Climate Change Office

Emissions Reduction and Resilience Plan – Transport

Consultation draft

Renewables, Climate and Future Industries Tasmania
Department of State Growth

Tasmanian Government

In recognition of the deep history and culture of these islands, we acknowledge all Tasmanian Aboriginal people as the continuing Custodians of this Land and Sea Country and pay our respect to elders past, present and emerging.

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We want to hear from you

Consultation questions

- How can we build on the work already underway to reduce emissions and build resilience in the transport sector?
- What future opportunities do you think will have the most impact?
- Are there any priorities or future opportunities missing from this draft Plan?
- Are there other ways we can collaborate to reduce emissions and build resilience in the transport sector?

Your feedback will inform the development of the final Plan for the transport sector.

Key dates

Draft Plan released:	Wednesday 25 October 2023
Written submissions close:	Wednesday 29 November 2023

How to have your say

You can make a submission by writing to us, answering the above consultation questions. You may submit your response online, or by email or post.

For more information about this work, or making a submission, please contact the Climate Change Office.

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If you are making a written submission, please include the name and contact details of the person or organisation making the submission. All submissions are welcome and valued.

We encourage you to read this draft Plan before you make a submission. The questions above will assist you to provide relevant feedback, which will help us develop the final version of the Plan.

Publication

Submissions will be published on the Renewables, Climate and Future Industries Tasmania (ReCFIT) website (www.recfit.tas.gov.au). Your name or the name of the organisation making the submission will be made public. Please tell us if you want to keep your submission private. Defamatory or offensive material will not be published.

Draft Plan on a Page

Priority area	Future opportunities
1. Increasing the use of public and active transport in Tasmania	• Additional investment in education and behavioural change programs. • Additional measures to support Tasmanians to access alternative modes of active transport. • Continue to work with partners, including local government, to better integrate public and active transport into our networks. • Consider potential new stops and routes for the Derwent Ferry service. • Continue to explore ways to support and improve Tasmania's bus network.
2. Increasing the number of low emissions cars and other light vehicles on Tasmanian roads	• Support the installation of more electric vehicle (EV) chargers across the state, by considering both site locations and existing site capacity and expansion potential. • Review recent measures to support the purchase of EVs in Tasmania and other jurisdictions to develop a program suited to Tasmania. • Explore options to encourage the use of low emissions vehicles in Tasmanian businesses. • Work with local government and businesses to explore options to introduce priority parking for future on-street charging for EVs in areas with limited off-street parking. • Support community 'try and drive' events and information sessions to increase education and awareness of EVs. • Support delivery of a program to educate Tasmanians and visitors about driving EVs in Tasmanian conditions. • Work with key government agencies, energy entities and industry to model future EV uptake and sales, to support planning and decision making.
3. Increasing the number of low emissions heavy vehicles on Tasmanian roads	• Consider options for a demonstration trial of low emissions heavy vehicles in the private sector to reduce emissions and increase education and awareness for operators. • Explore opportunities to support owners of heavy vehicle fleets to invest in low emissions technologies. • Explore opportunities to increase the use of blended fuels and biofuels in government heavy vehicle fleets. • Explore the future requirements for heavy vehicle charging infrastructure in Tasmania to inform decision making. • Increase awareness of heavy vehicle fleet managers and users to new and emerging technology. • Initiate and support projects to activate the market for hydrogen powered heavy vehicles and marine applications, refuelling stations and green hydrogen generation for domestic use. • Explore options for TasRail to decarbonise its diesel locomotive fleet through deployable and near deployable low and zero emissions technologies.
4. Supporting the transport sector to transition to low emissions and build resilience	• Work with government agencies and energy entities to develop internal modelling of future EV charging demand and grid capacity. • Investigate opportunities to promote energy efficient practices for EVs. • Consider a bi-directional charging trial. • Continue to explore opportunities for new dual trade-based training courses related to EVs for electrical and mechanical automotive technicians and apprentices. • Support work to reduce potential and perceived safety risks associated with EV batteries. • Explore opportunities to further increase the resilience of Tasmania's road networks.
5. Supporting action through partnerships with governments, industry and other stakeholders	• Explore funding options and partnerships to reduce emissions in business and industry vehicle fleets. • Consider mechanisms to support the Tasmanian transport industry to collaborate on emissions reduction and resilience. • Consider options to support local government strategic planning for the transport sector. • Continue to collaborate with the Australian Government and other jurisdictions. • Continue to explore opportunities for international collaboration to reduce emissions and build resilience in the transport sector. • Work with key partners to explore options to improve data capability.

Introduction

Tasmania's *Climate Change (State Action) Act 2008* (the Act) sets out how the government must take action on climate change. Under the Act, Tasmania's emissions reduction target is to achieve net zero greenhouse gas emissions, or lower, in Tasmania from 30 June 2030. To help achieve this goal, the Act requires the government to develop five-yearly sector-based Emissions Reduction and Resilience Plans (Plans) in consultation with business and industry. The Plans will support a practical and balanced approach for our key sectors to reduce greenhouse gas emissions and build resilience to climate change.

The Plans must support greenhouse gas emissions reduction, the transition to a low emissions economy, and resilience to climate-related risks. The legislation also requires that the objects of the Act are taken into account during the development of the Plans.

Plans must be developed for the following sectors:

- energy
- transport
- industrial processes and product use
- agriculture
- land-use, land-use change and forestry
- waste
- any other sector or sub-sector determined by the Minister (the government has committed to develop a Plan for government operations).

Delivery and timeframes

Under the Act, the Plan for the transport sector must be prepared by 30 November 2023, and all other Plans by 30 November 2024. The Minister for Environment and Climate Change is to consult with each relevant portfolio Minister, and with business and industry representatives, to develop the Plans. The Minister is also required to publicly consult on each draft Plan.

The Plans are to be tabled in Parliament and updated at least every five years.

This work is being led by the Climate Change Office in ReCFIT.

Why sector-based emissions reduction and resilience planning?

The latest data show that Tasmania recorded net zero greenhouse gas emissions for the first time in 2013 and has maintained its net zero status in the nine reported years since. Our emissions profile is largely due to the carbon sink in our managed forest estate and our longstanding investment in renewable electricity generation.

However, our emissions profile is not guaranteed into the future. Emissions are influenced by a range of factors such as population growth, major bushfire events, changes in consumer demand, market forces and technological advancements. We know we must do more to maintain our net zero status by reducing emissions in all our sectors, while also increasing the carbon stored in our forests.[1]

The *AR6 Synthesis Report: Climate Change 2023* by the Intergovernmental Panel on Climate Change (IPCC)[2] confirms that humans are causing global warming, and makes it clear that we need to act now. Global temperatures are now 1.1˚C above pre-industrial levels and are likely to reach 1.5˚C above pre-industrial levels in the early 2030s. In Tasmania, the impacts of climate change will have environmental, economic and social impacts on our businesses, industries, communities and our natural values. It is important that we adapt effectively to a changing climate and build strong, resilient communities, while continuing to reduce our emissions.

A consistent theme from consultation on the government's action on climate change is that partnership between government and industry is the preferred approach to support emissions reduction and build resilience in Tasmanian businesses and industries.

Purpose of this draft Plan

This draft Plan has been developed to support the public to provide feedback on priority areas and future opportunities for the transport sector. These priorities and opportunities have been identified through targeted consultation with business and industry. The proposed priority areas and future opportunities are outlined in the section "Priority areas for reducing emissions and building the resilience of Tasmania's transport sector".

