and light vehicles travelling off public roads or on private roads (Australian Tax Office, 2024).

This very expensive fuel rebate is no longer aligned with the Australian Government's transport decarbonisation objectives, because it artificially reduces the price of using petrol and diesel. There is an opportunity to repurpose this funding to instead support an accelerated transition to low and zero emission options in heavy transport. Many of the current recipients of the rebate will have vehicles and other transport equipment which need to be upgraded; a well-designed rebate scheme for investment in the transformation of low and zero emissions heavy transport could support these companies and others across the transport sector to embrace cleaner technologies wherever these are available.

The design of an appropriate heavy transport transformation scheme would be best determined in consultation with industry stakeholders. For example, current recipients of the Fuel Tax Credit could be given the opportunity to estimate their future rebate entitlements under current policy settings, and swap this for an upfront payment to support capital investment in new zero emissions heavy vehicles or enabling infrastructure. The *Transport and Infrastructure Net Zero Roadmap and Action Plan* can initiate this important policy shift by signalling the Australian Government's intention to redirect the current forecast allocations for the Fuel Tax Credit to support transformation of the heavy transport fleet.

Recommendation 17

The Climate Council recommends the *Transport and Infrastructure Net Zero Roadmap and Action Plan* outline a timeframe and consultation processes to commence the replacement of Fuel Tax Credits with industry incentives supporting accelerated uptake of low and zero emission technologies in heavy transport.

Conclusion

We now live in an era of climate consequences – a time when the impacts of a warming climate are increasingly visible, harming our communities and our environment. This should motivate us all to take necessary and focused action to drive down emissions further and faster now. We must do everything in our power to limit global temperature rise as close as possible to 1.5°C and prevent escalating climate chaos in the years to come.

We have the opportunity to decarbonise our transport system in a way that also addresses many of the complex challenges Australians now face: reducing cost of living, cutting air pollutants, reducing congestion in and around our big cities, while improving the safety and livability of our streets and local communities. The *Transport and Infrastructure Net Zero Roadmap* can prioritise and capitalise on existing transport solutions to drive down emissions from transport this decade.

We have everything we need to halve climate pollution from transport by the end of the decade. We can build on existing momentum and deliver a transport system that enables more Australians and businesses to use shared and active transport to move around. As a priority, the *Transport and Infrastructure Net Zero Roadmap* must outline a pathway that:

1. Sees the transport sector make a significant contribution to Australia hitting net zero by 2035. This means cutting climate pollution from transport by 50% by 2030, through scaling up existing solutions.
2. Places the 'Avoid, Shift, Improve' framework at the heart of all transport decarbonisation planning, and delivers on this with specific policies, actions and investment.
3. Acknowledges alternative fuels are the last resort for use cases where alternative options to avoid or shift are not available. These are contained to aviation, shipping and limited heavy rail and road cases - in all other instances mode shift coupled with electrification are viable, efficient and positive alternatives.

In adopting smart policies we can ensure the benefits of doing so will be felt by more Australians and visible in more communities. Not only in keeping more of us safe from worsening extreme weather, but also in good new jobs, more liveable neighbourhoods, and lower costs of living and doing business. Let's seize the decade and deliver a transport system that gives more Australians more choice in how they move around.

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