While there is some funding for the implementation of the final Plan through *Tasmania's Climate Change Action Plan 2023-25*, not all opportunities have identified funding. It is intended that the final Plan will be used by government in future Budget and planning processes to consider options for future funding.

[1] Point Advisory and Indufor 2021, *2021 Update of Tasmania's Emissions Pathway Review – technical report* (prepared for the Tasmanian Climate Change Office) https://recfit.tas.gov.au/__data/assets/pdf_file/0009/348948/Tasmanian_Emissions_Pathway_Review_-_Technical_Report.pdf

[2] IPCC 2023, *Climate Change 2023: Synthesis Report - Summary for Policymakers,* https://www.ipcc.ch/report/ar6/syr/

Developing an Emissions Reduction and Resilience Plan for the transport sector

MID-2023

Targeted consultation with government, business and industry

We undertook consultation with relevant government, business and industry representatives from May to July 2023, including two workshops, and one-on-one meetings.

SEPT 2023

Public consultation on the draft plan

The feedback from consultation with government, business and industry has informed the development of this *Emissions Reduction and Resilience Plan – Transport: Consultation Draft* (draft Plan).

NOV 2023

Development and release of the final plan

We will analyse all submissions received and undertake further targeted consultation as required to develop the final Plan. The final Plan will be published and tabled in Parliament in November 2023, as required under the Act.

Key themes from consultation with government, business and industry

Between May and July 2023 we consulted government, business and industry, focusing on transport. Participants told us what they are doing to reduce emissions and build resilience in the transport sector, the barriers and opportunities for further action, and how the government could support the sector to take action on climate change. Participants voted on the priority areas for action.

Key themes included:

- increase the use of public and active transport
- review regulations, policies and standards related to EVs and charging infrastructure, fuel efficiency standards and heavy vehicles, to support uptake
- support and incentives for greater uptake of electric vehicles (cars, light vehicles and heavy vehicles)
- support and financial incentives for heavy vehicles, freight and buses to decarbonise
- increase the use of biofuels as an alternative fuel source for internal combustion engine (ICE) vehicles
- consider the impacts of climate change on infrastructure and supply chains
- electricity availability and security to support the electrification of the transport sector
- skills development and capacity building for the transition of the sector to low emissions.

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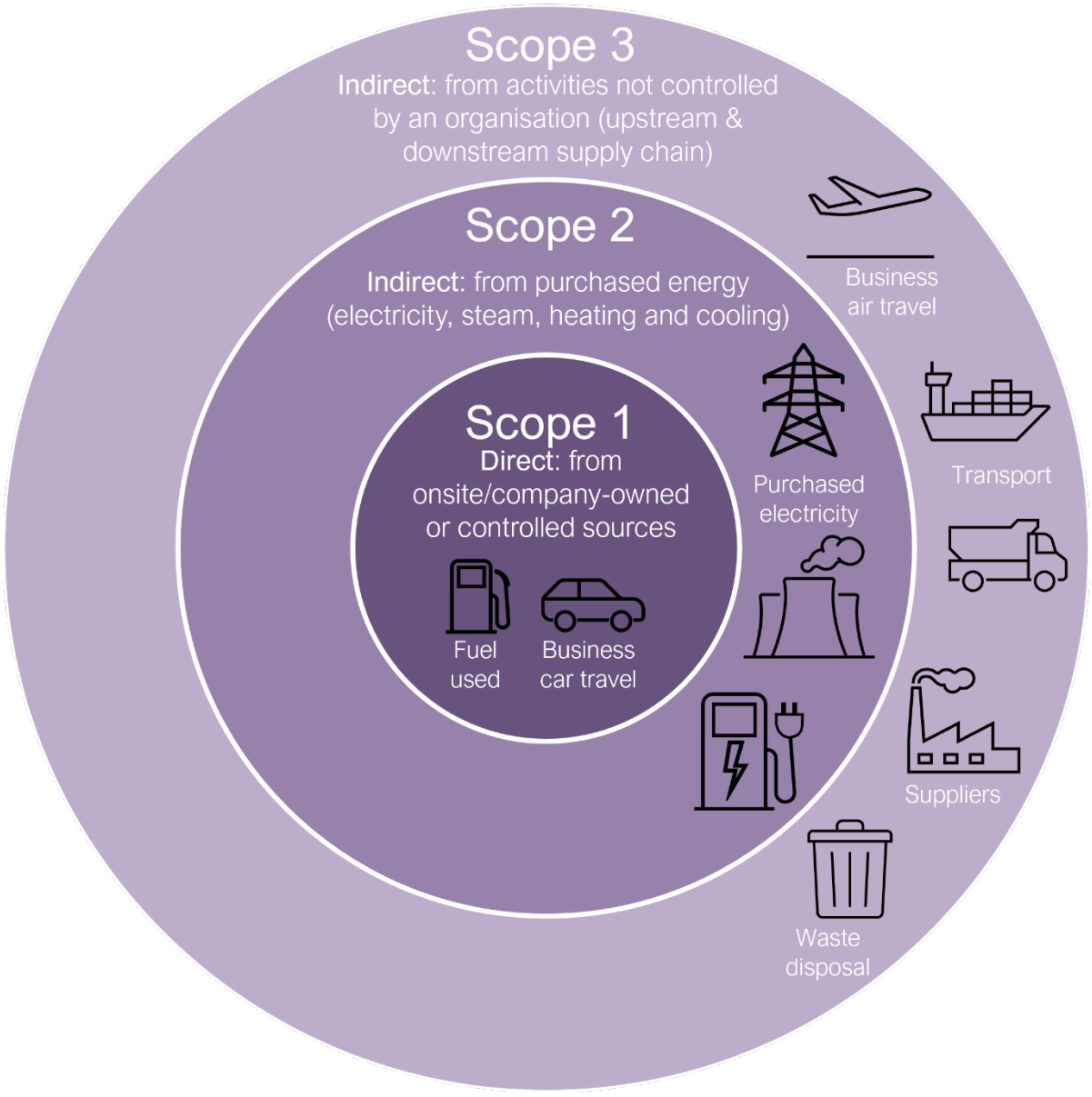
Scope of the Plan for the transport sector

The sectors identified for the development of Plans are based on the sectors in the United Nations Framework Convention on Climate Change (UNFCCC) greenhouse gas reporting framework.

Under the UNFCCC reporting framework, emissions from the transport sector include domestic aviation, road transportation (cars, buses, trucks, motorcycles), railways, domestic navigation (shipping, ferries, leisurecraft) and off-road vehicles. Road transportation accounts for over 90 per cent of Tasmania's transport emissions and is therefore the key focus for action. This does not include the embodied emissions from the production of transport infrastructure.

The Plan for the transport sector will focus on Scope 1 (direct) emissions and Scope 2 (indirect) emissions in the first instance, with opportunities to reduce indirect Scope 3 emissions considered where relevant.

Scope 1, 2 and 3 emissions



Emissions reduction and resilience measures that support transport to and from Tasmania are not in the scope of the Plan. These issues are largely the responsibility of the Australian Government. We recognise the significance of tourism to the Tasmanian economy and will build on existing work to support a sustainable tourism industry on-island, in line with the *2030 Visitor Economy Strategy*, released in August 2023, available at: www.tourismtasmania.com.au/industry/2030-visitor-economy-strategy/

Due to the nature of the transport sector and the UNFCCC reporting framework, there is significant overlap between transport and other sectors. For example, emissions from the use of heavy vehicles in the agriculture and forestry sectors are accounted for in the transport sector and are therefore in the scope of the Plan for the sector.

Overlaps between sectors will be managed through the development of each Plan. The future opportunities identified in the Plans for each sector will be combined and inform the development of Tasmania's next climate change action plan in 2025, including the identification of priorities and gaps not addressed through the development of the sector-based Plans.

Data on Tasmania's transport sector can be found at Appendix 1.

Priority areas to reduce emissions and build the resilience of Tasmania's transport sector

How have the priority areas and future opportunities in this draft Plan been identified?

We prepared a State of Play Report (Report) to guide the consultation with government, business and industry. The Report summarises the transport sector in Tasmania, its emissions, relevant policies and actions at the local, national and international level, impacts of climate change on the sector, and opportunities to reduce emissions and build resilience. The Report has been updated based on industry feedback and is now available on the ReCFIT website at: www.recfit.tas.gov.au/emissions_reduction_and_resilience_plans

In addition to the consultation with business and industry, and analysis of the sector undertaken as part of the development of the State of Play Report, the priority areas and future opportunities have been informed by:

- the advice of the Tasmanian Government's Electric Vehicle Working Group, which was established in 2017 to provide advice on the development of an integrated approach to support the uptake of EVs to maximise benefits to Tasmania
- our legislated target to ensure Tasmania's emissions are net zero, or lower, from 2030
- the other objects of the Act, including adaptation, contribution to international, national and local government action, and supporting a consultative partnership approach to action on climate change
- feedback from consultation on *Tasmania's Climate Change Action Plan 2023-25* (Action Plan)
- the Tasmanian Emissions Pathway Review
- the principles of sustainable development and social equity, transparency and reporting, science-based approach, integrated decision making, risk management, community engagement, and complementarity (as outlined in the Action Plan)
- analysis of additional resources and policies, including initiatives being implemented in other jurisdictions.

Some of the key issues identified during consultation, and other research and analysis, are the responsibility of the Australian Government (for example, regulations and standards related to EVs and charging infrastructure, fuel efficiency standards, and heavy vehicles). There is significant work underway at a national level to decarbonise the transport sector, including the development of a national transport decarbonisation strategy. Some of the Australian Government's initiatives are discussed under the relevant priority areas. 'Priority Area 5: Supporting action through partnerships with governments, industry and other stakeholders' highlights the Tasmanian Government's role in working with the Australian Government and other jurisdictions to reduce emissions from the sector.

The future opportunities under each priority area have been identified to address any gaps in current activity and help to reduce the barriers to action on climate change in the transport sector in Tasmania. The opportunities are intended to complement and build on the work already underway by international, national and local governments, business and industry, and the community. These opportunities provide us with a pathway to decarbonise Tasmania's transport sector over the next five years.

Priority areas

Through consultation, research and analysis, we have identified key priorities and future opportunities to reduce emissions and build resilience in Tasmania's transport sector. The key themes highlighted that there is no one-size-fits-all approach to reducing emissions and building resilience in the transport sector. A holistic, flexible approach is required to meet the diverse needs of all Tasmanians and ensure we can make the most of opportunities presented by emerging technologies.

We have grouped the key themes into five priority areas for action:

1. increasing the use of public and active transport in Tasmania
2. increasing the number of low emissions cars and other light vehicles on Tasmanian roads
3. increasing the number of low emissions heavy vehicles on Tasmanian roads
4. supporting the transport sector to transition to low emissions and build resilience
5. supporting action through partnerships with governments, industry and other stakeholders.

The future opportunities in this draft Plan are intended to guide public consultation to help us identify the priority actions to progress under the final Plan.

Consultation questions

To help us develop the final Plan for the transport sector, we want to hear your thoughts about the priorities and future opportunities outlined on the following pages.

1. How can we build on the work already underway to reduce emissions and build resilience in the transport sector?
2. What future opportunities do you think will have the most impact?
3. Are there any priorities or future opportunities missing from this draft Plan?
4. Are there other ways we can collaborate to reduce emissions and build resilience in the transport sector?

1. Increasing the use of public and active transport in Tasmania

Benefits

Decreasing Tasmania's strong reliance on private vehicles, where possible, by shifting to public and active transport (such as walking and bike and scooter riding) will play an essential role in reducing Tasmania's transport emissions as fast as possible. This is known as "mode shift". The Tasmanian Government acknowledges that mode shift to public and active transport may not be a viable option for segments of the community due to a range of issues.

Even where public transport is fuelled by fossil fuels, using public transport produces significantly (up to 14 times)[3] less greenhouse gas emissions than transporting the same number of people in private cars. Transitioning public transport fleets to low emissions alternatives further increases the emissions reduction benefits.

Making the switch to public and active transport is more available to a larger number of Tasmanians than purchasing an EV. Public and active transport have many other benefits, including reduced traffic congestion, reduced air pollution, improved health and wellbeing, and reduced costs associated with maintaining and fuelling a car.

Supporting behavioural change to increase the number of Tasmanians who use public and active transport rather than relying on cars - for example through infrastructure, education and service improvements - is a priority, while we work to complement this shift by trialling options to transition our bus fleets to low emissions alternatives.

Barriers

Tasmania's population is dispersed across larger cities, towns and small rural communities, creating challenges for our public transport networks. Tasmania is also a mountainous island, which we know can be a barrier when considering active transport. E-bikes and e-scooters are a key opportunity that can help make active transport more accessible to a greater number of Tasmanians.

Local government

We recognise the role that local government plays in supporting public and active transport in Tasmania, as the owners and maintainers of many of our roads and paths. The Tasmanian Government is committed to supporting local government and working with councils to improve Tasmania's public and active transport networks.

Current action

In October 2023, the Tasmanian Government released its *Keeping Hobart Moving Strategy* for public comment. The Tasmanian Government has many initiatives underway to support the uptake of public and active transport, including:

- developing a program to provide financial support for Tasmanians to purchase e-bikes and e-scooters, expected to launch in the second half of 2023
- delivering grant programs to support local councils to provide active transport infrastructure, such as cycleways and shared pathways, and to provide all-access, all-weather bus stops at priority locations

[3] Institute for Sensible Transport (2023) 'Transport and climate change', https://sensibletransport.org.au/project/transport-and-climate-change/

- the current Tasmanian planning instruments aim to improve access to public and active transport and reduce car dependency in Tasmania, including:
    - prioritising growth and promoting higher density living where there is access to public and active transport networks
    - identifying and planning for connectivity between settlements
    - providing for new and upgraded infrastructure on key corridors to allocate space for public and active transport. These objectives will be strengthened through development of the Tasmanian Planning Policies, the upcoming reviews of the Regional Land Use Strategies, and the review of the State Planning Provisions
- supporting Bicycle Network Tasmania to deliver the Back on your Bike program and Tasmania's Ride2School Day
- developing park and ride facilities across the south of the state
- updating the Tasmanian Walking and Cycling for Active Transport Strategy, which aims to create a safe, accessible and well-connected transport system that encourages more people to walk and cycle as part of their everyday journeys
- supporting the trial of ferries between Bellerive and Hobart, and providing $19 million over four years to deliver an ongoing service between Hobart and Bellerive and provide appropriate infrastructure to support ferry operations, and exploring future options for low emissions ferries
- implementing a statewide fare structure for public transport and developing a contemporary integrated ticketing system, with real-time information, expected to be rolled out in 2024-25. As part of the statewide review of bus services, improvements have also been made to the network of bus services and timetabling across each region of the state, and refinements continue to be implemented
- introducing a transit lane on the Southern Outlet to support a greater uptake of public transport and carpooling, and improved travel times and reliability for transit lane users
- supporting Metro Tasmania to deliver battery-electric bus trials in Launceston from late 2023, and hydrogen fuel cell electric bus trials in Hobart from mid-2024
- supporting an electric autonomous bus trial in Hobart, in partnership with the City of Hobart and the RACT, to provide valuable insights into how innovative and emerging technologies such as autonomous vehicles could be introduced to Tasmania in the future, especially focused on addressing one of today's transport challenges – reliable "last-mile" services.

Future opportunities

Future opportunity
Additional investment in education and behaviour change programs. This could include programs to promote a shift to public transport, improve the understanding of EVs among fleet managers, educate drivers about safely integrating increased active transport on our roads, and educate users of e-scooters and e-bikes about charging safety.
Additional measures to support Tasmanians to access alternative modes of active transport, for example through e-bike libraries, long-term e-bike rentals, and supporting businesses to switch to cargo e-bikes for local deliveries.
Continue to work with partners, including local government, to better integrate public and active transport into our networks, for example cycleways, improved pedestrian infrastructure, e-bike and e-scooter charging, and park and ride facilities.
Consider potential new stops and routes for the Derwent Ferry service through the Derwent Ferry Masterplan, in collaboration with the Greater Hobart councils.
Continue to explore ways to support and improve Tasmania's bus network, building on the introduction of a statewide bus fare structure in mid-2023 and the development of an integrated ticketing system.

2. Increasing the number of low emissions cars and other light vehicles on Tasmanian roads

While we work to reduce the number of cars on our roads, transitioning the cars we do have to low emissions alternatives is a key part of reducing emissions from the transport sector. A definition of low emissions vehicles can be found at Appendix 2.

Tasmania's 100 per cent renewable electricity generation capacity means we are ideally placed to maximise the emissions reduction benefits, as our EVs will be powered by clean energy rather than largely by fossil fuels, which is currently the case for most other Australian states and territories.

Benefits

In addition to reduced greenhouse gas emissions, increasing the number of low emissions vehicles on Tasmanian roads has many benefits for Tasmanians, including:

- improved public health, for example reduced traffic noise and improved air quality
- increased energy security due to the reduced reliance on imported fuels
- reduced transport costs for households and businesses
- opportunities for the tourism sector, for example by incorporating EVs into strategies to make Tasmania a leading destination for climate-conscious travel
- generation of job opportunities, for example in sales, maintenance and deployment of charging infrastructure.

Barriers

In recent years, the primary barrier to EV uptake in Australia has been a lack of supply, where the demand for EVs has exceeded the number that are available in the country [4]. In other countries, fuel efficiency standards are a key driver for the supply of EVs and other more fuel-efficient vehicles. A key theme from consultation with business and industry was the need for regulatory change that supports the decarbonisation of the transport sector, including introduction of strong fuel efficiency standards. As part of the National Electric Vehicle Strategy, the Australian Government has committed to introducing a national fuel efficiency standard to encourage car manufacturers to supply more EVs to Australia to make it easier and cheaper for Australians to access EVs.

While the purchase costs of EVs are falling and will be on par with ICE vehicles in the next few years, cost remains a barrier for many Tasmanians. Some people also have concerns about running out of power while driving an EV, known as 'range anxiety', and the suitability of EVs in Tasmanian driving conditions. Supporting Tasmanians to access EVs and ensuring they have the information they need to make informed choices is another important part of increasing the uptake of EVs in the state.

[4] Electric Vehicle Council (2023) 'State of Electric Vehicles: July 2023', https://electricvehiclecouncil.com.au/wp-content/uploads/2023/07/State-of-EVs_July-2023_.pdf

Statewide charging network

As the supply of EVs in Australia improves, it will be important to ensure drivers are supported by the systems and infrastructure to integrate an increasing number of EVs into our road networks. The Tasmanian Government's Electric Vehicle ChargeSmart Grants program, delivered from 2018-21, has supported the establishment of the first statewide EV charging network in Australia. Once installation of all ChargeSmart-supported chargers is complete, each fast charging station will have another station within 47 km, on average. However, there are opportunities to further expand the statewide charging network, both in terms of number of locations and the capacity at existing sites, as the number of EVs on the road increases.

Tasmania is seen as a touring destination for visitors, which promotes a high reliance on vehicles to explore the state. Hire car companies are looking at the inclusion of EVs in their fleets, and the supporting charging infrastructure in key tourism locations should support this.

Current action

The Tasmanian Government is currently developing a program to support the uptake of EVs, as committed in the Action Plan. The program is expected to be launched in the second half of 2023 and will include financial incentives and support for the installation of more EV chargers.

The government has a target to transition the government vehicle fleet to 100 per cent electric by 2030 to reduce emissions. This transition may also result in a greater number of EVs becoming available in the second-hand market as these vehicles reach the end of their government lease term.

The draft Tasmanian Planning Policies will identify land and plan for infrastructure to support the use of EVs, including a public network of high quality EV charging stations, anticipating the increase in EV use in Tasmania.

Tasmanian government businesses and the private sector also have initiatives to support the uptake of electric vehicles. For example, Aurora Energy has partnered with EV subscription service Carbar to offer Tasmanians a flexible alternative to EV ownership. The subscription aims to cover all the costs associated with owning, maintaining and running an EV.

Many of the regulatory mechanisms that are available to support the uptake of EVs are the responsibility of the Australian Government. The Tasmanian Government participates in a number of national working groups and regularly provides input into Australian Government policy development to advocate for the best outcomes for Tasmania. This is discussed further in this Plan under *Priority Area 5: Supporting action through partnerships with governments, industry and other stakeholders.*

The Australian Building Codes Board (ABCB) is responsible for administering and updating the National Construction Code. In June 2023 the ABCB published an advisory note outlining recommendations to support the installation of electric vehicle charging infrastructure in buildings. There is also work underway at a national level to develop new safety requirements for EVs and identify potential risk mitigation strategies in relation to lithium-ion batteries.

Tasmania participates in the Electric Vehicle Grid Integration Working Group. This Working Group is considering bidirectional charging of EVs (the ability of an EV to receive and dispense electricity, also known as vehicle-to-grid or vehicle-to-home).

Future opportunities

Future opportunity
Support the installation of more EV chargers across the state, for example through additional rounds of the Electric Vehicle ChargeSmart Grants program. Future rounds could consider increasing capacity of existing sites, increasing the number of chargers in higher population centres, workplace charging, charging in campsites and caravan parks, heavy vehicle charging, apartment and curbside charging, and charging along touring routes to support visitors using EVs.
Review recent measures to support the purchase of EVs in Tasmania and other jurisdictions to develop a program suited to the Tasmanian context, for example programs to support low-income households to access EVs.
Explore options to encourage the use of low emissions vehicles in Tasmanian businesses, for example grants, subsidies or demonstration trials. Focus areas could include delivery vehicles and vehicles in the tourism industry, including hire cars.
Work with local government and businesses to explore options to introduce priority parking for on-street charging of EVs in areas with limited off-street parking.
Support community ‘try and drive’ events and information sessions to increase education and awareness of EVs.
Support delivery of a program to educate Tasmanians about driving EVs in Tasmanian conditions to give greater confidence to drivers considering purchasing an EV, and support the safe use of EVs in Tasmania.
Work with key government agencies, energy entities and industry to model future EV uptake and sales, to support planning and decision making.

3. Increasing the number of low emissions heavy vehicles in our transport networks

Tasmania has a diverse heavy vehicle fleet, ranging from buses and garbage trucks, to trucks used for freight haulage and in the forestry and mining sectors, and rail freight. In addition to road and rail, we have marine transport and aviation, including freight and passenger ferries, and planes that service the Bass Strait islands off the coast of mainland Tasmania.

State and local government, government businesses, and the private sector all own various types of heavy vehicles.

Low emissions heavy vehicles

In Australia, BEVs are a key opportunity for decarbonising the light vehicle fleet. However, for heavy vehicles, including ferries, freight and planes, particularly those that cover longer distances, BEVs may not always a viable option and hydrogen and biofuels are important alternatives. For example, FCEVs are lighter than BEVs and have shorter refuelling times.

Biofuels, such as biodiesel and ethanol produced from organic waste streams, will have an important role to play in the transition of Tasmania's heavy vehicle fleet to low emissions alternate technologies. In some instances, biofuels can be used in existing ICE heavy vehicles with little modification or blending with traditional fuels required.

Freight moved by rail is less carbon intensive than freight moved by road on a like-for-like basis. Rail is best suited for point-to-point bulk freight movements, however most of this freight task transported in Tasmania already uses the rail network. In Tasmania, freight rail emissions are just under one quarter of road freight emissions on a per net tonne kilometre basis. It is estimated that over the next four years, using rail (rather than road) to move TasRail's existing freight task could save Tasmania over 220,000 tonnes of CO_2, equivalent to removing 24,700 cars from the road.

The technical and commercial readiness of these alternatives varies. It is important that policies and initiatives to support the uptake of low emissions heavy vehicles consider all technologies to support the best outcomes in the Tasmanian context.

Barriers

Demand for low emissions heavy vehicles in Australia is currently low due to a range of factors, including limited availability, high capital cost, low operator knowledge, and regulations related to truck widths and axle mass limits that do not support BEVs. In addition, there are currently limited zero emissions technical solutions for some heavy vehicle applications, such as remote operations and line haul freight movements that don't return to base.

In Tasmania, many heavy vehicle owners and operators are small locally-owned businesses with fewer than five trucks. The significant costs associated with transitioning heavy vehicle fleets to low emissions alternatives remains a barrier for many operators.

For these reasons, the transition of the heavy vehicle fleet to low emissions will be slower than for passenger and light vehicles and is likely to initially focus on smaller trucks used for urban freight deliveries. As many heavy vehicle fleets can have a lifespan of over 25 years,[5] there will be many ICE trucks remaining on Tasmania's roads until low emissions solutions such as FCEVs are affordable and widely available.

[5] Climate Works (2020) 'Moving to Zero: Accelerating the transition to zero-emissions transport' https://www.climateworkscentre.org/wp-content/uploads/2020/06/TRAN-0520-000071-TRANSPORT-ISSUES-PAPER-V5.pdf

Current action

The government is supporting Metro Tasmania to deliver battery-electric bus trials in Launceston from late 2023, and hydrogen fuel cell electric bus trials in Hobart from mid-2024. The trials will provide important operational learnings that may support future transition, such as scheduling and route planning, charging, and maintenance.

The government recognises the opportunities presented by bioenergy in Tasmania, including for the transport sector. The *Bioenergy Vision for Tasmania* identifies the government's role in supporting the bioenergy industry, including through government procurement, actions to build industry and community awareness of bioenergy, exploring opportunities to use bioenergy in Tasmania, developing a more sophisticated, mature and diverse bioenergy industry in the state, and supporting the adoption of bioenergy.

As noted above, many of the regulatory mechanisms to support the uptake of low emissions vehicles are the responsibility of the Australian Government. The National Transport Commission has been tasked with progressing work to amend the Heavy Vehicle National Law. The Australian Government has also committed to introducing tighter noxious emissions standards for new trucks and buses. The new standards, known as Euro VI, will be phased in over 12 months from 1 November 2024.

Future opportunities

Future opportunity
Consider options for a demonstration trial of low emissions heavy vehicles in the private sector to reduce emissions and increase education and awareness for operators. For example, the trial could involve the purchase of new zero emissions heavy vehicles and charging infrastructure, partnership with hydrogen refuelling providers, trialling the use of biofuels, or the refurbishment of an existing heavy vehicle to either a BEV or FCEV.
Explore opportunities to support owners of heavy vehicle fleets to invest in low emissions technologies, for example through grants, subsidies or no-interest loans. Focus areas could include small Tasmanian-based heavy vehicle fleet owners and the tourism industry.
Explore opportunities to increase the use of blended fuels and biofuels in government heavy vehicle fleets.
Explore the future requirements for heavy vehicle charging infrastructure in Tasmania to inform decision making.
Increase awareness of new and emerging technologies among heavy vehicle fleet managers and users, for example through 'try and drive' events targeted at heavy vehicle fleet managers and users, and education programs.
Explore options for TasRail to decarbonise its diesel locomotive fleet through deployable and near deployable low and zero emissions technologies.

4. Supporting the transport sector to transition to low emissions and build resilience

Infrastructure

The projected changes to the Tasmanian climate, including increased frequency and intensity of extreme weather events, will increase physical risks for our transport systems. For example, events such as floods may damage physical infrastructure. Damage to transport infrastructure disrupts free movement of passengers and freight, and there is a cost to businesses, households and government to repair or replace damaged infrastructure. The resilience of our transport systems to extreme weather events must be considered alongside other important considerations in the planning, construction and maintenance of transport infrastructure.

The use of EVs, which are heavier than ICE vehicles due to their batteries, will also have an impact on road and bridge assets. There will be potential changes to maintenance requirements, load limits, road pavement renewals, and useful life of infrastructure to be assessed as the transition occurs.

Skills

Transport sector skills, such as maintenance of EVs and charging infrastructure conducted in a safe manner, will need to be developed to ensure the sector has the capacity and capability to support the transition.

Electricity supply

As the sector transitions to electric and other low emissions technologies, there will be implications for Tasmania's electricity supply. It is important that we plan appropriately to ensure Tasmania's electricity network has the capacity to charge both light and heavy electric vehicles. There are also opportunities for bidirectional charging, allowing owners of EVs to not only charge their EVs with electricity from the grid, but also to use the energy stored in the EV battery in their home or send it back into the grid. Bidirectional charging can support energy self-sufficiency when combined with renewable energy sources, such as solar panels, by allowing the EV to store the excess energy generated and supply it back to the home when needed.

The impact of climate change more broadly on Tasmania's energy system and charging network infrastructure will be considered during the development of the Plan for the energy sector.

Safety

The chemical composition of batteries in EVs can carry risks such as fire, radiation, heat, chemical and electrical hazards. While evidence suggests that EVs are less likely to catch fire than ICE vehicles,[6] it is important that owners and users of EVs are informed about how to safely use and maintain their vehicles, and that emergency responders are prepared for dealing with these risks and hazards. Workers in the automotive industry need to understand how to safely and efficiently de-power and reinitialise EVs before and after servicing.

[6] EV FireSafe (2023), 'Passenger EV Lib Fire Incidents: Global, as of 30th June 2023', https://www.evfiresafe.com/_files/ugd/8b9ad1_01aa449ee5074086a55cb42aa7603f40.pdf

Current action

The Tasmanian Government has a number of initiatives underway to improve our understanding of the impacts of climate change on Tasmania. Initiatives include updating the fine-scale climate projections for Tasmania to provide new information for a range of stakeholders, including those responsible for Tasmania's buildings and infrastructure, and development of Tasmania's first statewide climate change risk assessment, due to be completed by November 2024.

Tasmanian Government initiatives specifically to support the transport sector include:

- the draft Tasmanian Planning Policies, which promote planning decisions to be informed by the most up to date climate science to identify land subject to hazards and the provision of infrastructure to respond and adapt to a changing climate
- working to establish sustainability and resilience best practice principles in the planning and delivery of infrastructure, and identifying opportunities to improve resilience, as part of the upfront planning work when developing corridor strategies for state roads
- working with the Australian Government and independent advisory bodies on building resilient infrastructure in Australia
- managing emergencies impacting roads and bridges in accordance with the State Road and Bridge Emergency Management Plan, which describes the roles and responsibilities, governance and coordination arrangements across the four areas of prevention, preparedness, response and recovery
- expanding the Heavy Vehicle Access Management System (HVAMS) to include the heavy vehicle freight sector and improve understanding of the potential impacts of electric heavy freight vehicles coming into the marketplace on the existing road network
- participating in the Electric Vehicle Grid Integration Working Group, which is considering issues relating to the electricity grid, including bidirectional charging.

TasTAFE has developed short training courses for automotive technicians or apprentices to learn about the safety and practical skills required to work on battery and hybrid EVs. TasTAFE has also signed a Memorandum of Understanding with Tasmanian Minerals, Manufacturing and Energy Council Limited (TMEC) to work together to develop a deeper understanding of current and future training demand in industry.

TasNetworks has taken part in a dynamic EV charging trial funded by the Australian Government to develop methods to further understand the impact of EVs and the network's ability to shift energy during periods of high renewable energy supply and support the network in low periods.

TasPorts completed a detailed climate change risk assessment of individual ports and assets in 2022, covering scenarios for 2030, 2050 and 2100. TasPorts is starting work on an adaptation and resilience plan to address risks identified in this process and will seek to engage with external transport supply chain stakeholders.

Future opportunities

Future opportunity
Work with government agencies and energy entities to develop internal modelling of future EV charging demand and grid capacity.
Investigate opportunities for incentives, such as electricity tariffs and time-of-use pricing, to encourage off-peak charging of EVs to manage electricity demand.
Consider undertaking a bidirectional charging trial to demonstrate the ability of electric vehicles to provide a service to electricity networks (while plugged in and otherwise not being used) during peak demand periods.
Continue to explore opportunities for new dual trade-based training courses related to EVs for electrical and mechanical automotive technicians and apprentices.
Support work to reduce the risks associated with EV batteries, through research and education for owners and users of EVs on the safe maintenance of EVs.
Explore opportunities to further increase the resilience of Tasmania's road networks, for example by integrating the findings of the statewide climate change risk assessment and the updated fine-scale climate projections into future planning and delivery of infrastructure. This could include the identification of priority areas for installation of elevated roads and railways to improve flood resilience, or the use of heat resistant materials to prevent damage from extreme temperatures.

5. Supporting action through partnerships with governments, industry and other stakeholders

State government

All Tasmanians use the state's transport networks in some way, and everyone can play a role in reducing emissions, including state and local governments, businesses, industries and communities.

The Tasmanian Government's own target is to transition its vehicle fleet to 100 per cent electric by 2030. However, the role of business and industry in reducing emissions in the transport sector is also critical. The government recognises the large number of small businesses in this sector, and that the sector crosses over with all other industries. The government has many initiatives underway to support business, industry and the community through the transition and recognises that there are many additional opportunities to consider.

Future opportunities include supporting business and industry to transition vehicles to zero emissions, explore alternative fuels, seek efficiencies in vehicle operation, reduce unnecessary travel, and identify options for different modes of travel.

Local Government

The Future of Local Government review is exploring how local government can be supported to understand its role in embedding climate change considerations into how they manage and upgrade new and existing transport infrastructure.

Australian Government

The Australian Government also has a role to play in driving the transition of the sector. In the global transition to a low emissions economy, significant structural change will be required in the transport industry and is already underway. Consultation to date has highlighted the need for transition planning for the sector at not just a state level, but nationally.

The Australian Government has released its National Hydrogen Strategy, which includes a number of transport-focused actions spanning road, rail and marine.

Current action

The Tasmanian Government's Electric Vehicle Working Group brings together government agencies, government businesses, industry groups and community groups to develop a coordinated approach to supporting the uptake of EVs in the state.

At a national level, the government currently collaborates with the Australian Government and other states and territories through forums such as the Energy and Climate Ministers' Decarbonisation Working Group, and the Infrastructure and Transport Ministers' Decarbonisation of Transport Working Group.

The National Electric Vehicle Strategy includes areas for collaboration with states and territories, including collaboration on national standards. The Tasmanian Government will work with the Australian Government and other states and territories to encourage national consistency on standards which impact the effective uptake and use of EVs. The Strategy includes other potential opportunities to support the transition in Tasmania, such as a priority area of remote and regional EV charging infrastructure, through a new initiative to develop a national mapping tool to support future investment in electric vehicle charging infrastructure.

Future opportunities

Future opportunity
Explore funding options and partnerships, to deliver grants to business and industry to transition vehicles to zero emissions, explore alternative fuels, seek efficiencies in vehicle operation, reduce unnecessary travel, and identify options for different modes of travel.
Consider mechanisms to support the Tasmanian transport industry to collaborate on emissions reduction and resilience, for example by holding an annual conference to showcase the work underway and emerging opportunities.
Consider options to support local government to undertake strategic planning for the transport sector as part of the project to build climate change capability in local government under *Tasmania's Climate Change Action Plan 2023-25.*
Continue to collaborate with the Australian Government and other jurisdictions to support a nationally consistent approach to transitioning the sector, harmonise standards across jurisdictions, and maximise opportunities for Tasmanian governments, business, industry and community.
Continue to explore opportunities for international collaboration to reduce emissions and build resilience in the transport sector, for example through the Net Zero Policy Futures Forum, and establishing a Memorandum of Understanding.
Work with key partners to explore options for improving data capability, which will support better assessment of the impact of policies designed to increase the uptake of low emissions modes of transport.

What happens next?

Implementation

Following the development and publication of the final Plan for the transport sector, we will continue to engage with key partners and the community on the development and implementation of future opportunities as required.

We will keep stakeholders and the community informed through the Climate Change Office website, newsletter and social media.

We encourage you to sign up for our newsletter through our website: www.recfit.tas.gov.au/climate and follow the Climate Change Office on Facebook to stay informed about opportunities to participate in relevant programs.

Reporting

We will prepare an annual climate change activity statement, showing the status of each sectoral Plan and progress on future opportunities identified, and the status of initiatives in the climate change action plan. We will also prepare an annual greenhouse gas emissions report detailing Tasmania's emissions for each sector.

These reports will be prepared each year and will be tabled in Parliament, as required under the Act.

As outlined in this draft Plan, we intend to work on improving our data capability to determine the impact of different measures in this Plan, and other relevant strategies, on Tasmania's transport sector.

Review

The Tasmanian Government is committed to a co-ordinated, whole-of-government response to climate change. Together with the Action Plan and the delivery of Tasmania's first statewide climate change risk assessment, the development of the sector-based Plans is a strategic priority for the government that will be delivered in consultation with business, industry and portfolio Ministers.

However, we recognise that there is significant overlap between the transport and other sectors, and that there are parts of Tasmania's communities, businesses and industries that may not be comprehensively covered by the sector-based Plans.

Following the development of all Plans and Tasmania's first statewide climate change risk assessment in November 2024, we will analyse the priorities and actions in the Plans, the most up-to-date information about our emissions and future climate, and other resources, to identify gaps and opportunities for the development of Tasmania's next climate change action plan in 2025.

The Plans are to be updated at least every five years.

Glossary

Abbreviation or acronym	Description
ABS	Australian Bureau of Statistics
Active transport	Alternatives to car travel that involve physical activity such as walking, cycling or scooting.
BEV	Battery electric vehicle
Biofuel	Any fuel that is derived from biomass (plant or algae material or animal waste)
Bioenergy	A form of renewable energy produced using biomass (plant or algae material or animal waste)
BITRE	Bureau of Infrastructure and Transport Research Economics
CO_2	Carbon dioxide; a greenhouse gas
CO_2-E	Carbon dioxide equivalent
DCCEEW	Australian Government Department of Climate Change, Energy, Environment and Water
Direct combustion	Burning of fuel(s) for energy predominantly in manufacturing, mining, residential and commercial sectors.
Emissions	Greenhouse Gas Emissions
EV	Electric vehicle. For the purposes of this draft Plan, unless otherwise stated, a reference to EVs includes battery electric vehicles (BEVs) and hydrogen fuel cell electric vehicles (FCEVs). It does not include hybrid or plug-in hybrid EVs.
FCEV	Fuel cell electric vehicle
ICE	Internal combustion engine (vehicle)
Low emissions vehicle	For the purposes of this draft Plan, low emissions vehicles include battery electric vehicles (BEVs) and hydrogen fuel cell electric vehicles (FCEVs). A reference to low emissions vehicles does not include hybrid or plug in hybrid EVs.
LPG	Liquid petroleum gas
Mt	Megatonnes
NEM	National Electricity Market
ReCFIT	Renewables, Climate and Future Industries Tasmania
STGGI	State and Territory Greenhouse Gas Inventories
TPP	Tasmanian Planning Policies
UNFCCC	United Nations Framework Convention on Climate Change

Appendix 1

Tasmania’s transport sector

Tasmania's transport network comprises various modes of transport, including roads, bus network, rail used for freight, air, ferries and shipping, and walking and cycling. Tasmania's transport network enables connectivity and accessibility to and from, and within the island, to meet the needs of residents, visitors, and business and industry.

Tasmania is mountainous and has a lower population density than some other parts of Australia. This can be challenging for our transport sector and has led to a heavy reliance on private vehicles.

Transport emissions

Transport sector emissions made up 48.2 per cent of Tasmania’s energy emissions in 2021, and 21.0 per cent of our total emissions, at 1.74Mt CO_2-e (excluding the land use, land use change and forestry sector).

Transport emissions have **increased by 9.0 per cent** since 1990, driven by an increase in emissions from road transportation, which likely reflects a growing economy and population.

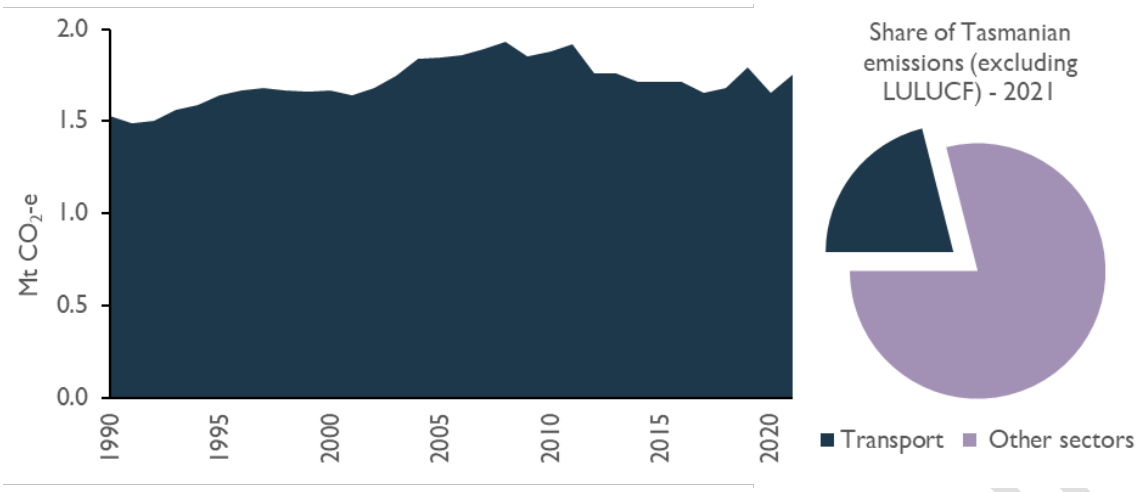
Emissions from road transportation are responsible for over 90 per cent of Tasmania’s transport sector emissions.

Since 1990, emissions from cars have fallen by 15.8 per cent. This largely reflects increasing fuel efficiency of vehicles. It may also reflect some consumers changing from cars to vehicles defined as ‘light commercial vehicles’ (such as utes and vans). The emissions from these vehicles have almost doubled since 1990.

The decreased emissions from cars have only partially offset increased emissions from light commercial vehicles, and heavy-duty trucks and buses.

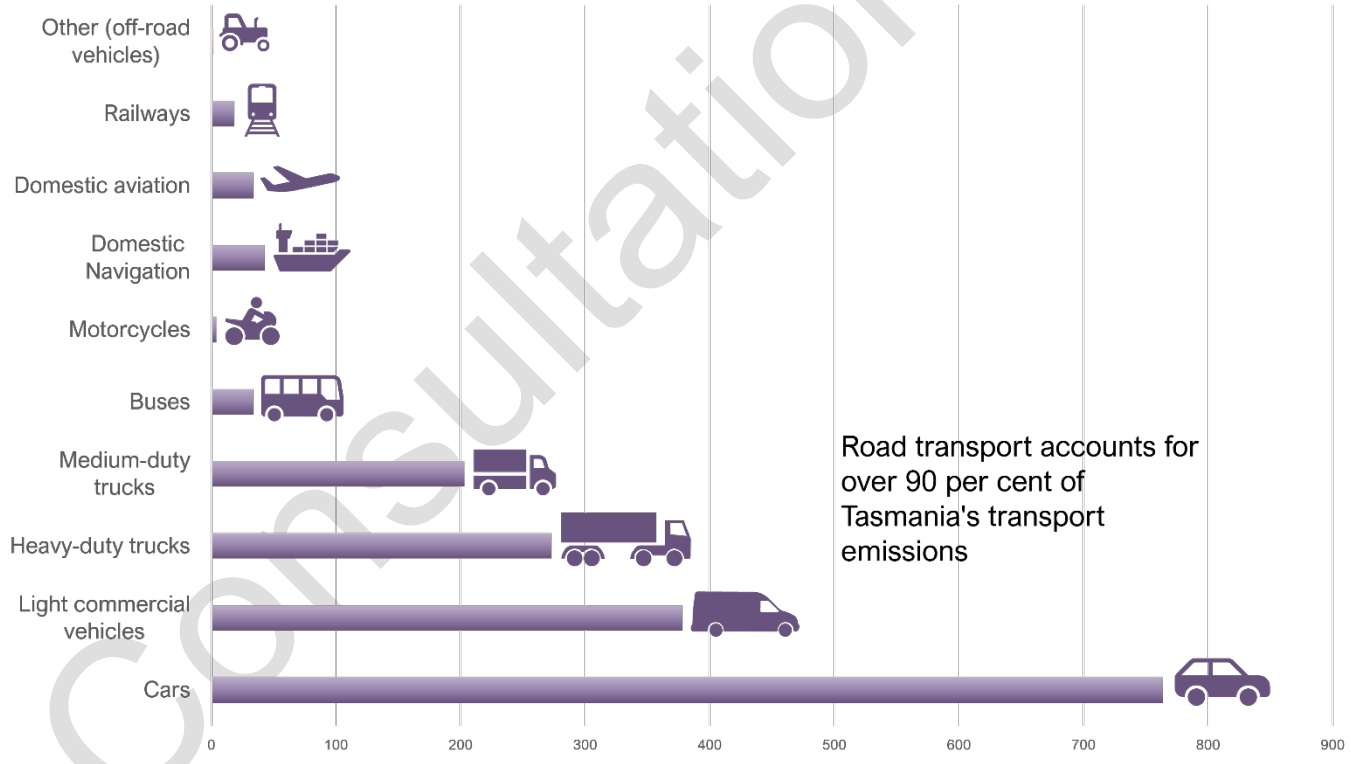
More information about the reporting framework for Tasmania’s transport sector is provided in the State of Play Report.

Tasmania's emissions from transport – 1990-2021



Source: Australian Government Department of Climate Change, Energy, the Environment and Water (DCCEEW) 2023, State and Territory Greenhouse Gas Inventories 2021

Tasmania's transport emissions 2021 (kilotonnes CO_2-e)



Source: Department of Climate Change, Energy, the Environment and Water (DCCEEW) 2023, State and Territory Greenhouse Gas Inventories 2021

Opportunities to reduce emissions from Tasmania's transport sector

The 2021 Tasmanian Emissions Pathway Review identified 16 "best-fit" emissions reduction opportunities for Tasmania. The opportunities were assessed on their achievability against economic considerations, technical barriers and government policy. Three of the best-fit opportunities relate to the transport sector, as shown below.

The Emissions Pathway Review estimated that these opportunities could reduce Tasmania's transport emissions by 1.29 megatonnes (Mt) of carbon dioxide equivalent (CO_2-e) per year by 2050. For comparison, this represents 74 per cent of Tasmania's total transport emissions in 2021.

Emissions Pathway Review "best-fit" opportunities for Tasmania's transport sector

Emissions reduction opportunities	Timeframe	Estimated annual abatement in 2050 (Mt CO_2-e)
Increase uptake of low emissions vehicles, including electric vehicles, in the passenger fleet.	Short-term	0.55
Increase uptake of public and active transport.	Short-term	0.05
Decarbonise the heavy transport fleet by using electric vehicles, hydrogen fuel cells, and renewable hydrocarbon fuels.	Medium-term	0.69
Total estimated annual abatement - 2050		**1.29**
Total transport emissions - 2021		**1.75**

Tasmania's vehicle use: a snapshot

Tasmanian vehicles have the **oldest average age** of any state or territory fleet, at 13.21 years, compared with the national average age of 11.25 years.[7]

Due to their older average ages, Tasmanian vehicles are **more likely to have higher emissions** than the national fleet.

Tasmania also has a **higher number of vehicles per person** than the rest of Australia.[8]

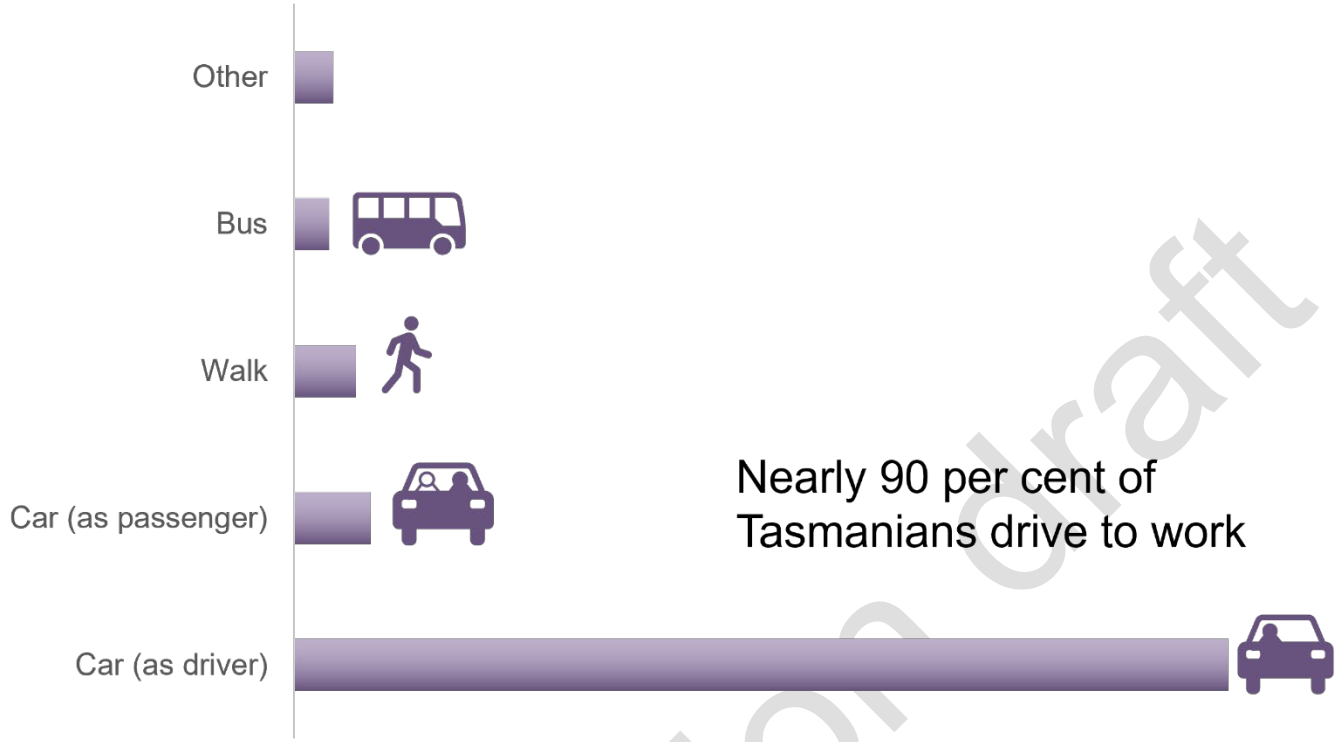
As well as having older vehicles and more of them, Tasmanians are **more likely to rely on cars** than other modes of transport, compared with other states and territories in Australia.[9]

[7] Bureau of Infrastructure and Transport Research Economics (BITRE) (2023), 'Road Vehicles Australia', https://www.bitre.gov.au/publications/2023/road-vehicles-australia-january-2023

[8] BITRE 2023.

[9] Australian Bureau of Statistics (ABS) (2021) 'Australia's journey to work', 2021 Census, https://www.abs.gov.au/articles/australias-journey-work

How Tasmanians travelled to work in 2021



Source: Australian Bureau of Statistics

Appendix 2

What is a low emissions vehicle?

Battery EVs (BEVs) are powered by electricity and produce no tailpipe emissions.

Hydrogen fuel cell EVs (FCEVs) use a fuel cell powered by hydrogen instead of a battery. FCEVs are an emerging technology with some vehicles in corporate and government fleets and buses in some public and private transport fleets.

Hybrid EVs (HEVs) and plug-in hybrid EVs (PHEVs) combine a conventional ICE and an electric motor, and run on a combination of petrol or diesel and battery power. HEVs use a regenerative braking system to recharge the battery, while PHEVs can be recharged with electricity, by plugging into a power outlet. These vehicles produce tailpipe emissions. For the purposes of this Plan, EVs are considered to be BEVs or FCEVs due to the greater emissions reduction potential, but it is acknowledged that HEVs and PHEVs can be transitional technologies.

Biofuels such as biodiesel and ethanol are produced from organic matter. In some instances, these fuels can be used in existing ICE vehicles with little modification required. Depending on the supply chain, biofuels can be blended with traditional fuels or used on their own as zero-emissions fuels.

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